

SINUMERIK

SINUMERIK 840D sl, SINAMICS S120 Machine data and parameters

Parameter Manual

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Valid for

control
SINUMERIK 840D sl / 840DE sl

Software	version
CNC software	4.5 SP2
SINAMICS S120	4.5

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

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Qualified Personnel

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We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Preface

SINUMERIK documentation

The SINUMERIK documentation is organized in the following categories:

- General documentation
- User documentation
- Manufacturer/service documentation

Additional information

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SINUMERIK

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Target group

This publication is intended for project engineers, commissioning engineers, machine operators and service and maintenance personnel.

Benefits

The intended target group can use the Parameter Manual to test and commission the system or the plant correctly and safely.

Utilization phase: Setup and commissioning phase

Standard scope

This documentation describes the functionality of the standard scope. Extensions or changes made by the machine manufacturer are documented by the machine manufacturer.

Other functions not described in this documentation might be executable in the control. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

Furthermore, for the sake of clarity, this documentation does not contain all detailed information about all types of the product and cannot cover every conceivable case of installation, operation or maintenance.

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Machine and setting data

1.1 Explanation of the machine/setting data

1.1.1 Information about the data tables

This List Manual provides information on all the machine and setting data.

A functional description of the data is provided in the Function Manual indicated in the cross reference.

For additional descriptions

Further detailed information is available directly through the online help of the control system.

1.1.2 Structure of the data tables

Standard table

The standard table contains all the important information about a SINUMERIK machine data.

MD number	Identifier			Display filter	Reference	
Units	Name			Data type	Effectiveness	
Attributes						
System	Dimension	Default value (LIN/RED)	Minimum value (LIN/RED)	Maximum value (LIN/RED)	Protection	Class

Expanded table

The expanded table includes data from the standard table plus additional rows with system-specific values.

MD number	Identifier			Display filter	Reference	
Units	Name			Data type	Effectiveness	
Attributes						
-	Dimension	Default value (LIN/RED)	Minimum value (LIN/RED)	Maximum value (LIN/RED)	Protection	Class
<System 1>	-	-	-	-	-/-	
<System 2>	-	-	-	-	-1/-	

1.1 Explanation of the machine/setting data

A minus sign "-" in a field means that the same value as for <System 1> applies for the specified system.

The entry "-/-" in the "Protection" field means that the machine data is not available for the specified system.

Example:

18353	MM_M_FILE_MEM_SIZE	EXP, N02	S7			
-	Memory size for cycles/files of the machine manufacturer	DWORD	POWER ON			
840dsl-71	3	512,0,0	0	9216	1/1	M
840dsl-72	3	512,0,0	0	15360	1/1	M
840dsl-73	3	512,0,0	0	15360	1/1	M

1.1.3 Meaning of table fields

MD number

The "MD number" field contains the machine data number. This number is displayed in the data lists on the user interface of the control.

Identifier

The "Identifier" field contains the unique alphanumeric identifier of the machine data. The machine data is, for example, addressed by means of this identifier (with an additional label) for programming in the part program.

This identifier is displayed in the data lists on the user interface of the control.

Reference

As a cross reference to the functional description of the data, the "Reference" field contains the short designation of the corresponding submanual of a function manual.

Reference is made to the following submanuals:

- Function Manual Basic Functions, submanuals: A2, A3, B1, B2, D1, F1, G2, H2, K1, K2, N2, P1, P3, P4, R1, S1, V1, W1, Z1
- Function Manual Extended Functions, submanuals: A4, B3, B4, H1, K3, K5, M1, M5, N3, N4, P2, P5, R2, S3, S7, T1, W3, W4, Z2
- Function Manual Special Functions, supporting manuals: F2, G1, G3, K6, M3, R3, S9, T3, TE01, TE02, TE1, TE3, TE4, TE6, TE7, TE8, TE9, V2, W5, W6, Z3
- Function Manual Safety Integrated, FBSI

- Function Manual Tool Management, FBWsl
- Function description, ISO Dialects for SINUMERIK, FBFA

Units/system of units

Depending on MD10240 \$MN_SCALING_SYSTEM_IS_METRIC, the physical units differ as follows:

MD10240=1	MD10240=0
mm	inch
mm/min	inch/min
m/sec ²	inch/sec ²
m/sec ³	Inch/sec ³
mm/rev.	inch/rev.

If the MD is not based on any physical unit, the field is marked with "-".

Note

The default setting is MD10240 \$MN_SCALING_SYSTEM_IS_METRIC = 1 (metric)

Name

The "Name" field contains the name of the data in plain text.

Effectiveness

The "Activation" field contains the action that must be performed by the user in order for a change to take effect.

Effectiveness		User action
po	POWER ON	Alternatively: <ul style="list-style-type: none"> • "Reset(po)" softkey • Switch voltage off/on
cf	NEW_CONF	Alternatively: <ul style="list-style-type: none"> • Softkey: "Activate MD" New values will be effective only if all the channels of the mode group to which the axis belongs to are in the "Reset" state. • Part program command: NEWCONF New values for position-controlled axes/spindles will be effective only if the affected axis/spindle is stationary. For non-position-controlled spindles new values take effect immediately.
re	RESET	Alternatively: <ul style="list-style-type: none"> • "Reset(po)" softkey • Program end reset (M02/M30)
so	IMMEDIATELY	After entering the value

1.1 Explanation of the machine/setting data

The activation levels are listed according to their priority.

- po = highest priority
- so = lowest priority

Protection

The "Protection" field contains the protection level for reading or writing to the data in the form: Read/write.

Value	Protection level
0 or 10	System
1 or 11	Manufacturer
2 or 12	Service
3 or 13	User
4 or 14	Key-operated switch position 3
5 or 15	Key-operated switch position 2
6 or 16	Key-operated switch position 1
7 or 17	Key-operated switch position 0

The protection level for user data (GUD) is defined with the numbers 10 to 17.

Class

The data class attributes of machine, setting and option data are normally derived from the write rights of the corresponding data.

The following data classes are available:

Data class	Write rights	Access right
S (System)	System	Protection level 0 (password: System)
M (Manufacturer)	Manufacturer/Service	Protection levels 1 and 2 (password: Service)
I (Individual) Note: Individual machine data are grouped in this data class, e.g. the leadscrew error compensation values. Depending on the contents, these are accessible via different protection levels.	Manufacturer/Service or User	Protection levels 1 and 2 (password: Service) or Protection level 3 (user password)
U (User)	User	Protection level 3 (password: User) Protection levels 4 and 7 (key-operated switch)

Display filter

The "Display filter" field contains the identifier of the data filter setting that enables the data to be seen. Using the filter setting, the exact data areas required at a given time can be selected for display.

ID	Data area
EXP	Expert mode
Drive machine data	
D00	Display signals
D01	Controller data
D02	Monitoring/limiting functions
D03	Message data
D04	Status data
D05	Motor/power unit
D06	Measuring system
D07	Safety Integrated
D08	Standard machine
General machine data	
N01	Configuration/scaling
N02	Memory configuration
N03	PLC machine data
N04	Drive control
N05	Status data/diagnostics
N06	Monitoring/limiting functions
N07	Auxiliary functions
N08	Corrections/compensations
N09	Technological functions
N10	I/O configuration
N11	Standard machine
A12	NC language, ISO dialect
Channel-specific machine data	
C01	Configuration
C02	Memory configuration
C03	Initial states
C04	Auxiliary functions
C05	Velocities
C06	Monitoring/limiting functions
C07	Transformations
C08	Corrections/compensations
C09	Technological functions
C10	Standard machine
C11	NC language, ISO dialect

1.1 Explanation of the machine/setting data

ID	Data area
Axis-specific machine data	
A01	Configuration (including memory)
A02	Measuring system
A03	Machine geometry
A04	Velocities / accelerations
A05	Monitoring/limiting functions
A06	Spindle
A07	Controller data
A08	Status data
A09	Corrections/compensations
A10	Technological functions
A11	Standard machine
A12	NC language, ISO dialect
Display machine data	
H01	ShopMill
H02	ShopTurn
H03	ManualTurn
H04	Access levels
H05	Standard machine

System

In the "System" field, the control system is specified for which the data with the correspondingly entered values applies.

The following entries are possible:

840dsl-71	NCU710
840dsl-72	NCU720
840dsl-73	NCU730

If this field is empty, the data is valid for all systems.

Dimension

The "Dimension" field contains the number of elements of a data field.

Default value

The "Default value" field contains the value that is used to preset the machine data.

Some machine data is preset with different default values, depending on the NCU that is used.

Note

When input via the user interface, this is limited to ten digits plus comma and sign.

In the bracket "LIN/RED" the linear axis or rotary axis value is specified.

Range of values

The "Minimum value" and "Maximum value" fields contain the lower limit and upper limit, respectively, of the permissible range of the data.

If the "Minimum value" and "Maximum value" fields contain the string " *** ", an explicit range is not defined for this data. In this case, the range is determined by the specified data type.

SINUMERIK data types

The "Data type" field contains the following data types:

Data type	Range of values
BOOLEAN	Machine data bit (1 or 0)
BYTE	Integer values (-128 to 127)
DOUBLE	Real values (± (2.2 * 10-308 to 1.8 * 10+308))
DWORD	Integer values (-2147483648 to +2147483647)
DWORD	Hex values (0 to FFFF FFFF)
STRING	Character string (max. 16 characters) consisting of upper-case letters with digits and underscore
UNSIGNED WORD	Integer values (0 to 65536)
SIGNED WORD	Integer values (-32768 to 32767)
UNSIGNED DWORD	Integer values (0 to 4294967300)
SIGNED DWORD	Integer values (-2147483650 to 2147483649)
WORD	Hex values (0000 to FFFF)
FLOAT DWORD	Real values (± (8.43 x 10-37 to "3.37 x 1038))
UBYTE	Integer values (0 to 255)
LONG	Integer values (4294967296 to 4294967295)

Attributes

The "Attributes" field contains additional attributes of the data:

Attribute	Meaning
NBUP	No Back UP: The data is not backed up as part of the data backup.
ODLD	Only DownLoaD: The data can only be written to via an ini file, archive, or from the part program.
NDLD	No DownLoaD: The data can only be written to via the user interface.

1.1 Explanation of the machine/setting data

Attribute	Meaning
SFCO	SaFety COfiguration: Component of the "Safety Integrated".
SCAL	SCaling ALarm: Scaling data; when changed, alarm 4070 is displayed
LINK	LINK description: The data describes a link cluster, component of the "NCU Link" function
CTEQ	ConTainer EQual: The data must be the same for all axes in an axis container, component of the "Axis container" function
CTDE	ConTainer DEscription: The data describes an axis container, component of the "Axis container" function

1.1.4 Number ranges of the machine and setting data

Number ranges SINUMERIK

The machine and setting data are divided into number ranges.

The identifier specified in the data description is displayed on the user interface. However, if the data is addressed in the part program, for example, the identifier of the relevant data area must precede the data identifier.

Data area		Identifier	Description
From	to		
9000	9999	\$MM_	Display machine data
10000	18999	\$MN_	General NC machine data and general machine data for Safety Integrated
19000	19999	\$ON_	Option data
20000	28999	\$MC_	Channel-specific machine data
29000	29999	\$OC_	Channel-specific option data
30000	38999	\$MA_	Axis-specific machine data and axis-specific machine data for Safety Integrated
39000	39999		Reserved
41000	41999	\$SN_	General setting data
42000	42999	\$SC_	Channel-specific setting data
43000	43999	\$SA_	Axis-specific setting data
51000	51299	\$MNS_	General configuration machine data
51300	51999		General cycle machine data
52000	52299	\$MCS_	Channel-specific configuration machine data
52300	52999		Channel-specific cycle machine data
53000	53299	\$MAS_	Axis-specific configuration machine data
53300	53999		Axis-specific cycle machine data
54000	54299	\$SNS_	General configuration setting data
54300	54999		General cycle setting data

Data area		Identifier	Description
From	to		
55000	55299	\$SCS_	Axis-specific configuration setting data
55300	55999		Axis-specific cycle setting data
56000	56299	\$SAS_	Axis-specific configuration setting data
56300	56999		Axis-specific cycle setting data

Data Identifiers

Characters	Meanings
\$	System variables
M	Machine data (first letter)
S	Setting data (first letter)
O	Option data (first letter)
M, N, C, A	Subarea (second letter)
S	Siemens data (third letter)

Note

Axis-specific data can also be addressed with the axis name as an index. The internal axis identifier (AX1, AX2, AX3, etc.) or the identifier specified in MD10000 \$MN_AXCONF_MACHAX_NAME_TAB can be used as the axis name.

Example:

\$MC_JOG_VELO[Y1]=2000

The JOG velocity of axis Y1 is 2000 mm/min.

Example:

\$MA_FIX_POINT_POS[0,X1]=500.000

The value 500 is assigned to the first fixed point position on axis 1.

Examples:

\$MN_AUXFU_GROUP_SPEC[2]='H41'

If the content of a machine data is a STRING (e.g. Y1) or a hexadecimal value (e.g. H41) the contents must lie between " " (e.g. 'H41').

Output instant in time of the auxiliary functions of the 3rd auxiliary function group.

\$MN_AXCONF_MACHAX_NAME_TAB[0]='X1'

String "X1" is assigned as name for the first machine axis.

\$MA_REFP_SET_POS[0,X1]=100.00000

A value of 100 mm is assigned to the first reference point of axis X1.

1.1 Explanation of the machine/setting data

Examples:

Assignment to channel-specific machine data:

```

CHANDATA(1)                                ; Selection of the first channel
$MC_CHAN_NAME='CHAN1'                      ; Name of the first channel
$MC_AXCONF_GEOAX_NAME_TAB[1]='Y'           ; Name of the 2nd geometry axis
                                            ; of the first channel 'Y'
R10=33.75                                    ; R10 of the first channel

```

1.1.5 Structure of the data tables of SINAMICS parameters

Basic structure of the parameter description

The tables of SINAMICS parameters all have the following standard structure:

Parameter number	BICO: Full parameter name / short parameter name		
Drive object (function module)	Can be changed:	Calculated:	Access level:
	Data type:	Dynamic index:	Function diagram:
	P group:	Unit group:	Unit selection:
	Not for motor type:	Normalizing	Expert list:
	Min.	Max.	Factory setting

Example

r0025[0..3]	CO: Input voltage, smoothed		
A_INF, S_INF	Can be changed: -	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index:	Function diagram: 8850, 8950
	P group: Display, signals	Unit group: -	Unit selection: -
	Not for motor type: -	Normalization p2001	Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]

References

You can find a detailed description of SINAMICS parameters in the following document:
SINAMICS S120/S150 List Manual

1.1.6 Meaning of the table fields of SINAMICS parameters

Parameter number pxxxx[0...n]

The "parameter number" field contains the number of the parameter.

The number consists of a leading "p" or "r", followed by the parameter number and the index (optional).

p...	Adjustable parameter (read and write parameter)
r...	Display parameter (read-only)
p0918	Adjustable parameter 918
p0099[0...3]	Adjustable parameter 99, indices 0 to 3
p1001[0...n]	Adjustable parameter 1001, indices 0 to n (n = configurable)
r0944	Display parameter 944

BICO: Full parameter name / short parameter name

The following abbreviations can appear in front of the parameter name:

BI	Binector Input This parameter selects the source of a digital signal.
BO	Binector Output This parameter is available as an digital signal for interconnection with other parameters.
CI	Connector Input This parameter selects the source of an "analog" signal.
CO	Connector Output This parameter is available as an "analog" signal for interconnection with other parameters.
CO/BO	Connector/Binector Output This parameter is available as both an "analog" and also as digital signals for interconnection with other parameters.

Drive object (function module)

A drive object (DO) is an independent, "self-contained" functional unit with its own parameters, faults messages, and alarms.

The parameter list specifies the associated drive object and function module for each individual parameter.

1.1 Explanation of the machine/setting data

Can be changed

The "-" sign indicates that the parameter can be changed in any object state and that the change will be effective immediately.

The information C1(x), C2(x), T, U ((x): optional) means that the parameter can be changed only in the specified drive object state and that the change will not take effect until the object switches to another state. This can be one or more states.

The following states are available:

C1(x)	Commissioning device C1 Device is in the process of being commissioned (p0009 > 0). The pulses cannot be enabled. The parameter can only be changed in the following device commissioning settings (p0009 > 0): C1: can be changed for all settings p0009 > 0. C1(x): can only be changed for the settings p0009 = x. A modified parameter value does not take effect until the device commissioning mode is exited with p0009 = 0.	C1: Commissioning 1
C2(x)	Drive object commissioning The drive is in the process of being commissioned (p0009 = 0 and p0010 > 0). The pulses cannot be enabled. The parameter can only be changed in the following device commissioning settings (p0010 > 0): C2: can be changed for all settings p0010 > 0. C2(x): can be changed for the settings p0010 = x. A modified parameter value does not take effect until drive commissioning mode is exited with p0010 = 0	C2: Commissioning 2
U	Operation The pulses are enabled	U: Run
T	Ready The pulses are not enabled Status "C1(x)" or "C2(x)" is not active.	T: Ready to run

Calculated

Specifies whether the parameter is influenced by automatic calculations. The calculation attribute defines which activities influence the parameter.

Access level

Specifies the access level required to be able to display and change this parameter. The required access level can be set using p0003.

Parameters with the following access level are password-protected:

1. Standard
2. Extended

3. Expert

4. Service

Parameters with this access level are protected by a password.

Data type

The information on the data type can consist of the following two items (separated by a slash).

- First information
Data type of the parameter.
- Second information (for binector or connector input only)
Data type of the signal source to be interconnected (binector/connector output).

Parameters can have the following data types:

I8	Integer8	8-bit integer number
I16	Integer16	16-bit integer number
I32	Integer32	32-bit integer number
U8	Unsigned8	8 bits without sign
U16	Unsigned16	16 bits without sign
U32	Unsigned32	32 bits without sign
Float	FloatingPoint32	32-bit floating point number

Dynamic index

For parameters with a dynamic index [0 to n], the following information is specified:

- Data set (if available).
- Parameter for the number of indices (n = number -1).

Function diagram

The parameter is included in this function diagram. The structure of the parameter function and its relationship with other parameters are shown in the function diagram.

P group

Specifies the functional group to which this parameter belongs. The required parameter group can be set via p0004.

Unit, unit group, unit selection

The standard unit of a parameter is specified in square brackets after the values for "Min", "Max", and "Factory setting".

For parameters where the unit can be changed, "Unit Group" and "Unit Selection" specify which group this parameter belongs and which parameter can be used to change the unit.

1.1 Explanation of the machine/setting data

Not for motor type

Specifies for which motor type this parameter has no significance

ASM	Induction motor
FEM	Separately excited synchronous motor
PEM	Permanent-magnet synchronous motor
REL	Reluctance motor/SIEMOSYN motor

Normalizing

Specification of the reference variable with which a signal value is automatically converted for a BICO interconnection.

The following reference variables are possible:

p2000 ... p2007:	Reference speed, reference voltage, etc.
TEMP:	100°C = 100%
PERCENT:	1.0 = 100 %
4000H:	4000 hex = 100 %

Expert list

Specifies whether this parameter is available in the expert list of the specified drive objects in the commissioning software.

- 1: Parameter does exist in the expert list.
- 0: Parameter does not exist in the expert list.

Min, max, factory setting

Min.	Minimum value of the parameter [unit]
Max.	Maximum value of the parameter [unit]
Factory setting	Value when supplied [unit]

1.1.7 Number ranges of the parameters

Number ranges

Parameters are grouped into the following number ranges:

Range		Description
From	to	
0000	0099	Display and operation
0100	0199	Commissioning
0200	0299	Power unit
0300	0399	Motor
0400	0499	Encoder
0500	0599	Technology and units, motor-specific data, probes
0600	0699	Thermal monitoring, maximum current, operating hours, motor data, central probe
0700	0799	Control Unit terminals, measuring sockets
0800	0839	CDS, DDS data sets, motor changeover
0840	0879	Sequence control (e.g. signal source for ON/OFF1)
0880	0899	ESR, parking, control and status words
0900	0999	PROFIBUS/PROFIdrive
1000	1199	Setpoint channel (e.g. ramp-function generator)
1200	1299	Functions (e.g. motor holding brake)
1300	1399	U/f control
1400	1799	Closed-loop control
1800	1899	Gating unit
1900	1999	Power unit and motor identification
2000	2009	Reference values
2010	2099	Communication (fieldbus)
2100	2139	Faults and alarms
2140	2199	Signals and monitoring
2200	2359	Technology controller
2360	2399	Staging, hibernation
2500	2699	Position control (LR) and basic positioning (EPOS)
2700	2719	Reference values, display
2720	2729	Load gearbox
2800	2819	Logic operations
2900	2930	Fixed values (e.g. percent, torque)
3000	3099	Motor identification results
3100	3109	Real-time clock (RTC)
3110	3199	Faults and alarms
3200	3299	Signals and monitoring

1.1 Explanation of the machine/setting data

Range		Description
From	to	
3400	3659	Infeed closed-loop control
3660	3699	Voltage Sensing Module (VSM), Braking Module internal
3700	3779	Advanced Positioning Control (APC)
3780	3819	Synchronization
3820	3849	Friction characteristic
3850	3899	Functions (e.g. long stator)
3900	3999	Management
4000	4599	Terminal Board, Terminal Module (e.g. TB30, TM31)
4600	4699	Sensor Module
4700	4799	Trace
4800	4849	Function Generator
4950	4999	OA application
5400	5499	Line droop control (e.g. shaft generator)
5500	5599	Dynamic grid support (solar)
5900	6999	SINAMICS GM/SM/GL/SL
7000	7499	Parallel connection of power units
7500	7599	SINAMICS SM120
7700	7729	External messages
7770	7789	NVRAM, system parameters
7800	7839	EEPROM read/write parameters
7840	8399	Internal system parameters
8400	8449	Real-time clock (RTC)
8500	8599	Data and macro management
8600	8799	CAN bus
8800	8899	Communication Board Ethernet (CBE), PROFIdrive
8900	8999	Industrial Ethernet, PROFINET, CBE20
9000	9299	Topology
9300	9399	Safety Integrated
9400	9499	Parameter consistency and storage
9500	9899	Safety Integrated
9900	9949	Topology
9950	9999	Diagnostics, internal
10000	10199	Safety Integrated
11000	11299	Free technology controller 0, 1, 2
20000	20999	Free function blocks (FBLOCKS)
21000	25999	Drive Control Chart (DCC)
50000	53999	SINAMICS DC MASTER (DC closed-loop control)
61000	61001	PROFINET

1.2 Display machine data

Product: Handbuch_Sinumerik, Version: V14.0, Language: eng
Objects:

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

9006	DISPLAY_SWITCH_OFF_INTERVAL			-	-	
-	Time for screen saver			DWORD	PowerOn	
-						
-	-	60	0	180	7/3	-

Description: This machine data defines the time in minutes after which the screen automatically switches to dark if no key has been pressed on the keyboard in the meantime. The value 0 disables automatic light/dark switching.

Note:

The screen is only switched light/dark automatically when IS screen dark = 0.
Related to:

IS screen dark (DB19, ... DBX0.1)

9009	KEYBOARD_STATE			-	-	
-	Keyboard shift behavior at booting			BYTE	PowerOn	
-						
-	-	0	0	2	7/3	-

Description: This machine date defines the Shift behavior (SW-CAPSLOCK) of the keyboard. Basic configuration of the Shift behavior of the keyboard
0: SW-CAPSLOCK OFF
2: SW-CAPSLOCK ON

9032	HMI_MONITOR			-	-	
-	Define PLC data for HMI screen info			STRING	PowerOn	
-						
-	-	-	-	-	7/1	-

Description: Pointer, with offset, to a PLC data block. This is required to report HMI monitor information to the PLC, e.g active HMI task.
Format: PLC-specific format for specifying a data block with byte offset, e.g. DB60.DBB10 for data block 60, byte 10.
The monitor information reported by the HMI has a maximum length of 8 bytes.

Machine and setting data

1.2 Display machine data

9056	ALARM_ROTATION_CYCLE	-	-
-	Rotation cycle time for alarm display	DWORD	PowerOn
-			
-	-	0	0

Description: Rotation cycle time in the alarm display:
 <500: no rotation in the alarm line
 500 - 10000: cycle duration of alarm rotation in milliseconds
 If a valid cycle time has been set, all alarms are displayed in the alarm line one after the other.
 Each alarm is displayed for the specified time until it is replaced by the next alarm.
 If no alarm is present, cycle alarms or program messages are displayed, if required. However, these do not rotate.

9100	CHANGE_LANGUAGE_MODE	-	-
-	Language selection mode	BYTE	Immediately
-			
-	-	1	1

Description: Language selection mode is defined:
 1 = directly via selection list
 2 = via setting of the 1st and 2nd language

9102	SHOW_TOOLTIP	-	-
-	Display tooltip	BYTE	Immediately
-			
-	-	1	0

Description: If the MD has been set to 1, tooltips will be displayed.

9103	TOOLTIP_TIME_DELAY	-	-
s	Time delay tooltip display	BYTE	Immediately
-			
-	-	1	0

Description: Time delay for display of the tooltips in seconds.

9105	HMI_WIDE_SCREEN	-	-
-	Display of the HMI as wide screen with OEM area always visible	BYTE	PowerOn
-			
-	-	0	0

Description: Display of the HMI as wide screen. Above the HMI there is a separate application field that is designed by the machine manufacturer.

9106	SERVE_EXTCALL_PROGRAMS	-	-
-	Process EXTCALL calls	BYTE	PowerOn
-			
-	-	1	0

Description: HMI processes reload requirements of the NC for EXTCALL calls.

9107	DRV_DIAG_DO_AND_COMP_NAMES	-	-			
-	Expanded drive diagnostics: DO and components	BYTE	Immediately			
-						
-	-	0	0	3	7/3	-

Description: 0: DO and component type names
 1: Real DO names and component type names
 2: DO type names and real component names
 3: Reale DO names and real component names

9108	SINUMERIK_INTEGRATE	-	-			
-	Activating SINUMERIK Integrate products	BYTE	Immediately			
-						
-	-	0	0	1	7/3	-

Description: If the machine data has been set to 1, the SINUMERIK Integrate softkey appears as the operating area.

9110	ACCESS_HMI_EXIT	-	-			
-	Protection level of exit softkey	BYTE	PowerOn			
-						
-	-	1	0	7	7/2	-

Description: Protection level for the exit softkey (HMI restart) in the operating area menu

9900	MD_TEXT_SWITCH	-	-			
-	Plaintexts instead of MD identifier	BOOLEAN	Immediately			
-						
-	-	0	-	-	7/3	-

Description: If the MD has been set to 1, clear text is displayed on the operator panel instead of the machine data identifiers.

9990	SW_OPTIONS	-	-			
-	Enable HMI software options	DWORD	Immediately			
-						
-	-	0	-	-	1/1	-

Description: Here you can enable the HMI software options

1.3 NC machine data

1.3.1 General machine data

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

10000	AXCONF_MACHAX_NAME_TAB	N01, N11	K2,F1,G2,F2,K5,M1
-	Machine axis name	STRING	PowerOn
-			
-	31	X1, Y1, Z1, A1, B1, C1, U1...	- - 7/2 M

Description: List of the machine axis identifiers.

The name of the machine axis is entered in this MD.

In addition to the fixed, defined machine axis identifiers "AX1", "AX2" ..., user-defined identifiers for the machine axes can also be assigned in this data.

The identifiers defined here can be used parallel to the fixed, defined identifiers for addressing axial data (e.g. MD) and machine axis-related NC functions (reference point approach, axial measurement, travel to fixed stop).

Special cases:

- The input machine axis name must not conflict with the names and assignments of the geometry axes (MD20060 \$MC_AXCONF_GEOAX_NAME_TAB, MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB) or channel axes (MD20080 \$MC_AXCONF_CHANAX_NAME_TAB, MD20070 \$MC_AXCONF_MACHAX_USED).
- The input machine axis name must not be the same as the names for Euler angles (MD10620 \$MN_EULER_ANGLE_NAME_TAB), names for path-relevant orientation (MD10624 \$MN_ORIPATH_LIFT_VECTOR_TAB), names for normal vectors (MD10630 \$MN_NORMAL_VECTOR_NAME_TAB), names for directional vectors (MD10640 \$MN_DIR_VECTOR_NAME_TAB), names for rotation vectors (MD10642 \$MN_ROT_VECTOR_NAME_TAB), names for intermediate vector components (MD10644 \$MN_INTER_VECTOR_NAME_TAB), names for intermediate circle point coordinates with CIP (MD10660 \$MN_INTERMEDIATE_POINT_NAME_TAB) or the names for interpolation parameters (MD10650 \$MN_IPO_PARAM_NAME_TAB).
- The input machine axis name must not include any of the following reserved address letters:

D Tool offset

(D function)

E Reserved

F Feedrate

(F function)

G Preparatory function

H Auxiliary function

(H function)

L Subroutine call

M Miscellaneous function

(M function)

N Subblock

P Subroutine number of passes

R Arithmetic parameters

S Spindle speed

(S function)

T Tool (T function)

The name must not include any keywords (e.g. DEF, SPOS etc.) or pre-defined identifiers (e.g. ASPLINE, SOFT).

The use of an axis identifier consisting of a valid address letter (A, B, C, I, J, K, Q, U, V, W, X, Y, Z), followed by an optional numerical extension (1-99) gives slightly better block cycle times than a general identifier.

If no identifier is assigned to a machine axis, then the predefined name ("AXn") applies to the nth machine axis.

Related to:

MD20060 \$MC_AXCONF_GEOAX_NAME_TAB (geometry axis name in the channel [GEOAx-isno.]

MD20080 \$MC_AXCONF_CHANAX_NAME_TAB (channel axis name in the channel [Chan-nelaxisno.]

10002	AXCONF_LOGIC_MACHAX_TAB	N01	B3,K2
-	Logical NCK machine axis image	STRING	PowerOn
-			
-	31	AX1, AX2, AX3, AX4, AX5, AX6...	-

Description: List of machine axes available on an NCU. (Logical NCK machine axis image)

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB creates another NCK global, logical layer between the channel axis layer and the machine axes in an NCU or NCU grouping. This layer is called the "Logic NckMachineAxImage", abbreviation: LAI).

Axes can only be assigned between different NCUs via this new intermediate layer!

The entry \$MN_AXCONF_LOGIC_MACHAX_TAB[n] = NCj_AXi assigns the machine axis i on the NCU j to the axis index "n" in the LAI.

This makes the following assignments possible:

1. Local axes (default setting: AX1, AX2 ... AX31)

The entry \$MN_AXCONF_LOGIC_MACHAX_TAB[n] = AX3 assigns the local axis AX3 to axis index n. (Default setting AX3 is present for n = 3 . Thus there is compatibility in software version 5 for MD blocks for software versions up to 4).

2. Link axes (axes that are physically connected to another NCU). The entry \$MN_AXCONF_LOGIC_MACHAX_TAB[n] = NCj_AXi assigns axis AXi (link axis) on NCU j to axis index n.

Limits:

n Machine axis address (of the local NCU)1 ... 31

j NCU number1 ... 16

i Machine axis address (of the local/remote NCU)1 ... 31

3. Axis container in which there are once again either local or link axes. The entry \$MN_AXCONF_LOGIC_MACHAX_TAB[n] = CTr_SLS assigns container r and slot s to axis index n.

Limits:

n Machine axis address (of the local NCU)1 ... 31

r Container number1 ... 16

s Slot number (location) in the container1 ... 32

The channel layer is formed via the related machine data \$MD20070 \$MC_AXCONF_MACHAX_USED and no longer points (small P5) directly to the machine axes but to the new LAI layer.

\$MC_AXCONF_MACHAX_USED [k]=n assigns the LAI axis number "n" to the axis index "k" in the channel layer.

The machine axis and the corresponding NCK can then be determined from the LAI axis number.

1.3 NC machine data

If a number of NCUs point to the same machine axis in the cluster as a result of MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB, then the axial machine data MD30554 \$MA_AXCONF_ASSIGN_MASTER_NCU must define which NCU generates the master NCU and the setpoint values for the position controller after startup.

Related to:

MD12... \$MN_AXCT_AXCONF_ASSIGN_TABi (make entries in containers i)

10010	ASSIGN_CHAN_TO_MODE_GROUP		N01, N02, N11	K1,K5
-	Channel valid in mode group		DWORD	PowerOn
-				
-	10	1, 0, 0, 0, 0, 0, 0, 0...	0	10 7/2 M

Description: This MD assigns the channel to a mode group
 Entry value 1 => Assigned to 1st mode group
 Entry value 2 => Assigned to 2nd mode group
 etc.
 From software version 4, it is permissible not to assign a mode group number to individual channels.
 Channel gaps are allowed, in order to favor uniform configuration in similar types of machines. In this case, the number 0 is assigned to the channel instead of assigning a mode group number equal to or greater than 1. The channel is not activated, however it is handled like an active channel when counting the channels.
 E.g.
 ASSIGN_CHAN_TO_MODE_GROUP[0] = 1
 ASSIGN_CHAN_TO_MODE_GROUP[1] = 1
 ASSIGN_CHAN_TO_MODE_GROUP[2] = 0 ; gap
 ASSIGN_CHAN_TO_MODE_GROUP[3] = 1
 Application example:
 Select desired channel via HMI and enter with MD10010
 \$MN_ASSIGN_CHAN_TO_MODE_GROUP = 1.
 Note:
 This MD must still be entered even when only one mode group is present.

10050	SYSCLOCK_CYCLE_TIME		N01, N05, N11, G3,G2,R1	
s	System clock cycle		DOUBLE	PowerOn
SFCO				
-	-	0.002	0.001	0.008 7/2 M

Description: Basic cycle time of the system software
 The cycle times settings of cyclical tasks (position controller/IPO) are multiples of this basic cycle. Apart from special applications in which MD10060 \$MN_POSCTRL_SYSCLOCK_TIME_RATIO is set greater than 1, the basic cycle corresponds to the position controller cycle.
 For PROFIBUS/PROFINET:
 In the case of systems with a PROFIBUS DP connection, this MD corresponds to the PROFIBUS DP cycle time. This time is read from the configuration file (SDB-Type-2000) during startup and written to the MD.
 This MD can only be changed via the configuration file.

Note:

Reducing this MD can result in an automatic correction of MD10062 \$MN_POSCTRL_CYCLE_DELAY and MD10064 \$MN_POSCTRL_CYCLE_DESVAL_DELAY that cannot be undone by a subsequent increase!

Details:

The basic cycle is incremented in multiples (MD10080 \$MN_SYSCLOCK_SAMPL_TIME_RATIO) of units of the measured value sampling cycle. During system startup, the entered value is automatically rounded up to a multiple of this incrementation.

Note:

Discrete timer division ratios can give rise to the entered value producing a value that is not an integer after a Power OFF/ON.

For example:

Input	= 0.005s
	after Power OFF/ON = 0.00499840
or	
Input	= 0.006s
	after Power OFF/ON = 0.0060032

10059	PROFIBUS_ALARM_MARKER			N05	G3
-	PROFIBUS/PROFINET alarm flag (internal only)			BYTE	PowerOn
NBUP, NDLD					
-	-	0	-	-	0/0 M

Description: PROFIBUS/PROFINET alarm flag:

In this machine data, alarm requests for the PROFIBUS/PROFINET layer are stored beyond a reboot.

If conflicts arise between machine data 10050, 10060, 10070 and the data in the SDB on startup, the machine data are matched according to SDB, and an alarm is output on the next start up. These alarm requests are stored here.

Related to:

MD10050 \$MN_SYSCLOCK_CYCLE_TIME,
MD10080 \$MN_SYSCLOCK_SAMPL_TIME_RATIO

10060	POSCTRL_SYSCLOCK_TIME_RATIO			N01, N05	G3
-	Factor for position control cycle			DWORD	PowerOn
SFCO					
-	-	1	1	31	7/2 M

Description: The position-control cycle is stated as a multiple of the time units of the system basic cycle MD10050 \$MN_SYSCLOCK_CYCLE_TIME.**For PROFIBUS/PROFINET:**

In the case of systems with a PROFIBUS DP connection, this MD represents the ratio between the PROFIBUS DP cycle and the position controller cycle, which is based on the PLC configuration.

10061	POSCTRL_CYCLE_TIME			N01, N05	G3
-	Position control cycle			DOUBLE	PowerOn
-					
-	-	0.0	-	-	ReadOnly M

Description: Position controller cycle time:

Display of the position controller cycle time (not modifiable!).

1.3 NC machine data

It is compiled internally from MD10050 \$MN_SYSCLK_CYCLE_TIME and MD10060 \$MN_POSCTRL_SYSCLK_TIME_RATIO.

10062	POSCTRL_CYCLE_DELAY	N01, N05	G3
s	Position control cycle offset	DOUBLE	PowerOn
-			
-	-	0.0	0.000

Description: For PROFIdrive only:
 Only relevant to operation with PROFIBUS drives.
 Position controller cycle offset in relation to the PROFIBUS DP cycle.
 Offsets that exceed the set DP cycle or are smaller than the maximum Tdx, are automatically corrected to a substitute value half the size of the DP cycle.
 MD10062 \$MN_POSCTRL_CYCLE_DELAY > 0:Default for position controller offset
 MD10062 \$MN_POSCTRL_CYCLE_DELAY = 0:Automatic determination of the position controller offset with max. Tdx from STEP7 project
 Tdx_max is determined through all equidistant buses.
 The actually active offset value is displayed in MD 10063[1]
 \$MN_POSCTRL_CYCLE_DIAGNOSIS.
Note:
 MD10062 \$MN_POSCTRL_CYCLE_DELAY > 0 can reduce MD10050
 \$MN_SYSCLK_CYCLE_TIME to the automatic correction of this MD that cannot be undone by a subsequent increase.
Recommendation:
 In this case set the original value or default value once again.

10063	POSCTRL_CYCLE_DIAGNOSIS	EXP, N01, N05	-
s	Active timing	DOUBLE	PowerOn
-			
-	6	0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: Diagnostic data related to the PROFIBUS/PROFINET cycle.
 [0]: Latest time at which the actual values should be available (Tdx)
 [1]: Actually active position controller cycle offset (Tm)
 [2]: Latest time at which the setpoints were output by the position controller
 [3]: Time at which the setpoint transfer to the drive via DMA was started for SOC-based modules
 [4]: Time at which the setpoint transfer to the drive via DMA was finished for SOC-based modules.
 [5]: 'Worst case' time since voltage on, at which the setpoint transfer to the drive via DMA was finished for SOC-based modules.
 Diagnostic data are initialized with ZERO with each NCK power up

10064	POSCTRL_CYCLE_DESVAL_DELAY	N01, N05	G3
s	Clock skew of the DMA for the setpoints	DOUBLE	PowerOn
-			
-	-	0.0	0.000

Description: For SINAMICS-Integrated only:
 Only relevant to operation with SINAMICS-Integrated drives on SOC modules.
 Offset of the output of the setpoints via DMA in relation to the PROFIBUS DP cycle.

Offsets that exceed the set DP cycle are automatically corrected to a substitute value.

MD10062 \$MN_POSCTRL_CYCLE_DESVAL_DELAY > 0:Default setpoint offset

MD10062 \$MN_POSCTRL_CYCLE_DESVAL_DELAY = 0:Automatic determination of the setpoint offset on the basis of the hardware transfer rates

The actually active offset value is displayed in MD10063[4].

Note:

MD10064 \$MN_POSCTRL_CYCLE_DESVAL_DELAY > 0 can reduce MD10050

\$MN_SYSCLOCK_CYCLE_TIME to the automatic correction of this MD, that cannot be undone by a subsequent increase.

Recommendation:

In this case set the original value or default value once again.

10065	POSCTRL_DESVAL_DELAY	N01	B3
s	Position setpoint delay	DOUBLE	PowerOn
-			
-	-	0.0	-0.1

Description: This MD can parameterize a delay of the setpoints in the position controller. The area of application is NCU-link when different position control cycles are parameterized on the NCUs and if the axes should nevertheless interpolate with one another. (Used for example for non-circular turning.)
This MD is used to optimize the automatic setting.

Related to:

MD32990 \$MA_POSCTRL_DESVAL_DELAY_INFO

10070	IPO_SYSCLOCK_TIME_RATIO	N01, N05, N11, -	G3,R1
-	Factor for interpolation cycle	DWORD	PowerOn
SFCO			
-	-	4	1

Description: The interpolator cycle is stated as a multiple of the time units of the system basic cycle MD10050 \$MN_SYSCLOCK_CYCLE_TIME.
Only integer multiples of the position control cycle can be set (set in MD10060 \$MN_POSCTRL_SYSCLOCK_TIME_RATIO). Values that are not an integer multiple of the position control cycle are automatically increased to the next integer multiple of the position control cycle before they become active (on next power up).
This is accompanied by alarm 4110 "IPO cycle changed to [] ms".

10071	IPO_CYCLE_TIME	N01, N05, N11, -	G3
-	Interpolator cycle	DOUBLE	PowerOn
-			
-	-	0.0	-

Description: Interpolation time
Display of the interpolator cycle time (not modifiable!).
It is compiled internally from MD10050 \$MN_SYSCLOCK_CYCLE_TIME and MD10070 \$MN_IPO_SYSCLOCK_TIME_RATIO.

1.3 NC machine data

10072	COM_IPO_TIME_RATIO	N01, N05	-			
-	Division ratio between IPO and communication task	DOUBLE	PowerOn			
-						
-	-	1.0	0.0	100.0	7/2	M

Description: Division ratio between IPO and communication tasks. A value of 2 means, e.g., that the communication task is only processed in every second IPO cycle. This makes more time available for the other tasks. Overlarge values slow down the communication between the HMI and NCK.

Numerical values less than 1 downscale the IPO cycle. This value is adjusted so that only runtimes that are a multiple of the position controller time are possible for the communication task. A call period of about 10 ms is practical for the communication task.

10073	COM_IPO_STRATEGY	EXP	-			
-	Strategy for activation of communication.	DWORD	PowerOn			
-						
-	-	0x0F	1	0x7F	0/0	M

Description: The call frequency of the communication task can be controlled by MD10072 \$MN_COM_IPO_TIME_RATIO.

The communication tasks are activated cyclically. That has some advantages and disadvantages:

Advantages:

- The communication behavior of the NCK is deterministic in relation to the communication task.

Disadvantages:

- The communication task can lead to level overflows.
- In an unloaded NCK system, the speed of communication is determined by MD10072 \$MN_COM_IPO_TIME_RATIO. As this machine data is power ON, it cannot adapt to the current NCK operating mode. A typical problem is that uploading a part program can take a very long time on an unloaded NCK. In this case, the bottleneck is the communication task that only progresses in the relation defined by machine data COM_IPO_TIME_RATIO.

This machine data has been introduced to eliminate the above-mentioned disadvantages. It makes the times at which the communication software is activated controllable. The machine data is bit-coded. The bits have the following meanings:

Bit 0:

The communication software is calculated cyclically

Bit 1:

The level time overflow monitoring is switched off for the cyclical communication task. This bit is only practical if bit zero is set. The task is implemented in a non-cyclical level that has a higher priority than the preparation/communication level. The communication task makes a delay of the time defined in COM_IPO_TIME_RATIO after each cycle.

Bit 2:

The communication software is calculated at the start of the task which the domain services accept.

Bit 3:

The communication software is calculated at the end of the task which the domain services accept.

Bit 4:

The communication software is calculated at the start of the task which the domain services accept if a PDU upload has arrived. This bit is only useful if bit 2 is set.

Bit 5:

The communication software is calculated at the end of the task which the domain services accept if a PDU upload has arrived. This bit is only useful if bit 3 is set.

This machine data is only active in systems containing the Softbus communication software. This is in P6 the 840Di with MCI2 software and the solution line systems for P7.

The default value is 0x0F. This means that the COS is calculated prior to and after communication in order to minimize latencies.

10088	REBOOT_DELAY_TIME	EXP	K3			
s	Reboot delay	DOUBLE	Immediately			
-						
-	-	0.2	0.0	1.0	2/2	M

Description: The reboot following PI "_N_IBN_SS" is delayed by the time MD10088 \$MN_REBOOT_DELAY_TIME.
 The suppressable NORREADY alarm 2900 is triggered immediately by PI "_N_IBN_SS".
 If MD10088 \$MN_REBOOT_DELAY_TIME falls below the MD36620 \$MA_SERVO_DISABLE_DELAY_TIME value of an axis, the axis is decelerated during MD10088 \$MN_REBOOT_DELAY_TIME. The servo enable is then disabled. That is, the full MD36620 \$MA_SERVO_DISABLE_DELAY_TIME is NOT waited.
 Alarm 2900 does not become active if MD10088 \$MN_REBOOT_DELAY_TIME = 0.0, and there is no reboot delay.
 The NCK waits beyond the stated delay time until the PI has been able to be acknowledged to the HMI. The total delay time may be as much as 2 s.

10089	SAFE_PULSE_DIS_TIME_BUSFAIL	N01, N06, -	FBSI			
s	Delay time pulse suppr. for bus failure	DOUBLE	PowerOn			
-						
-	-	0.0	0	0.8	7/2	M

Description: Time after a communication failure at which safe pulse disable takes place. The drive can still respond autonomously to the bus failure during this time (see extended stop and retract)
 This time is not waited before disabling pulses in the following cases:

- On selection of an external Stop A, a test stop or a test stop external switch off
- If SBH is active or on selection of SBH
- A pulse disable is parameterized immediately if an SG level is active or on selection of an SG level for which an immediate pulse disable is parameterized in \$MA_SAFE_VELO_STOP_MODE or \$MA_SAFE_VELO_STOPREACTION.

Note:

\$MN_SAFE_PULSE_DIS_TIME_BUSFAIL is transferred to the drive parameter MD 9580 with the copy function of the SI-MD and compared in the data cross-check. This general machine data is contained in the axial checksum calculation of the safety relevant machine data (\$MA_SAFE_ACT_CHECKSUM, \$MA_SAFE_DES_CHECKSUM).

1.3 NC machine data

10090	SAFETY_SYSCLOCK_TIME_RATIO	N01, N06, -	FBSI			
-	Factor for monitoring cycle	DWORD	PowerOn			
SFCO						
-	-	3	1	50	7/1	M

Description: Ratio between the monitoring cycle and the system clock cycle. The monitoring cycle is the product of this data and \$MN_SYSCLOCK_CYCLE_TIME.

Special cases:

The monitoring cycle is checked during power on:

- It must be an integer multiple of the position-control cycle
- It must be < 25 ms

The factor is rounded down to the next possible value if the conditions are not fulfilled. The actual set monitoring cycle is displayed by \$MN_INFO_SAFETY_CYCLE_TIME.

A new value is also generated for the cross-check cycle, which is displayed by data \$MN_INFO_CROSSCHECK_CYCLE_TIME.

Note:

The monitoring cycle defines the monitoring response time. It must be noted that the CPU load increases as the monitoring cycle becomes shorter.

Related to:

MD 10050: \$MN_SYSCLOCK_CYCLE_TIME

MD 10091: \$MN_INFO_SAFETY_CYCLE_TIME

MD 10092: \$MN_INFO_CROSSCHECK_CYCLE_TIME

10091	INFO_SAFETY_CYCLE_TIME	N01, N06, N05,	FBSI			
s	Display of monitoring cycle time	DOUBLE	PowerOn			
-						
-	-	0.0	-	-	ReadOnly	M

Description: Display data: Displays the actually active monitoring cycle. The data cannot be written.

The data value is recalculated as soon as one of the following data are changed:

SAFETY_SYSCLOCK_TIME_RATIO,

POSCTRL_SYSCLOCK_TIME_RATIO

SYSCLOCK_CYCLE_TIME

The new value does not become active until after the next Power On.

Related to:

MD 10090: \$MN_SAFETY_SYSCLOCK_TIME_RATIO

10092	INFO_CROSSCHECK_CYCLE_TIME	N01, N06, N05,	FBSI			
s	Display of cycle time for cross-checking	DOUBLE	PowerOn			
-						
-	-	0.0	-	-	ReadOnly	M

Description: Display data: Maximum cross-checking cycle in seconds.

Derived from INFO_SAFETY_CYCLE_TIME and the number of data to be cross-checked (this may vary according to the type of drive used for the individual axes).

The data value is recalculated as soon as one of the following data are changed:

SAFETY_SYSCLK_TIME_RATIO,
POSCTRL_SYSCLK_TIME_RATIO
SYSCLK_CYCLE_TIME

The new value does not become active until after the next Power On.

Related to:

MD 10090: \$MN_SAFE_SYSCLK_TIME_RATIO
MD 36992: \$MA_SAFE_CROSSCHECK_CYCLE

10093	INFO_NUM_SAFE_FILE_ACCESS	EXP, N05, -	FBSI			
-	Number of SPL file accesses	DWORD	PowerOn			
-						
-	-	0	-	-	ReadOnly	M

Description: Display data: SPL file /_N_CST_DIR/_N_SAFE_SPF has been accessed n-times in a protected state. This MD is intended for service purposes only. The MD can only take the values 0 and 1. The value cannot be changed.

10094	SAFE_ALARM_SUPPRESS_LEVEL	EXP, N06, N05, -	FBSI			
-	Alarm suppress level	BYTE	PowerOn			
-						
-	-	2	0	113	7/2	M

Description: Affects the display of safety alarms. The monitoring channels NCK and drive or NCK and PLC display alarms with the same meaning in several situations.

To reduce the volume of the alarm display, this MD is set to define whether safety alarms with the same meaning are to be hidden or not. This does not affect the dual-channel stop response.

0 = Dual-channel triggered alarms are displayed in full

- Dual-channel display of all axial safety alarms
- Alarm 27001, error code 0 is displayed
- Alarms 27090, 27091, 27092, 27093, and 27095 are dual-channel and are displayed several times.

1 = Alarms with the same meaning are only displayed once.

The following alarms can be affected by this:

27010 = C01707

27011 = C01714

27012 = C01715

27013 = C01706

27020 = C01710

27021 = C01709

27022 = C01708

27023 = C01701

27024 = C01700

In the case of these alarms, only one of the alarms listed (270xx or C01xxx) is triggered.

The alarm of the monitoring channel that later triggers the alarm with the same meaning is no longer displayed.

Furthermore, alarm 27001 with error code 0 is suppressed. This alarm is triggered as a result of drive alarm C01711. In this case, drive parameters

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r9710[0,1], r9711[0,1], r9735[0,1], r9736[0,1], r9737[0,1], r9738[0,1], r9739[0,1] provide further information about the cause of the error.

2 = Default setting

In addition to the functionality with MD value = 1, the alarms from the SPL processing

(27090, 27091, 27092, 27093, and 27095) are displayed in one channel and only once. This

also applies to the alarms for PROFIsafe communications (27250 and following).

3 = Axial alarms 27000 and A01797 are replaced by alarm message 27100 for all axes /

drives. Alarm 27040 is replaced by alarm 27140 for all axes/ drives.

12 = The alarms are prioritized beyond the functionality with MD value = 2. Obvious subsequent alarms are no longer displayed or are automatically deleted from the display.

The following alarms can be affected by this:

27001, 27004, 27020, 27021, 27022, 27023, 27024, 27091,

27101, 27102, 27103, 27104, 27105, 27106, 27107

13 = The alarms are prioritized beyond the functionality with MD value = 3 (as with MD value 12).

1xx = If SPL commissioning mode is active (\$MN_PREVENT_SYNACT_LOCK[0,1] = 0), the global group alarm 27135 will be displayed instead of the axial checksum alarms 27032, 27035, and 27060.

This machine data must be set to 0 to create an acceptance log, so that the triggering of all alarms can be logged.

10095	SAFE_MODE_MASK		EXP, N06, -	FBSI		
-	'Safety Integrated' operating modes		DWORD	PowerOn		
-						
-	-	0	0x00000000	0x00000006	7/2	M

Description: Bit 1 = 0: The "Modular PROFIsafe I/O connection" function is not active.

Bit 1 = 1: The "Modulare PROFIsafe I/O connection" function is active.

Bit 2 = 0: The reduced language scope for SAFE.SPF is only activated during ramp-up in the case of automatic startup (\$MC_PROG_EVENT_MASK bit 5)

Bit 2 = 1: The reduced language scope for SAFE.SPF is also activated if the CALL command is used to call SAFE.SPF.

10096	SAFE_DIAGNOSIS_MASK		EXP, N06, N05,	FBSI		
-	'Safety Integrated' diagnostics functions		DWORD	NEW CONF		
-						
-	-	1	0	0x000F	7/2	M

Description: Bit 0 = 0:

SGE differences between NCK and drive monitoring channels are not displayed

Bit 0 = 1:

Default setting: SGE differences between NCK and drive monitoring channels are displayed. Differences between the following SGEs are displayed (the bit numbers stated refer to the axial map of the SGEs; they correspond to the assignment of the axial VDI interface):

Bit 0: DB31, ... DBX22.0 (SBH/SG deselection)

Bit 1: DB31, ... DBX22.1 (SBH deselection)
 Bit 3: DB31, ... DBX22.3 (SG selection: Bit 0)
 Bit 4: DB31, ... DBX22.4 (SG selection: bit 1)
 Bit 12: DB31, ... DBX23.4 (activate SE 2)
 Bit 28: DB31, ... DBX33.4 (SG correction: bit 0)
 Bit 29: DB31, ... DBX33.5 (SG correction: bit 1)
 Bit 30: DB31, ... DBX33.6 (SG correction: bit 2)
 Bit 31: DB31, ... DBX33.7 (SG correction: bit 3)
 The differences are displayed by message alarm 27004.
 Bit 1 = 0: Default setting: Display of a non-executed SPL start after expiry
 of the timer defined in MD SAFE_SPL_START_TIMEOUT
 with alarm 27097
 Bit 1 = 1: Display of alarm 27097 is suppressed
 Alarm 27097 indicates that despite the SPL configuration an SPL start has not
 been executed
 after expiration of the time specified in MD SAFE_SPL_START_TIMEOUT. Alarm
 description 27097 explains why.
 Bit 2 = 0: Default setting: Communication errors are displayed with SFC error
 codes in alarm 27354
 Bit 2 = 1: Display of alarm 27354 is suppressed
 Bit 3 = 0: Default setting: alarm 27038 is displayed, if an unknown bit is
 set in drive parameter r474.
 Bit 3 = 1: Display of alarm 27038 is suppressed

10097	SAFE_SPL_STOP_MODE	N01, N06, -	FBSI			
-	Stop reaction for SPL errors	BYTE	PowerOn			
-						
-	-	3	3	4	7/2	M

Description: Selection of the stop response when the NCK / PLC SPL detects errors during a cross-check.

3: Stop D
 4: Stop E

Entering the value 4 in this MD (Stop E) leads to alarm 27033, "Axis %1 Parameterization of MD10097 \$MN_SAFE_SPL_STOP_MODE is invalid" unless external Stop E is enabled in all axes with SI function enable (MD36901 \$MA_SAFE_FUNCTION_ENABLE is not equal to 0). As a remedy, either Stop D must be parameterized, or bits 4 and 6 must be set in MD36901 \$MA_SAFE_FUNCTION_ENABLE for all affected axes.

If this MD is set to 4, NC/PLC interface signal DB18 DBX36.1 (Stop E) must also be set to 1 to make this parameterization known to the PLC. A different parameterization leads to alarm 27909, "Error in NCK / PLC data cross check"

10098	PROFISAFE_IPO_TIME_RATIO	N01, N10, -	FBSI			
-	Factor for PROFIsafe communication	DWORD	PowerOn			
SFCO						
-	-	1	1	25	7/1	M

Description: Ratio between PROFIsafe communication and interpolator cycle. The actual PROFIsafe communication cycle is the product of this data and IPO_CYCLE_TIME, and is displayed in MD INFO_PROFISAFE_CYCLE_TIME. The OB40 on the PLC side is triggered from the NCK side in this cycle to run the communication between F master and F slaves.

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The PROFIsafe communication must not exceed 25 ms.

10099	INFO_PROFISAFE_CYCLE_TIME	N01, N10, N05, -	FBSI
s	PROFIsafe communication cycle time	DOUBLE	PowerOn
-			
-	-	0.0	-

Description: Displays the maximum time frame within which the OB40 is initiated for PROFIsafe communication.
 The value is derived from the interpolator cycle and MD \$MN_PROFISAFE_IPO_TIME_RATIO.
 If the selected communication cycle is exceeded in cyclic operation, then this is also displayed here.
 In the case of a parameterization error (communication cycle exceeds the maximum value of 25.0 ms) the maximum value that can be set is displayed.
 It involves pure display data. The value cannot be changed.

10100	PLC_CYCLIC_TIMEOUT	EXP, N01, N06	P3
s	Maximum PLC cycle time	DOUBLE	PowerOn
-			
-	-	0.1	-

Description: Cyclical PLC monitoring time.
 This machine data specifies the maximum monitoring time after which the PLC must have incremented its sign of life. Incrementing takes place within the interpolation cycles.

10110	PLC_CYCLE_TIME_AVERAGE	N01, N07	B1
s	Average PLC acknowledgement time	DOUBLE	PowerOn
-			
-	-	0.05	-

Description: Time information for the CNC about the OB1 cycle time. During this cycle time, it is guaranteed that the auxiliary functions will be acknowledged. By means of the MD, the status transitions:
 "channel operates/ channel in RESET/ channel failure --> channel interrupted" can be delayed for the PLC in case of a RESET. With the output "channel interrupted", the NCK waits at least the time indicated in the MD + 1 IPO cycle.
 With the time indication, the path feedrate during path control operation in case of an auxiliary function output during motion is controlled in a way to ensure that the minimum travel time corresponds to the time information. This ensures a uniform velocity behavior which is not disturbed by waiting for the PLC acknowledgement. The internal incrementation is performed in the interpolation cycle.
 For the auxiliary function output in the continuous-path mode, the MD is also relevant for the FM357 and 802/802s systems. With SW 5.1 and higher, the other systems are parameterized directly via the PLC.

10120	PLC_RUNNINGUP_TIMEOUT	EXP, N01, N06	H2			
s	Monitoring time for PLC power up	DOUBLE	PowerOn			
-						
-	-	50.0	-	-	7/2	M

Description: Power up PLC monitoring time

This machine data specifies the maximum monitoring time within which the PLC must report its first sign of life to the NCK. During the power up routine, the monitoring function has the task of verifying that the PLC has properly assumed cyclic operation. If the PLC does not issue a message within this time, the NC issues an alarm message when it powers up; NC-READY is not set. The incrementing takes place within the interpolation cycles.

10130	TIME_LIMIT_NETTO_COM_TASK	EXP, N01	OEM			
s	Runtime limitation of communication to HMI	DOUBLE	PowerOn			
-						
-	-	0.05	0.01	1.000	0/0	M

Description: Net runtime limit of the communication sub-task

Preprocessing and the communications task share the time that is not used up by the cyclical tasks. Of this remaining time, communication uses the set time at the expense of preprocessing time; in other words, the net block cycle time is increased by the set value. This machine data serves the purpose of optimizing the block cycle time with the function "Reloading part programs block-by-block".

10131	SUPPRESS_SCREEN_REFRESH	EXP	A2			
-	Screen refresh response under overload	BYTE	PowerOn			
-						
-	-	0	0	2	7/2	M

Description: There are part programs in which the main run (HL) has to wait until the pre-processing (VL) makes new blocks available.

The pre-processing and display update compete for NC computing time. The MD defines how the NC is to respond when the pre-processing is too slow.

0: When the VL of a channel is too slow, the updating of the display is suppressed in all channels.

1: When the VL of a channel is too slow, the updating of the display is suppressed only in the time-critical channels in order to gain time for the pre-processing.

2: The updating of the display is never suppressed.

10132	MMC_CMD_TIMEOUT	EXP, N01, N06	PA,M4			
s	Monitoring time for HMI command in the part program	DOUBLE	PowerOn			
-						
-	-	3.0	0.0	100.0	7/2	M

Description: Monitoring time in seconds until the HMI acknowledges a command from the part program.

The following times are monitored:

- In the case of an HMI command without acknowledgement: time from triggering the transfer of the command string until successful transmission to the HMI

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- In the case of an HMI command with synchronous and asynchronous acknowledgement: time from triggering the transfer of the command strings until receipt of the acceptance acknowledgement from the HMI
- For EXTCALL command and execution from external drives: time between the transmission triggering of the command string and the successful sending to the HMI.

10134	MM_NUM_MMC_UNITS		EXP, N01, N02	B3
-	Possible number of simultaneous HMI communication partners		DWORD	PowerOn
-				
-	-	6	1	10
			2/2	M

Description: Possible number of simultaneous HMI communication partners with which the NCU can exchange data.

This value affects then number of communication orders that the NCK can manage. The higher the value, the more HMIs that can be simultaneously connected to the NCK without leading to communication problems.

DRAM is made available for this function in the NCU corresponding to the input in the machine data. The inputs for changing the memory areas have to be taken into account.

The unit of MD10134 \$MN_MM_NUM_MMC_UNITS is a "resource unit".

A standard HMI needs 1 resource unit, an HMI100/103 needs 2. OEM variants may need more or less resources.

- If the value is set lower than would be needed for the number of connected HMIs, this is not inevitably problematical. Actions may not function sporadically during multiple, simultaneous, communication-intensive operations (e.g. loading a program): Alarm 5000 is displayed. The operation then has to be repeated.
- If the value is set higher, more dynamic memory is occupied than necessary. The value should be reduced appropriately if the memory is required for other purposes.

References: /FB/, S7, "Memory Configuration"

10136	DISPLAY_MODE_POSITION		N01	-
-	Display mode for actual position in the work		DWORD	Reset
-				
-	-	0	0	1
			7/1	M

Description: Defines how the position and the distance to go are displayed in the WCS.

0: Display as in software version 5 and earlier

1: At end of block, the actual value display is in principle the same as the programmed end point, irrespective of where the machine actually is (e.g. as a result of the tool radius compensation). The distance to go is the same as the actual distance to be traversed. This means that the displayed actual position has to be the same as the displayed end position minus the distance to go, irrespective of the actual machine position. If the block end points are changed by chamfers, radii, contour definitions, splines or SAR in comparison to the NC programm, then these changes are reflected in the display as if they had been programmed. This does not apply to changes resulting from tool radius compensation or smoothing.

10156	TASK_SLEEP_TIME	EXP	-
-	Average time transfer per cycle	DWORD	Immediately
NBUP			
-	-	0	0

Description: Only relevant to simulation systems

In the simulation environment, a machining run designates the execution of the tasks Server, IPO and PREP, which are not interrupted

This machine data now specifies the average time which is transferred to the operating system of the simulation host system per machining run. The unit of the machine data is the microsecond.

As it is not usually possible to transfer times in the microsecond range in the operating system of the simulation host system, the times are calculated over multiple cycles, and then the default time set by the operating system (typically between 10 - 15 milliseconds) is transferred. Multiple cycles are thus executed without delay, and there is a correspondingly longer wait at a later point in time, so that on average, the time set in the MD is transferred. The value 0 deactivates the time transfer.

E.g.: MD10156 \$MN_TASK_SLEEP_TIME is set to the value 50 (microseconds), and the minimum given time specified by the operating system is 10 milliseconds (= 10000 microseconds), then there will be a delay of 10 milliseconds every 200 cycles (10000/50).

10160	PREP_COM_TASK_CYCLE_RATIO	EXP, N01	ECO
-	Factor for communication with HMI	DWORD	PowerOn
-			
-	-	3	1

Description: This machine data specifies the division ratio used for activating the communication task in the non-cyclic time level. This allows the time share of preparation in the non-cyclic time level to be increased, which reduces block cycle times. External communication (file transfer) is slowed down in particular during program execution (block reload).

10161	COM_CONFIGURATION	EXP, N01	-
-	Configuration of communication	DWORD	PowerOn
-			
-	8	5, 5, 18, 1, 16, 8, 18, 18	-

Description: Values 1-3 define the maximum number of PDUs that are accepted in one pass.

Value 0 stands for infinite, i.e. all present jobs are executed immediately. These three values become active after PowerOn.

1st value: max. number of variable job PDUs executed per pass.

2nd value: max. number of PI job PDUs executed per pass.

3rd value: max. number of domain job PDUs executed per pass.

Values 4-8 define the credit assignment for optimized download.

4th value: number of PDUs that are assigned as credit at the begin of acknowledgement under opt. domain service (here, the file header and therefore the file on NCK are still unknown)

5th value: number of PDUs that will be requested by default under opt. domain service, if there is no explicit memory limit for the file

6th value: min. number of PDUs that are requested with the data request message (so that data request messages are not displayed again and again)

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7th value: max. number of PDUs that are requested with the data request message (max. value is 255, as the log cannot handle more than that!)

8th value: max. number of PDUs that may be present in total

10185	NCK_PCOS_TIME_RATIO		EXP, N01	-		
-	Processing time share NCK		DWORD	PowerOn		
-						
-	-	90	90	95	7/2	M

Description: This machine data defines the maximum proportion of CPU time given to the NC kernel in the entire system. The division specified by the user is implemented as well as possible.

When implementing the specification, the system takes into account limiting values for the absolute proportion of CPU time that must not be exceeded or undershot.

Adaptations are made without generating an alarm.

10190	TOOL_CHANGE_TIME		N01	BA		
-	Tool changing time for simulation		DOUBLE	PowerOn		
-						
-	-	0.	-	-	7/2	M

Description: This data defines how much time is estimated for a tool change (only relevant for a simulation).

10192	GEAR_CHANGE_WAIT_TIME		N01	S1		
s	Gear stage change waiting time		DOUBLE	PowerOn		
-						
-	-	10.0	0.0	1.0e5	7/2	M

Description: External events which trigger reorganization, wait for the end of a gear stage change. GEAR_CHANGE_WAIT_TIME now determines the waiting time for the gear stage change. Time unit in seconds.

When this time expires without the gear stage change having been terminated, the NCK reacts with an alarm.

Among others, the following events will cause reorganization:

User ASUB

Mode change

Delete distance-to-go

Axis replacement

Activate user data

10200	INT_INCR_PER_MM		N01	G2,K3		
-	Calculation resolution for linear positions		DOUBLE	PowerOn		
LINK						
-	-	1000.	1.0	1.0e9	7/2	M

Description: This MD defines the number of internal increments per millimeter.

The accuracy of the input of linear positions is limited to the calculation accuracy by rounding the product of the programmed value and the calculation accuracy to an integer.

In order to keep the executed rounding easily understandable it is useful to use powers of 10 for the calculation accuracy.

10210	INT_INCR_PER_DEG	N01	G2,K3,R2			
-	Calculation resolution for angular positions	DOUBLE	PowerOn			
LINK						
-	-	1000.0	1.0	1.0e9	7/2	M

Description: This MD defines the number of internal increments per degree. The accuracy of the input of angular positions is limited to the calculation accuracy by rounding the product of the programmed value and the calculation accuracy to an integer. In order to keep the executed rounding easily understandable it is useful to use powers of 10 for the calculation accuracy.

10220	SCALING_USER_DEF_MASK	EXP, N01	G2			
-	Activation of scaling factors	DWORD	PowerOn			
SCAL						
-	-	0x200	0	0x3FFF	7/2	M

Description: Bit mask for selecting the base values for the data (e.g. machine and setting data) that have a physical unit, they are interpreted in the default units shown below according to the basic system (metric/inch). If other input/output units are to be selected for individual physical units then these are activated with the scale factors associated with this machine data (entered in MD10230 \$MN_SCALING_FACTORS_USER_DEF[n]).

This does not affect the programming of geometry and feed values.

Bit set:

Data of the assigned physical variable (see list) are scaled to the unit defined by MD10230 \$MN_SCALING_FACTORS_USER_DEF[n].

Bit not set:

Data of the assigned physical variable are scaled to the default unit shown below.

Assigned physical variable (Stated as hex value)	Default units for: MD10240 \$MN_SCALING_SYSTEM_IS_METRIC	
Bit no.	1 = METRIC	0 = INCH
0 Linear position	1 mm	1 inch
1 Angular position	1 degree	1 degree
2 Linear velocity	1 mm/min	1 inch/min
3 Angular speed	1 rpm	1 rpm
4 Linear acceleration	1 m/s ²	1 inch/s ²
5 Angular acceleration	1 rev/s ²	1 rev/s ²
6 Linear jerk	1 m/s ³	1 inch/s ³
7 Angular jerk	1 rev/s ³	1 rev/s ³
8 Time	1 s	1 s
9 Position-controller servo gain	1/s	1/s
10 Revolutionsal feedrate	1 mm/rev	1 mm/rev
11 Compensation value linear pos.	1 mm	1 mm
12 Compensation value angular pos.	1 degree	1 degree
13 Cutting rate	1 m/min	1 feet/min

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Example:

`SCALING_USER_DEF_MASK =?H3?;` (Bit nos. 0 and 1 as hex values)

The scale factor defined in the associated MD10230

`$MN_SCALING_FACTORS_USER_DEF[n]` is activated for linear and angular positions.

If this machine data is changed, a power on is required as otherwise the associated machine data that have physical units would be incorrectly scaled.

Proceed as follows:

- MD changed manually

First start up and then enter the associated machine data with physical units.

- MD changed via machine data file

First start up and then reload the machine data file so that the new physical units are taken into account.

If the machine data are altered, alarm 4070 "Scaling machine data altered" is output.

Application example: Input/output of linear velocities is to be in cm/min:

`SCALING_USER_DEF_MASK = 0x4` (bit no. 2 as hex value)

`SCALING_FACTORS_USER_DEF[2] = 0.1666666667` (10/60)

[Related to:

`MD10230 $MN_SCALING_FACTORS_USER_DEF[n]` (scaling factors of the physical variables)

10230	SCALING_FACTORS_USER_DEF	EXP, N01	G2
-	Scaling factors of physical variables [0] Linear position 1 mm [1] Angular position 1 degree [2] Linear velocity 1 mm/s [3] Angular speed 1 degree/s [4] Linear acceleration 1 mm/s ² [5] Angular acceleration 1 degree/s ² [6] Linear jerk 1 mm/s ³ [7] Angular jerk 1 degree/s ³ [8] Time 1 s [9] Position controller loop gain 1/s [10] Revolitional feedrate 1 mm/degree [11] Compensation value linear position 1 mm [12] Compensation value angular position 1 degree [13] Cutting speed 1 mm/s	DOUBLE	PowerOn
SCAL			
-	15	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	1e-9
		-	7/2
			M

Description:

The scaling factor of a physical variable that has a unit other than the default unit setting (set bit in MD10220 `$MN_SCALING_USER_DEF_MASK`) is entered in this MD. The factor must refer to the unit used internally for the physical variable in question.

The scaling factor is assigned to the physical variable using the index [0...12]. If this machine data is changed, a startup is required because otherwise the associated machine data that have physical units would be incorrectly scaled.

Proceed as follows:

- MD changed manually

First start up and then enter the associated machine data with physical units.

- MD changed via machine data file

First start up and then reload the machine data file so that the new physical units are taken into account.

If the machine data are altered, alarm 4070 "Scaling machine data altered" is output.

Application example(s):

Input/output of angular speeds is to be in new degree/min:

\$MN_SCALING_USER_DEF_MASK = 'H8'; (bit no. 3 as hex value)

\$MN_SCALING_FACTORS_USER_DEF[3] = 0.01851852; (400/360/60)

[3]: Index for angular speed.

Related to:

MD10220 \$MN_SCALING_USER_DEF_MASK (activation of scaling factors).

10240	SCALING_SYSTEM_IS_METRIC	N01	G2,K3,A3,S1
-	Basic system metric	BOOLEAN	PowerOn
SCAL			
-	-	TRUE	-

Description: The MD defines the basic system used by the control for scaling length-dependent physical variables for data input/output.

All corresponding data are stored internally in the basic units of 1 mm, 1 degree and 1 sec.

In the case of access from the interpreter (part program and download), from the operator panel (variable service) or through external communication, scaling takes place in the following units:

MD10240 \$MN_SCALING_SYSTEM_IS_METRIC = 1: scaled in:

mm, mm/min, m/s², m/s³, mm/rev.

MD10240 \$MN_SCALING_SYSTEM_IS_METRIC = 0: scaled in:

inch, inch/min, inch/s², inch/s³, inch/rev.

The selection of the basic system also defines the interpretation of the programmed F value for linear axes:

	metric	inch
G94	mm/min	inch/min
G95	mm/rev.	inch/rev.

If this machine data is changed, a startup is required because otherwise the associated machine data that have physical units would be incorrectly scaled.

Proceed as follows:

- MD changed manually

First start up and then enter the associated machine data with physical units.

- MD changed via machine data file

First start up and then reload the machine data file so that the new physical units are taken into account.

If the machine data are altered, alarm 4070 "Scaling machine data altered" is output.

Application example(s):

Setup is in the metric system and then changed over to the inch system.

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Special cases, errors:

The factor used for changing from 1 mm to 1 inch can be changed with MD10250 \$MN_SCALING_VALUE_INCH.

10250	SCALING_VALUE_INCH	EXP	G2			
-	Conversion factor for INCH	DOUBLE	PowerOn			
SCAL						
-	-	25.4	1e-9	-	0/0	M

Description: The MD contains the conversion factor from metric to inch.

This factor is only active with the selection of the non-metric basic system (MD10240 \$MN_SCALING_SYSTEM_IS_METRIC = 0) in the following conversions:

- Programmed F values for linear axes
- Input/output of lengths and length-dependent data (e.g. when uploading machine data, work offsets)

Programmed geometry axis positions are converted by this factor when the measuring system programmed with G70/G71 is different from the selected basic system (SCAL-ING_SYSTEM_IS_METRIC).

Programmed synchronous axis positions are converted by the corresponding axial factors (MD31200 \$MA_SCALING_FAKTOR_G70_G71) when the measuring system programmed with G70/G71 is different from the selected basic system (MD10240 \$MN_SCALING_SYSTEM_IS_METRIC). Settings other than the default 25.4 should only be made in exceptional cases as the correct display of the unit on the operator interface depends on this value.

If this machine data is changed, a startup is required because otherwise the associated machine data that have physical units would be incorrectly scaled.

Proceed as follows:

- MD changed manually
--> Start up and then enter the associated machine data with physical units.
- MD changed via machine data file
--> Perform power on and then reload the machine data file so that the new physical units are taken into account.

If the machine data are altered, alarm 4070 "Scaling machine data altered" is output.

Application example(s):

This conversion factor is used if a changeover is made from metric to inch or a customized measuring system. Then all the input machine data, among other things, are converted by this factor. The converted values are then given at the next read out and on the operator panel.

Related to:

MD10240 \$MN_SCALING_SYSTEM_IS_METRIC

10260	CONVERT_SCALING_SYSTEM	EXP	-			
-	Enable basic system conversion	BOOLEAN	PowerOn			
LINK						
-	-	FALSE	-	-	1/1	M

Description: Determines the handling of MD10240 \$MN_SCALING_SYSTEM_IS_METRIC.

0: Inch/metric behavior conforms to SW1-SW4

1: Inch/metric behavior from SW5

Inch/metric functionality of SW5:

1. Switch over the systems of units with HMI softkey
2. New G codes G700/G710

- 3. Data backup with system of unit recognition INCH/METRIC
- 4. Automatic data conversion on change of system of units
 - All zero point offsets
 - Compensation data (EEC, QEC)
 - Tool offsets
 - etc.

The change from MD10260 \$MN_CONVERT_SCALING_SYSTEM leads to alarm 4070!

This alarm is designed to indicate that data which remain active after a POWERON are not subjected to automatic conversion from SW1-SW4 and SW5 formats.

10270	POS_TAB_SCALING_SYSTEM	N01, N09	T1,N3,G2			
-	System of units of position tables	BYTE	Reset			
-						
-	-	0	0	1	7/2	M

Description: Defines the measuring system for the positional data for the following machine data

```

MD10910 $MN_INDEX_AX_POS_TAB_1
MD10930 $MN_INDEX_AX_POS_TAB_2
SD41500 $SN_SW_CAM_MINUS_POS_TAB_1
SD41501 $SN_SW_CAM_PLUS_POS_TAB_1
SD41502 $SN_SW_CAM_MINUS_POS_TAB_2
SD41503 $SN_SW_CAM_PLUS_POS_TAB_2
SD41504 $SN_SW_CAM_MINUS_POS_TAB_3
SD41505 $SN_SW_CAM_PLUS_POS_TAB_3
SD41506 $SN_SW_CAM_MINUS_POS_TAB_4
SD41507 $SN_SW_CAM_PLUS_POS_TAB_4

```

0: metric
1: inch

This machine data is only evaluated for MD10260 \$MN_CONVERT_SCALING_SYSTEM = 1.

Related to:

```

MD10260 $MN_CONVERT_SCALING_SYSTEM
MD10910 $MN_INDEX_AX_POS_TAB_1
MD10930 $MN_INDEX_AX_POS_TAB_2
SD41500 $SN_SW_CAM_MINUS_POS_TAB_1
SD41501 $SN_SW_CAM_PLUS_POS_TAB_1
SD41502 $SN_SW_CAM_MINUS_POS_TAB_2
SD41503 $SN_SW_CAM_PLUS_POS_TAB_2
SD41504 $SN_SW_CAM_MINUS_POS_TAB_3
SD41505 $SN_SW_CAM_PLUS_POS_TAB_3
SD41506 $SN_SW_CAM_MINUS_POS_TAB_4
SD41507 $SN_SW_CAM_PLUS_POS_TAB_4

```

1.3 NC machine data

10280	PROG_FUNCTION_MASK	EXP, N01	K1			
-	Bit screen form to parameterize various part program commands	DWORD	PowerOn			
-						
-	-	0x0	0	0x0F	7/2	M

Description: Bit mask for parameterizing various sub-program commands
 Bit Hexadec. Meaning with bit set
 value
 0: 0x1Comparison commands ">" and "<" are processed as for SW 6.3 and earlier:
 Sub-program data of the type REAL are mapped internally in the IEEE 64 bit format. This mode maps decimal numbers inaccurately if this format's 52-bit wide mantissa is inadequate to map the number in binary notation. To solve this problem, all comparison commands (==, <>, >=, <=, > and <) are checked for relative equality of 1E-12.
 This procedure is deactivated for greater than (>) and less than (<) comparisons by setting bit 0. (Compatibility setting for software releases earlier than SW 6.4)
 1: 0x2Programming the channel names from machine data MD20000 \$MC_CHAN_NAME
 By setting bit 1, the channel name stored in machine data MD20000 \$MC_CHAN_NAME can be programmed in the part program. The channel name can thus also be programmed instead of a numerical value for the channel number in programming coordination commands such as (START(), INIT(), WAIT() etc.
 2: 0x4reserved
 3: 0x8Convert illegal ASCII characters into blanks
 By setting bit3, the previous behavior when interpreting a part program block is activated. This means that all invalid ASCII characters in a part program block are internally treated as blank.

10284	DISPLAY_FUNCTION_MASK	EXP, N01	-			
-	Behavior of various display variables	DWORD	PowerOn			
-						
-	-	0x0	-	-	7/2	M

Description: Bit mask for parameterizing various display variables:
 BitNo. Hexadec. Meaning with bit set
 value
 Bit0: 0x1
 Parameters are assigned to the OPI variable lastBlockNoStr in the SPARP and SPARPP blocks.
 Bit1: 0x2
 Concerns the OPI variable cmdSpeed in the SPARPP block. If the bit is set, the variable returns the programmed speed even if the spindle is at a standstill or in another mode (positioning mode, axis mode).
 Bit2 0x4
 Concerns the OPI variable cmdSpeed in the SPARPP block. (reserved for constant cutting speed)
 Bit8: 0x100
 Servotrace manages larger numerical values internally. Overruns in data format are avoided. The accuracy may be reduced with large numerical values.

10285	TASK_TIME_AVERAGE_CONFIG	EXP, N01	-			
-	Period for task runtime mean value generation	DOUBLE	PowerOn			
-						
-	-	1.0	0	86400	7/2	M

Description: Period in seconds for which the respective mean value of the task runtimes is generated.

For the value 0, the current actual value is provided as mean value.

This mean value can be read via the OPI variable aveCycleTimeNet.

10290	CC_TDA_PARAM_UNIT	N09	G2			
-	Physical units of tool data for compile cycles	DWORD	PowerOn			
-						
-	10	0, 0, 0, 0, 0, 0, 0, 0...	0	9	2/2	M

Description: Physical units for the user-defined tool-specific data:

0 ;No unit

1 ;Linear position [mm ; inch]

2 ;Angular position [degree ; degree]

3 ;Linear velocity [mm/min ; inch/min]

4 ;Angular speed [rpm ; rpm]

5 ;Linear acceleration [m/s² ; inch/s²]

6 ;Angular acceleration [rev/s² ; rev/s²]

7 ;Linear jerk [m/s³ ; inch/s³]

8 ;Angular jerk [rev/s³ ; rev/s³]

9 ;Revolutional feedrate [mm/rev ; inch/rev]

Only available if bit 2 (0x4) is set in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK

10291	CCS_TDA_PARAM_UNIT	N09	-			
-	physical units of SIEMENS-OEM tool data	DWORD	PowerOn			
-						
-	10	0, 0, 0, 0, 0, 0, 0, 0...	0	9	2/2	M

Description: Physical units for application-specific tool-specific data:

0: No unit

1: Linear position [mm; inch]

2: Angular position [degree ; degree]

3: Linear velocity [mm/min ; inch/min]

4: Angular speed [rpm ; rpm]

5: Linear acceleration [m/s² ; inch/s²]

6: Angular acceleration [rev/s² ; rev/s²]

7: Linear jerk [m/s³ ; inch/s³]

8: Angular jerk [rev/s³ ; rev/s³]

9: Feedrate per revolution [mm/rev; inch/rev]

Only available if Bit 2 (0x4) is set in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK.

Related to:

MD18204 \$MN_MM_NUM_CCS_TDA_PARAM

1.3 NC machine data

10292	CC_TOA_PARAM_UNIT	N09	G2
-	Physical units of cutting edge data for compile cycles	DWORD	PowerOn
-			
-	10 0, 0, 0, 0, 0, 0, 0, 0... 0 9 2/2 M		

Description: Physical units for the user-defined cutting edge data:

- 0 ;No unit
 - 1 ;Linear position [mm ; inch]
 - 2 ;Angular position [degree ; degree]
 - 3 ;Linear velocity [mm/min ; inch/min]
 - 4 ;Angular speed [rpm ; rpm]
 - 5 ;Linear acceleration [m/s² ; inch/s²]
 - 6 ;Angular acceleration. [rev/s² ; rev/s²]
 - 7 ;Linear jerk [m/s³ ; inch/s³]
 - 8 ;Angular jerk [rev/s³ ; rev/s³]
 - 9 ;Revolutional feedrate [mm/rev ; inch/rev]
- Only available if bit 2 (0x4) is set in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK

10293	CCS_TOA_PARAM_UNIT	N09	-
-	Physical units of SIEMENS-OEM cutting edge data	DWORD	PowerOn
-			
-	10 0, 0, 0, 0, 0, 0, 0, 0... 0 9 2/2 M		

Description: Physical units for application-specific cutting data:

- 0 : No unit
- 1 : Linear position [mm ; inch]
- 2 : Angular position [degree ; degree]
- 3 : Linear velocity [mm/min ; inch/min]
- 4 : Angular speed [rpm ; rpm]
- 5 : Linear acceleration [m/s² ; inch/s²]
- 6 : Angular acceleration [rev/s² ; rev/s²]
- 7 : Linear jerk [m/s³ ; inch/s³]
- 8 : Angular jerk [rev/s³ ; rev/s³]
- 9 : Feedrate per revolution [mm/rev; inch/rev]

Only available if Bit 2 (0x4) is set in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK.

Related to:

MD18206 \$MN_MM_NUM_CCS_TOA_PARAM

10300	FASTIO_ANA_NUM_INPUTS	N10	A4,TE1
-	Number of active analog NCK inputs	BYTE	PowerOn
-			
-	- 0 0 8 7/2 M		

Description: This machine data defines the number of usable analog NCK inputs on the control.

Only these analog NCK inputs can be addressed by the NC part program or assigned by NC functions.

If more analog NCK inputs are defined with the machine data than are available in the hardware of the control, the binary analog actual value is set to zero in the control for the inputs that do not exist in the hardware. The NCK value can be altered by the PLC.

Note:

CPU computing time on the interpolation level is required for processing the digital and analog NCK I/Os. The number of active NCK I/Os should therefore be limited to the demands of the machine so that the interpolation cycle time is not unnecessarily loaded.

10310	FASTIO_ANA_NUM_OUTPUTS	N10	A4
-	Number of active analog NCK outputs	BYTE	PowerOn
-			
-	-	0	0

Description: This machine data defines the number of usable analog NCK outputs on the control.

Only these analog NCK outputs can be addressed by the NC part program or assigned by NC functions.

If more analog NCK outputs are defined with the machine data than are available in the hardware of the control, no alarm is triggered. The analog values specified by the part program can be read by the PLC.

Note:

CPU computing time on the interpolation level is required for processing the digital and analog NCK I/Os. The number of active NCK I/Os should therefore be limited to the demands of the machine so that the interpolation cycle time is not unnecessarily loaded.

10320	FASTIO_ANA_INPUT_WEIGHT	N10	A4
-	Weighting factor for analog NCK inputs	DWORD	PowerOn
-			
-	8	10000, 10000, 10000, 10000, 10000, 10000...	1 10000000 7/2 M

Description: A weighting factor can be defined with this MD for each analog NCK input [n] to enable adaptation to the various analog-to-digital converters (depending on the I/O module).

The value to be entered in this machine data is the value that is to be read in the part program with the command $x = \$A_INA[n]$ if the associated analog input [n] is set to the maximum value or the value +32767 is defined for this input via the PLC interface.

The value read from the analog-to-digital converter or the PLC interface is multiplied by the factor ($FASTIO_ANA_INPUT_WEIGHT / 32767$) before it can be read in the part program with the system variable $\$A_INA[n]$.

Use of the weighting factor for "Analog NCK inputs without hardware": with a weighting factor of 32767, the values defined by the part program and the PLC are numerically identical (1:1 communication between part program and PLC). This is advantageous when the analog NCK inputs/outputs are used purely as PLC inputs/outputs without analog hardware.

Note:

The comparator threshold values SD41600 $\$SN_COMPAR_THRESHOLD_1$ and SD41601 $\$SN_COMPAR_THRESHOLD_2$ are also normalized to MD10320 $\$MN_FASTIO_ANA_INPUT_WEIGHT$ corresponding to their assignment to an analog input.

The CC access to analog values is not affected by $FASTIO_ANA_INPUT_WEIGHT$.

Related to:

NC/PLC interface signal DB10, DBB148 - 163 (PLC setting value for analog NCK inputs)

1.3 NC machine data

10330	FASTIO_ANA_OUTPUT_WEIGHT	N10	A4
-	Weighting factor for analog NCK outputs	DWORD	PowerOn
-			
-	8 10000, 10000, 10000, 10000, 10000, 10000...	1 10000000	7/2 M

Description: A weighting factor can be defined with this MD for each analog NCK output [n] to enable adaptation to the various digital-to-analog converters (depending on the I/O module used).

[hw] = Index (0 to 7) for addressing the external analog outputs

The value x to be entered in this machine data is the value that is to effect the maximum set value of the associated analog output [n] when programming \$A_OUTA[n] = x in the part program or is to generate the value +32767 in the PLC interface for this output.

Use of the weighting factor for "Analog NCK outputs without hardware": With a weighting factor of 32767, the values defined by the part program and the PLC are numerically identical (1:1 communication between part program and PLC). This is advantageous when the analog NCK outputs are used purely as PLC outputs without analog hardware.

Related to:

NC/PLC interface signal DB10, DBB170 - 185 (PLC setting value for analog NCK outputs)

NC/PLC interface signal DB10, DBB210 - 225 (Setpoint for analog NCK outputs)

10350	FASTIO_DIG_NUM_INPUTS	N10	A4,TE1
-	Number of active digital NCK input bytes	BYTE	PowerOn
-			
-	- 1	0 5	7/2 M

Description: The number of bytes of the digital NCK inputs that can be used on the control are defined in this machine data.

These digital NCK inputs can be read directly by the part program. Moreover, the signal state at the HW inputs can also be changed by the PLC.

If more digital NCK inputs are defined in the machine data than are available in the control hardware, a signal status of 0 is set in the control for the inputs that do not exist in the hardware. The NCK value can be altered by the PLC.

Related to:

NC/PLC interface signal DB10 DBB0 (Disable the digital NCK inputs 1-8);

NC/PLC interface signal DB10 DBB122,124,126,128 (Disable the external digital inputs 9-40)

NC/PLC interface signal DB10 DBB1 (PLC setting for digital NCK inputs 1-9)

NC/PLC interface signal DB10 DBB123,125,127,129 (PLC values for external digital inputs 9-40)

NC/PLC interface signal DB10, DBB60, DBB186 (Actual value for digital NCK inputs)

10360	FASTIO_DIG_NUM_OUTPUTS	N10	A4,TE8			
-	Number of active digital NCK output bytes	BYTE	PowerOn			
-						
-	-	0	0	5	7/2	M

Description:

The number of bytes for digital NCK outputs that can be used on the control are defined in this machine data.

These digital NCK outputs can be set directly by the part program. The PLC is able to

- set the digital outputs to "0" in a defined way with NC/PLC interface signal DB10, DBB4, DBB130 (Disable the digital NCK outputs).
- alter the NCK value with NC/PLC interface signal DB10, DBB5, DBB131 (Overwrite mask for digital NCK outputs).
- specify a PLC value with NC/PLC interface signal DB10, DBB7, DBB133 (Setting mask for digital NCK outputs).

If more digital NCK outputs are defined in the machine data than are available in the control hardware, no alarm is triggered. The signal states specified by the part program can be read by the PLC.

Special cases:

Digital NCK outputs 5 to 8 can be processed only by the PLC (no hardware outputs).

Related to:

NC/PLC interface signal DB10, DBB4, DBB130 (Disable the digital NCK outputs)

NC/PLC interface signal DB10, DBB5, DBB131 (Overwrite mask for digital NCK outputs)

NC/PLC interface signal DB10, DBB6, DBB132 (PLC setting value for digital NCK outputs)

NC/PLC interface signal DB10, DBB7, DBB133 (Setting mask for digital NCK outputs)

NC/PLC interface signal DB10, DBB64, DBB190 (Setpoint for digital NCK outputs)

10361	FASTIO_DIG_SHORT_CIRCUIT	N10	A4			
-	Short circuit of digital inputs and outputs	DWORD	PowerOn			
-						
-	10	0,0,0,0,0,0,0,0...	-	-	7/2	M

Description:

Defined short circuits between digital output and input signals of the high-speed NCK I/Os are realized by linking the signals read in from the high-speed NCK I/Os or the PLC interface to defined output signals.

The output signals always remain unchanged by the link, the inputs that have to be taken into account internally arise from the read inputs and the link. If a plurality of output bits are specified for one input bit in overwrite mode, the last defined assignment in the list determines the result.

The definition of non-existent or non-activated inputs/outputs is ignored without an alarm.

Bits 0-7: Number of the input byte to be written (1 - 5)

Bits 8-15: Bit number within the input byte (1 - 8)

Link:

The type of link is selected by adding a hexadecimal number to the input bit number:

00 Overwrite input identically to output

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A0 Input is AND-gated to the read input with the status of the stated output
 B0 Input is OR-gated to the read input with the status of the stated output
 Bits 16-23:Number of the output byte to be used (1 - 5)
 Bits 24-31:Bit number within the output byte (1 - 8)
 Example:
`$MN_FASTIO_DIG_SHORT_CIRCUIT[0] = 0x04010302`
 Input: 3rd bit of the 2nd byte
 Output: 4th bit of the 1st byte (= 4th onboard NCU output)
 The input status is overwritten by the specified output
`$MN_FASTIO_DIG_SHORT_CIRCUIT[1] = 0x0705A201`
 Input: 2nd bit of the 1st byte (= 2nd onboard NCU input)
 Output: 7th bit of the 5th byte
 The input status is AND-gated with the specified output
`$MN_FASTIO_DIG_SHORT_CIRCUIT[2] = 0x0103B502`
 Input: 5th bit of the 2nd byte
 Output: 1st bit of the 3rd byte
 The input status is OR-gated with the specified output
 Related to:
 MD10350 \$MN_FASTIO_DIG_NUM_INPUTS,
 MD10360 \$MN_FASTIO_DIG_NUM_OUTPUTS.
 References: /FB/, A4, "Digital and Analog NCK I/Os"

10362	HW_ASSIGN_ANA_FASTIN	N10	A4,TE1			
-	Hardware assignment of the fast analog NCK inputs	DWORD	PowerOn			
-						
-	8	0x01000000, 0x01000000, 0x01000000...	0x01000000	0x060003FF	7/2	M

Description: For PROFIBUS/PROFINET:

1st + 2nd byte indicate the logical start address of the I/O slot on the PROFIBUS/PROFINET:

Value 0000 means NO active slot

Values 0001..0100 are reserved for the PLC process image (the value of input slots can be read by the NCK without errors, but output slots are forbidden in this range, and cause an alarm on power up)

1st byte = LowByte of the logical start address

2nd byte = HighByte of the logical start address

3rd byte = 0 = without meaning

4th byte = 5 = segment no. for PROFIBUS/PROFINET

The individual bytes are explained in MD10366 \$MN_HW_ASSIGN_DIG_FASTIN.

[hw] = Index (0 to 7) for addressing the external analog inputs

Related to:

MD10366 \$MN_HW_ASSIGN_DIG_FASTIN

MD10368 \$MN_HW_ASSIGN_DIG_FASTOUT

MD10364 \$MN_HW_ASSIGN_ANA_FASTOUT

10364	HW_ASSIGN_ANA_FASTOUT	N10	A4,TE3
-	Hardware assignment of external analog NCK outputs	DWORD	PowerOn
-			
-	8	0x01000000, 0x01000000, 0x01000000...	0x01000000 0x060003FF 7/2 M

Description: For PROFIBUS/PROFINET:

1st + 2nd byte indicate the logical start address of the I/O slot on the PROFIBUS/PROFINET:

Value 0000 means NO active slot

Values 0001..0100 are reserved for the PLC process image (the value of input slots can be read by the NCK without errors; however, output slots are forbidden in this range, and cause an alarm on power up)

1st byte = LowByte of the logical start address

2nd byte = HighByte of the logical start address

3rd byte = 0 = without meaning

4th byte = 5 = segment no. for PROFIBUS/PROFINET

The individual bytes are explained in MD10366 \$MN_HW_ASSIGN_DIG_FASTIN.

Related to:

MD10366 \$MN_HW_ASSIGN_DIG_FASTIN

MD10368 \$MN_HW_ASSIGN_DIG_FASTOUT

MD10362 \$MN_HW_ASSIGN_ANA_FASTIN

10366	HW_ASSIGN_DIG_FASTIN	N10	A4,TE1
-	Hardware assignment of external digital NCK inputs	DWORD	PowerOn
-			
-	10	0x01000000, 0x01000000, 0x01000000...	0x01000000 0x060003FF 7/2 M

Description: For PROFIBUS/PROFINET:

1st + 2nd byte indicate the logical start address of the I/O slot on the PROFIBUS/PROFINET:

Value 0000 means NO active slot

Values 0001..0100 are reserved for the PLC process image (the value of input slots can be read by the NCK without errors; however, output slots are forbidden in this range, and cause an alarm on power up)

1st byte = LowByte of the logical start address

2nd byte = HighByte of the logical start address

3rd byte = 0 = without meaning

4th byte = 5 = segment no. for PROFIBUS/PROFINET

Module no.: 1 ... MD_MAXNUM_SIMO611D_AXES:

Number of the logical slot in which the terminal block with the external I/Os is inserted. The logical slot is assigned to a physical slot by MD13010 \$MN_DRIVE_LOGIC_NR, it is activated by MD13000 \$MN_DRIVE_IS_ACTIVE.

1st + 2nd bytes give the logical start address of the I/O slot on the PROFIBUS

1st byte = low byte

2nd byte = high byte

Value 0000 means NO active slots

1.3 NC machine data

Values 0001..007F are reserved for the PLC (NCK can also read the value for input slots without error, but output slots are forbidden in this range and lead to an alarm during startup)

Values 0080..02FF are valid

Values > 02FF are invalid

Example:

```
HW_ASSIGN_DIGITAL_FASTIN[3] = '05000302'
```

1st + 2nd byte: 0302 (hex) = logical start address 770 (decimal)

3rd byte: 00 = no significance

4th byte: 05 = ID for PROFIBUS/PROFINET

Related to:

MD10368 \$MN_HW_ASSIGN_DIG_FASTOUT

MD10362 \$MN_HW_ASSIGN_ANA_FASTIN

MD10364 \$MN_HW_ASSIGN_ANA_FASTOUT

10368	HW_ASSIGN_DIG_FASTOUT			N10	A4	
-	Hardware assignment of external digital NCK outputs			DWORD	PowerOn	
-						
-	4	0x01000000, 0x01000000, 0x01000000...	0x01000000	0x060003FF	7/2	M

Description: For PROFIBUS/PROFINET:

1st + 2nd byte indicate the logical start address of the I/O slot on the PROFIBUS/PROFINET:

Value 0000 means NO active slot

Values 0001..0100 are reserved for the PLC process image (the value of input slots can be read by the NCK without errors; however, output slots are forbidden in this range, and cause an alarm on power up)

1st byte = LowByte of the logical start address

2nd byte = HighByte of the logical start address

3rd byte = 0 = without meaning

4th byte = 5 = segment no. for PROFIBUS/PROFINET

The individual bytes are explained under MD10366 \$MN_HW_ASSIGN_DIG_FASTIN.

[hw] = Index (0 to 3) for addressing the external digital output bytes

Related to:

MD10366 \$MN_HW_ASSIGN_DIG_FASTIN

MD10362 \$MN_HW_ASSIGN_ANA_FASTIN

MD10364 \$MN_HW_ASSIGN_ANA_FASTOUT

10385	PROFISAFE_MASTER_ADDRESS			N01, N10, -	FBSI	
-	PROFIsafe address master module			DWORD	PowerOn	
-						
-	3	0, 0, 0	0	0x0500FA7D	7/2	M

Description: Definition of the PROFIsafe address of the F master NCK/PLC. Used for unique assignment between F master and F slave. This parameter must be entered corresponding to the parameter "F_source_address" set in S7-ES for the F slaves. Communication is only attempted to be set up with F slaves which have this address entered.

10386	PROFISAFE_IN_ADDRESS			N01, N10, -	FBSI	
-	PROFIsafe address input module			DWORD	PowerOn	
-						
840dsl-71	16	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0501FFFF	7/2	M
840dsl-72	48	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0501FFFF	7/2	M
840dsl-73	48	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0501FFFF	7/2	M

Description: PROFIsafe destination address of an input module

Format: 0s 0x aaaa

s: Bus segment (5 = DP connection on the PLC side)

x: Sub-slot address

Value range: 0...1

x = 0 addresses the F user data signals 1...32

x = 1 addresses the F user data signals 33...64

aaaa: Hexadecimal PROFIsafe address of the F module

10387	PROFISAFE_OUT_ADDRESS			N01, N10, -	FBSI	
-	PROFIsafe-address output module			DWORD	PowerOn	
-						
840dsl-71	16	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0501FFFF	7/2	M
840dsl-72	48	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0501FFFF	7/2	M
840dsl-73	48	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0501FFFF	7/2	M

Description: PROFIsafe destination address of an output module

Format: 0s 0x aaaa

s: Bus segment (5 = DP connection on the PLC side)

x: Sub-slot address

Value range: 0...1

x = 0 addresses the F user data signals 1...32

x = 1 addresses the F user data signals 33...64

aaaa: Hexadecimal PROFIsafe address of the F module

10388	PROFISAFE_IN_ASSIGN			N01, N10, -	FBSI	
-	Input.assignment \$A_INSE to PROFIsafe module			DWORD	PowerOn	
-						
840dsl-71	16	0, 0, 0, 0, 0, 0, 0, 0...	0	64064, 64064, 64064, 64064, 64064, 64064...	7/2	M
840dsl-72	48	0, 0, 0, 0, 0, 0, 0, 0...	0	192192	7/2	M
840dsl-73	48	0, 0, 0, 0, 0, 0, 0, 0...	0	192192	7/2	M

Description: Assignment between external SPL interface \$A_INSE and PROFIsafe input module
The three lower digits indicate the 1st range limit for the \$A_INSE variables to be fed.

The three higher digits indicate the 2nd range limit for the \$A_INSE variables to be fed.

Example:

PROFISAFE_IN_ASSIGN[0] = 4001 or alternatively 1004:

The system variables \$A_INSE[1...4] are fed with the state of the input terminals of the PROFIsafe module specified by MD PROFISAFE_IN_ADDRESS[0].

1.3 NC machine data

10389	PROFISAFE_OUT_ASSIGN			N01, N10, -	FBSI	
-	Outp.assignment \$A_OUTSE to PROFIsafe module			DWORD	PowerOn	
-						
840dsl-71	16	0, 0, 0, 0, 0, 0, 0, 0...	0	64064, 64064, 64064, 64064, 64064, 64064...	7/2	M
840dsl-72	48	0, 0, 0, 0, 0, 0, 0, 0...	0	192192	7/2	M
840dsl-73	48	0, 0, 0, 0, 0, 0, 0, 0...	0	192192	7/2	M

Description: Assignment between external SPL interface \$A_OUTSE and PROFIsafe output module

The three lower digits indicate the 1st range limit for the \$A_OUTSE variables to be connected.

The three higher digits indicate the 2nd range limit for the \$A_OUTSE variables to be connected.

Example:

PROFISAFE_OUT_ASSIGN[0] = 64061 or alternatively 61064:

The system variables \$A_OUTSE[61...64] are fed to the output terminals of the PROFIsafe module specified by MD PROFISAFE_OUT_ADDRESS[0].

10393	SAFE_DRIVE_LOGIC_ADDRESS			N01, N04, -	-	
-	Logical drive addresses SI			DWORD	PowerOn	
-						
-	31	6700, 6724, 6748, 6772, 6796, 6820, 6844...	258	16383	7/2	M

Description: Logical I/O addresses of the SI message frames of the drives on the PROFIBUS. One address is assigned to one drive.

10394	PLCIO_NUM_BYTES_IN			N10	A4	
-	Number of directly readable input bytes of the PLC I/Os			BYTE	PowerOn	
-						
-	-	0	0	32	7/2	M

Description: The number of PLC I/O input bytes that can be read directly by the NC.

These bytes are not transmitted by the PLC user program but via an interrupt of the PLC operating system.

The access delay is less than 0.5 ms.

The bytes can be read by the part program and from synchronized actions with the system variables:

\$A_PBB_IN,
\$A_PBW_IN,
\$A_PBD_IN,
\$A_PBR_IN
.

Notice:

The machine data MD10394 \$MN_PLTCIO_NUM_BYTES_IN and MD10395 \$MN_PLTCIO_LOGIC_ADDRESS_IN must be consistent with the PLC-side configuration.

Related to:

MD10395 \$MN_PLTCIO_LOGIC_ADDRESS_IN

10395	PLCIO_LOGIC_ADDRESS_IN	N10	A4			
-	Start addr. of the directly readable input bytes of the PLC I/Os	DWORD	PowerOn			
-						
-	-	0	0	16383	7/2	M

Description: Starting from this address, the PLC hardware must configure a number of bytes in MD10394 \$MN_PLTCIO_NUM_BYTES_IN for direct use by the NC. These bytes are not transmitted by the PLC user program, but directly via an interrupt of the PLC operating system. The access delay is less than 0.5 ms. The bytes can be read by the part program and from synchronized actions with the system variables:

\$A_PBB_IN,
\$A_PBW_IN,
\$A_PBD_IN,
\$A_PBR_IN

.

Notice:

The machine data MD10394 \$MN_PLTCIO_NUM_BYTES_IN and MD10395 \$MN_PLTCIO_LOGIC_ADDRESS_IN must be consistent with the PLC-side configuration.

Related to:

MD10394 \$MN_PLTCIO_NUM_BYTES_IN

10396	PLTCIO_NUM_BYTES_OUT	N10	A4			
-	Number of directly writable output bytes of the PLC I/Os	BYTE	PowerOn			
-						
-	-	0	0	32	7/2	M

Description: The number of PLC I/O output bytes that can be written directly by the NC. These bytes are not transmitted by the PLC user program but via an interrupt of the PLC operating system.

The access delay is less than 0.5 ms.

The bytes can be written by the part program and from synchronized actions with the system variables:

\$A_PBB_OUT,
\$A_PBW_OUT,
\$A_PBD_OUT,
\$A_PBR_OUT

on the NC side.

Attention:

The machine data MD10396 \$MN_PLTCIO_NUM_BYTES_OUT and MD10397 \$MN_PLTCIO_LOGIC_ADDRESS_OUT must be consistent with the configuration by the PLC, otherwise other PLC output signals will be overwritten.

10397	PLTCIO_LOGIC_ADDRESS_OUT	N10	A4			
-	Start addr. of the directly writable output bytes of PLC I/O	DWORD	PowerOn			
-						
-	-	0	0	16383	7/2	M

Description: Starting from this address, the PLC hardware must configure a number of MD10396 \$MN_PLTCIO_NUM_BYTES_OUT for direct use by the NC. These bytes are not transmitted by the PLC user program, but directly via an interrupt of the PLC operating system.

1.3 NC machine data

The access delay is less than 0.5 ms.

The bytes can be written by the part program and from synchronized actions with the system variables:

\$A_PBB_OUT,
\$A_PBW_OUT,
\$A_PBD_OUT,
\$A_PBR_OUT

.

Notice:

The machine data MD10396 \$MN_PLCIO_NUM_BYTES_OUT and MD10397 \$MN_PLCIO_LOGIC_ADDRESS_OUT must be consistent with the PLC-side configuration.

Related to:

MD10396 \$MN_PLCIO_NUM_BYTES_OUT

10398	PLCIO_IN_UPDATE_TIME	N10	A4			
s	Update time for PLCIO input cycle	DOUBLE	PowerOn			
-						
-	-	0.0	0	10000	7/2	M

Description: Specification of the time span during which the data of the PLC I/Os directly readable via \$A_PBx_IN system variables are updated.

This time span is rounded up internally to the next-higher multiple of the time predefined by the IPO cycle.

10399	PLCIO_TYPE REPRESENTATION	N10	A4			
-	Little/Big Endian for PLCIO	BYTE	PowerOn			
-						
-	-	0	0	1	7/2	M

Description: Little/big-Endian format representation of the \$A_PBx_OUT, \$A_PBx_IN system variable for PLC I/Os directly controllable by NCK.

Value = 0 ; the system variable is represented in the little-Endian format
Value = 1 ; the system variable is represented in the big-Endian format

As a rule, the PLC I/Os must always be controlled in the big-Endian format (value = 1). For compatibility reasons, however, the default setting is the little-Endian format (value = 0).

10400	CC_VDI_IN_DATA	EXP, N02	OEM			
-	Number of input bytes for compile cycles	DWORD	PowerOn			
-						
-	-	0	0	1024	7/1	M

Description: The compile cycle user can freely define data within a data block on the PLC user interface. As the user, he determines the size of the interface from PLC to NCK. This machine data describes the length of the area on the VDI interface in bytes which defines the NCK input interface. The sum of this and MD10410 \$MN_CC_VDI_OUT_DATA must not exceed 400 for software version 1.

10410	CC_VDI_OUT_DATA	EXP, N02	OEM			
-	Number of output bytes for compile cycles	DWORD	PowerOn			
-						
-	-	0	0	1024	7/1	M

Description: The compile cycle user can freely define data within a data block on the PLC user interface. As the user, he determines the size of the interface from PLC to NCK. This machine data describes the length of the area on the VDI interface in bytes which defines the NCK output interface. The sum of this and MD10400 \$MN_CC_VDI_IN_DATA must not exceed 400.

10420	CC_ASSIGN_FASTOUT_MASK	EXP, N10	OEM			
-	Reservation of external outputs for compile cycles	DWORD	PowerOn			
-						
-	-	0	-	-	7/2	M

Description: Reservation of high-speed hardware outputs for CC applications
 Bit 0 (LSB) -14: Mask of the digital output bytes reserved for the CC application
 Bits 16-30: Mask of the analog outputs reserved for the CC application
 The hardware outputs reserved here are included in the multiple assignment monitoring routine when the system is powered up. It is recommended to register all the hardware outputs used by CC applications here.
 Bit 15: Suppresses power-up alarm 4275 (multiple assignment of digital output)
 Bit 31: Suppresses power-up alarm 4275 (multiple assignment of analog output)

10430	CC_HW_DEBUG_MASK	EXP	OEM			
-	Hardware debug mask for compile cycles	DWORD	PowerOn			
NBUP, NDLD						
-	-	0	0	0x7fffffff	7/1	M

Description: Setting of special responses to peripheral HW interfaces for NCK debug
 For practical debugging of NCK software, among other things, the response of peripheral units to the loss of the NCK sign of life must be suppressed when the NCK software has run to a breakpoint.
 Bit 0 (LSB) -3:
 For practical debugging of NCK software, among other things, the response of peripheral units to the loss of the NCK sign of life must be suppressed when the NCK software has run to a breakpoint.
 Meaning of set bits:
 Bit 0:
 Drive modules ignore the loss of the NCK sign of life
 Bit 1:
 Terminal blocks ignore the loss of the NCK sign of life
 Bit 3:
 PLC ignores the loss of the NCK sign of life
 Bit 4:
 Recording of internal and external control commands. Recording the control sequences and storing them in a file in the passive file system. One can trace the exact sequence between the incoming hardware signals of the PLC interface and the internal sequences with the aid of the recording file.

1.3 NC machine data

Bit 5:

Servotrace: Enable physical addresses without access control

Bit10:

Test for measuring function. If this bit is set, one can use the GUD variables CHAN INT MEA_TASK and CHAN INT MEA_COUNTER to transfer the inverse transformation of the measured values into cyclical and non-cyclical tasks.

Bit11:

No EMERGENCY STOP alarm on loss of PLC sign of life. If the PLC sign of life is not obtained within the time defined in MD10100 \$MN_PLC_CYCLIC_TIMEOUT, an alarm is not issued, merely the axis releases are withdrawn. (Application case: debugging the PLC user program)

Bit15:

Reserved for gantry setup help.

10450	SW_CAM_ASSIGN_TAB	N09	N3			
-	Assignment of software cams to machine axes	BYTE	PowerOn			
-						
-	32	0, 0, 0, 0, 0, 0, 0, 0...	0	31	7/2	M

Description: This machine data allows one machine axis to be assigned to each of the 16 possible cam pairs (each is comprised of one minus and one plus cam). If a "0" is entered, the corresponding cam is not processed. The cam signal output is activated via the axial NC/PLC interface signal DB31, ... DBX2.0 (Cam activation) Index [n] of the machine data addresses the cam pair: n = 0, 1, ..., 15 correspond to cam pairs 1, 2, ..., 16

Related to:

NC/PLC interface signal DB31, ... DBX2.0 (Cam activation)

Example:

Cam pair 1 is to be assigned to machine axis 3, and cam pair 3 to machine axis 4. Cam pair 2 is not to be assigned to an axis.

MD10450 \$MN_SW_CAM_ASSIGN_TAB[0] = 3

MD10450 \$MN_SW_CAM_ASSIGN_TAB[1] = 0

MD10450 \$MN_SW_CAM_ASSIGN_TAB[2] = 4

10460	SW_CAM_MINUS_LEAD_TIME	N09	N3			
s	Lead or delay time at minus cams 1-16	DOUBLE	PowerOn			
-						
-	32	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/2	M

Description: A lead or delay time can be assigned in this machine data to each minus cam 1-16 to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: --> Lead time

Negative value: --> Delay time

Serves to compensate for the constant proportion of the internal delay time between actual value acquisition and signal output.

Index [n] of the machine data addresses the cam pair:

n = 0, 1, ..., 15 correspond to cam pairs 1, 2, ..., 16

This machine data is added to the setting data SD41520

\$SN_SW_CAM_MINUS_TIME_TAB_1[n] and SD41522 \$SN_SW_CAM_MINUS_TIME_TAB_2[n].

Related to:

SD41520 \$SN_SW_CAM_MINUS_TIME_TAB_1[n] (lead or delay time on minus cams 1 - 8)

SD41522 \$SN_SW_CAM_MINUS_TIME_TAB_2[n] (lead or delay time on minus cams 9 - 16)

10461	SW_CAM_PLUS_LEAD_TIME	N09	N3			
s	Lead or delay time at plus cams 1-16	DOUBLE	PowerOn			
-						
-	32	0,0,0,0,0,0,0, 0,0,0,0,0...	-	-	7/2	M

Description: A lead or delay time can be assigned in this machine data to each plus cam 1-16 to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: --> Lead time

Negative value: --> Delay time

Serves to compensate for the constant proportion of the internal delay time between actual value acquisition and signal output.

Index [n] of the machine data addresses the cam pair:

n = 0, 1, ..., 15 correspond to cam pairs 1, 2, ..., 16

This machine data is added to the setting data SD41521

\$SN_SW_CAM_PLUS_TIME_TAB_1[n] and SD41523 \$SN_SW_CAM_PLUS_TIME_TAB_2[n].

Related to:

SD41521 \$SN_SW_CAM_PLUS_TIME_TAB_1[n] (lead or delay time on plus cams 1 - 8)

SD41523 \$SN_SW_CAM_PLUS_TIME_TAB_2[n] (lead or delay time on plus cams 9 - 16)

10470	SW_CAM_ASSIGN_FASTOUT_1	N09	N3			
-	Hardware assignment for output of cams 1-8 to NCK I/Os	DWORD	PowerOn			
-						
-	-	0	-	-	7/2	M

Description: The cam signal status can be output to the NCK I/Os as well as to the PLC.

The hardware assignment of the minus and plus cam signals to the digital output bytes used for the NCK I/Os is made in this machine data for cam pairs 1 - 8.

The assigned output signals can also be inverted with this machine data.

The MD is coded as follows:

Bits 0-7: No. of 1st HW byte used with digital outputs

Bits 8-15: No. of 2nd HW byte used with digital outputs

Bits 16-23: Inversion mask for writing 1st HW byte used

Bits 24-31: Inversion mask for writing 2nd HW byte used

Bit=0: Do not invert

Bit=1: Invert

If both HW bytes are specified, the 1st byte contains the minus cam signals and the 2nd byte the plus cam signals.

If the 2nd byte is not specified (= "0"), then the 8 cams are output as an AND operation of the minus and plus cam signals via the 1st HW byte using the 1st inversion mask.

1.3 NC machine data

The status of the non-inverted output signal for linear axes and for rotary axes with "plus cam - minus cam < 180 degrees" is:

"1" between minus and plus cams
"0" outside this range

The status of the non-inverted output signal for rotary axes with "plus cam - minus cam >= 180 degrees" is:

"0" between minus and plus cams
"1" outside this range

The following must be specified as the byte address for the digital outputs:

- 1: for on-board byte
- 2 - 5: for external bytes

10471	SW_CAM_ASSIGN_FASTOUT_2	N09	N3
-	Hardware assignment for the output of cams 9-16 to NCK I/Os	DWORD	PowerOn
-			
-	- 0 - - 7/2 M		

Description: The cam signal status can be output to the NCK I/Os as well as to the PLC.

The hardware assignment of the minus and plus cam signals to the digital output bytes used for the NCK I/Os can be made in this machine data for cam pairs 9 - 16.

The assigned output signals can also be inverted with this machine data.

The MD is coded as follows:

Bits 0-7: No. of 1st HW byte used with digital outputs

Bits 8-15: No. of 2nd HW byte used with digital outputs

Bits 16-23: Inversion mask for writing 1st HW byte used

Bits 24-31: Inversion mask for writing 2nd HW byte used

Bit=0: Do not invert

Bit=1: Invert

If both HW bytes are specified, the 1st byte contains the minus cam signals and the 2nd byte the plus cam signals.

If the 2nd byte is not specified (= "0"), then the 8 cams are output as an AND operation of the minus and plus cam signals via the 1st HW byte using the 1st inversion mask.

The status of the non-inverted output signal for linear axes and for rotary axes with "plus cam - minus cam < 180 degrees" is:

"1" between minus and plus cams
"0" outside this range

The status of the non-inverted output signal for rotary axes with "plus cam - minus cam >= 180 degrees" is:

"0" between minus and plus cams
"1" outside this range

The following must be specified as the byte address for the digital outputs:

- 1: for on-board byte
- 2 - 5: for external bytes

10472	SW_CAM_ASSIGN_FASTOUT_3	N09	N3
-	Hardware assignment for output of cams 17-24 to NCK I/Os	DWORD	PowerOn
-			
-	- 0 - - 7/2 M		

Description: The cam signal status can be output to the NCK I/Os as well as to the PLC.

The hardware assignment of the minus and plus cam signals to the digital output bytes of the NCK I/Os used can be made in this machine data for cam pairs 17 - 24.

The assigned output signals can also be inverted with this machine data.

The MD is coded as follows:

Bits 0-7: Number of 1st HW byte used with digital outputs

Bits 8-15: Number of 2nd HW byte used with digital outputs

Bits 16-23: Inversion mask for writing 1st HW byte used

Bits 24-31: Inversion mask for writing 2nd HW byte used

Bit=0: Do not invert

Bit=1: Invert

If both HW bytes are specified, the 1st byte contains the minus cam signals and the 2nd byte the plus cam signals.

If the 2nd byte is not specified (= "0"), then the 8 cams are output as an AND operation of the minus and plus cam signals via the 1st HW byte using the 1st inversion mask.

The status of the non-inverted output signal for linear axes and for rotary axes with "plus cam - minus cam < 180 degrees" is:

"1" between minus and plus cams

"0" outside this range

The status of the non-inverted output signal for rotary axes with "plus cam - minus cam >= 180 degrees" is:

"0" between minus and plus cams

"1" outside this range

The following must be specified as the byte address for the digital outputs:

1: for on-board byte

2 - 5: for external bytes

10473	SW_CAM_ASSIGN_FASTOUT_4	N09	N3
-	Hardware assignment for output of cams 25-32 to NCK I/Os	DWORD	PowerOn
-			
-	-	0	-
		-	-
		7/2	M

Description: The cam signal status can be output to the NCK I/Os as well as to the PLC. The hardware assignment of the minus and plus cam signals to the digital output bytes of the NCK I/Os used can be made in this machine data for cam pairs 25 - 32.

The assigned output signals can also be inverted with this machine data.

The MD is coded as follows:

Bits 0-7: Number of 1st HW byte used with digital outputs

Bits 8-15: Number of 2nd HW byte used with digital outputs

Bits 16-23: Inversion mask for writing 1st HW byte used

Bits 24-31: Inversion mask for writing 2nd HW byte used

Bit=0: Do not invert

Bit=1: Invert

If both HW bytes are specified, the 1st byte contains the minus cam signals and the 2nd byte the plus cam signals.

If the 2nd byte is not specified (= "0"), then the 8 cams are output as an AND operation of the minus and plus cam signals via the 1st HW byte using the 1st inversion mask.

1.3 NC machine data

The status of the non-inverted output signal for linear axes and for rotary axes with "plus cam - minus cam < 180 degrees" is:

"1" between minus and plus cams

"0" outside this range

The status of the non-inverted output signal for rotary axes with "plus cam - minus cam >= 180 degrees" is:

"0" between minus and plus cams

"1" outside this range

The following must be specified as the byte address for the digital outputs:

1: for on-board byte

2 - 5: for external bytes

10480	SW_CAM_TIMER_FASTOUT_MASK	N09	N3
-	Mask for output of cam signals via timer interr. to NCU	DWORD	PowerOn
-			
-	- 0 - - 7/2 M		

Description: A timer-controlled output to the 4 on-board outputs of the NCK I/Os can be selected in this machine data for 4 cam pairs.

In this case, the minus and plus signals of a cam pair are "EXCLUSIVE OR'd" for output as one signal.

Meaning for set bit:

Associated cam (minus and plus cam signals "EXCLUSIVE OR'd") is output via a timer interrupt at one of the 4 on-board outputs of the NCU.

The on-board outputs are assigned in order of increasing machine axis numbers (with assigned cam pairs).

Example:

Machine axis 3 = cam pair 1 --> on-board output 3

Machine axis 1 = cam pair 2 --> on-board output 1

Machine axis 7 = cam pair 3 --> on-board output 4

Machine axis 2 = cam pair 4 --> on-board output 2

If a plurality of cam pairs are set for one machine axis, then this axis is assigned in ascending order of the cam pairs.

Example:

Machine axis 3 = cam pair 1 --> on-board output 2

Machine axis 3 = cam pair 2 --> on-board output 3

Machine axis 7 = cam pair 3 --> on-board output 4

Machine axis 2 = cam pair 4 --> on-board output 1

This function works independently of the assignment set in MD10470

\$MN_SW_CAM_ASSIGN_FASTOUT_1 or MD10471 \$MN_SW_CAM_ASSIGN_FASTOUT_2.

Note:

The on-board byte must not be used more than once.

If there is more than one signal change in the IPO cycle for the cam pairs specified in the MD, then the cam pair with the lowest number determines the instant of output. The other signals change at the same time.

10485	SW_CAM_MODE	N09	N3
-	Behavior of SW cams	DWORD	PowerOn
-			
-	-	0	-
		-	-
			7/2
			M

Description: Meaning of the individual bits:

Bit 0 (LSB) = 0:

If more than 1 signal change per interpolation cycle is due for the cams specified in MD10480 \$MN_SW_CAM_TIMER_FASTOUT_MASK, the cam having the lowest number will determine the output instant. The other signals change at the same instant. That is, a maximum of one interrupt-controlled output is effected per interpolation cycle.

Bit 0 (LSB) = 1:

Each cam specified in MD10480 \$MN_SW_CAM_TIMER_FASTOUT_MASK will be output precisely at the time of the interpolation cycle. There is no output priority of the cams. A maximum of 8 interrupt-controlled outputs can be performed per interpolation cycle.

Bit 1 = 0:

Inversion of signal behavior from plus cam, where plus cam - minus cam >= 180 degr.

Bit 1 = 1:

No inversion of signal behavior from plus cam, where plus cam - minus cam >= 180 degr.

Signal behavior on-board output:

Overtravelling:

Minus cam plus cam

Traversing direction:

positive 0->1 1->0

negative 1->0 0->1

Bit 2 = 0:

No path-time cam

Bit 2 = 1:

Path-time cam for cams where minus position = plus position. The lead/delay time applied is independent of:

- velocity of the axis
- position of the axis
- reversal of traversing direction

The cam is only activated on overtravelling of the cam position. A lead/delay time applied to the minus cam is active and leads to a shift of the whole cam.

Bit 3 = 0:

No alignment signal in case of measurement area selection.

Bit 3 = 1:

Output of an alignment signal for measurement area selection (FM only). On-board output 8 is used permanently.

On-board output 8 = 1: Measurement possible (active range enabled)

On-board output 8 = 0: Measurement not possible

Bit 4 = 0:

and following free

1.3 NC machine data

10490	SW_CAM_COMP_NCK_JITTER	N09	-
s	Cam jitter compensation	DOUBLE	NEW CONF
-			
-	-	0	0.0

Description: The compensation value reduces system-related time inaccuracies during output of highly precise cam signals. The default time encumbers the cyclic time level of the control, and should therefore be selected as short as possible. It is recommended to return a cam signal to a measuring input of the control and to increase the compensation value until the scatter of the measured positions cannot be reduced any further.

Currently only active when MD10485 \$MN_SW_CAM_MODE Bit0 = 0.

10500	DPIO_LOGIC_ADDRESS_IN	N10	A4
-	Logical slot address of the PROFIBUS/PROFINET I/Os	DWORD	PowerOn
-			
-	16	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Logical slot address of the PROFIBUS/PROFINET I/Os usable by the NCK.

10501	DPIO_RANGE_LENGTH_IN	N10	A4
-	Length of the PROFIBUS/PROFINET I/O range	DWORD	PowerOn
-			
-	16	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Length of the PROFIBUS/PROFINET I/O range in bytes consistently usable for the NCK. This range must be defined in STEP 7, hardware configuration.

0: only the first data slot is used.

x: length of the consistent PROFIBUS/PROFINET I/O range in bytes

Note: in PROFINET, it is not possible to combine several slots in one area.

10502	DPIO_RANGE_ATTRIBUTE_IN	N10	A4
-	Attributes of the PROFIBUS/PROFINET I/Os	DWORD	PowerOn
-			
-	16	0x01, 0x01, 0x01, 0x01, 0x01, 0x01, 0x01...	0x00 0x0F 7/2 M

Description: Attributes of the PROFIBUS/PROFINET I/Os

Bit 0: Little/Big Endian format of the system variable \$A_DPx_IN[n,m]

0: Little Endian format

1: Big Endian format

Bit 1: (reserved)

Bit 2: Read input data

0: Read possible through system variable and CC binding (increased performance requirements)

1: Read only possible for CC binding (low performance requirements)

Bit 3: Slot sign-of-life alarm

0: Slot sign-of-life alarms are output

1: Slot sign-of-life alarms are suppressed

10510	DPIO_LOGIC_ADDRESS_OUT	N10	A4			
-	Logical slot address of the PROFIBUS/PROFINET I/Os	DWORD	PowerOn			
-						
-	16	0,0,0,0,0,0,0,0...	0	16383	7/2	M

Description: Logical slot address of the PROFIBUS/PROFINET I/Os usable by the NCK.
Note: the logical slot address must lie outside the PLC process image.

10511	DPIO_RANGE_LENGTH_OUT	N10	A4			
-	Length of the PROFIBUS I/O range	DWORD	PowerOn			
-						
-	16	0,0,0,0,0,0,0,0...	0	128	7/2	M

Description: Length of the PROFIBUS I/O range consistently usable for the NCK in bytes.
This range must be defined in STEP 7, hardware configuration.
0: only the first data slot is used.
x: length of the consistent PROFIBUS I/O range in bytes
Note: in PROFINET it is not possible to combine several slots to form one area.

10512	DPIO_RANGE_ATTRIBUTE_OUT	N10	A4			
-	Attributes of the PROFIBUS/PROFINET I/Os	DWORD	PowerOn			
-						
-	16	0x01, 0x01, 0x01, 0x01, 0x01, 0x01, 0x01...	0x00	0x0F	7/2	M

Description: Attributes of the PROFIBUS/PROFINET I/Os
Bit 0: Little/Big Endian format of system variable \$A_DPx_OUT[n,m]
0: Little Endian format
1: Big Endian format
Bit 1: Write output data
0: Write only through system variable
1: Write only through CC binding
Bit 2: (reserved)
Bit 3: Slot sign-of-life alarm
0: Slot sign-of-life alarms are output
1: Slot sign-of-life alarms are suppressed

10530	COMPAR_ASSIGN_ANA_INPUT_1	N10	A4			
-	Hardware assignment of analog inputs for comparator byte 1	BYTE	PowerOn			
-						
-	8	0,0,0,0,0,0,0,0	-	-	7/2	M

Description: This MD assigns analog inputs 1 to 8 to a bit number of comparator byte 1. This input bit of the comparator is set to "1" if the comparison between the applied analog value and the associated threshold value (SD41600 \$SN_COMPAR_THRESHOLD_1 fulfills the condition parameterized in (MD10540 \$MN_COMPAR_TYPE_1). An analog input can be assigned to a plurality of comparator input bits. The following generally applies to comparator byte 1:
COMPAR_ASSIGN_ANA_INPUT_1 [b] = n
with index: b = number of comparator input bit (0 to 7)
n = number of analog input (1 to 8)

Example:

```
COMPAR_ASSIGN_ANA_INPUT_1[0] = 1
COMPAR_ASSIGN_ANA_INPUT_1[1] = 2
COMPAR_ASSIGN_ANA_INPUT_1[2] = 1
COMPAR_ASSIGN_ANA_INPUT_1[3] = 3
COMPAR_ASSIGN_ANA_INPUT_1[4] = 3
COMPAR_ASSIGN_ANA_INPUT_1[5] = 1
COMPAR_ASSIGN_ANA_INPUT_1[6] = 1
COMPAR_ASSIGN_ANA_INPUT_1[7] = 1
```

Analog input 1 affects input bits 0, 2, 5, 6 and 7 of comparator byte 1

Analog input 2 affects input bit 1 of comparator byte 1

Analog input 3 affects input bits 3 and 4 of comparator byte 1

Related to:

MD10540 \$MN_COMPAR_TYPE_1

MD10541 \$MN_COMPAR_TYPE_2

10531	COMPAR_ASSIGN_ANA_INPUT_2	N10	A4
-	Hardware assignment of analog inputs for comparator byte 2	BYTE	PowerOn
-			
-	8	0, 0, 0, 0, 0, 0, 0, 0	-

Description:

This MD assigns analog inputs 1 to 8 to a bit number of comparator byte 2. This input bit of the comparator is set to "1" if the comparison between the applied analog value and the associated threshold value (SD41601 \$SN_COMPAR_THRESHOLD_2 fulfills the condition parameterized in (MD10541 \$MN_COMPAR_TYPE_2).

An analog input can be assigned to a plurality of comparator input bits.

The following generally applies to comparator byte 2:

```
COMPAR_ASSIGN_ANA_INPUT_2 [b] = n
with index:b = number of comparator input bit (0 to 7)
n = number of analog input (1 to 8)
```

Example:

```
COMPAR_ASSIGN_ANA_INPUT_2[0] = 1
COMPAR_ASSIGN_ANA_INPUT_2[1] = 2
COMPAR_ASSIGN_ANA_INPUT_2[2] = 1
COMPAR_ASSIGN_ANA_INPUT_2[3] = 3
COMPAR_ASSIGN_ANA_INPUT_2[4] = 3
COMPAR_ASSIGN_ANA_INPUT_2[5] = 1
COMPAR_ASSIGN_ANA_INPUT_2[6] = 1
COMPAR_ASSIGN_ANA_INPUT_2[7] = 1
```

Analog input 1 affects input bits 0, 2, 5, 6 and 7 of comparator byte 2

Analog input 2 affects input bit 1 of comparator byte 2

Analog input 3 affects input bits 3 and 4 of comparator byte 2

Related to:

MD10540 \$MN_COMPAR_TYPE_1

MD10541 \$MN_COMPAR_TYPE_2

10540	COMPAR_TYPE_1	N10	A4
-	Parameterization for comparator byte 1	DWORD	PowerOn
-			
-	-	0	-

Description: This MD can be used to make the following settings for the individual output bits (0 to 7) of comparator byte 1:

- Bits 0 to 7: Comparison type mask (for comparator output bits 0 to 7)
 - Bit = 1: output bit = 1 if analog value \geq threshold value
 - Bit = 0: output bit = 1 if analog value $<$ threshold value
(Threshold value defined by SD41600 \$SN_COMPAR_THRESHOLD_1)
- Bits 8 to 15: Not used (defined to be set to 0)
- Bits 16 to 23: Assignment of a HW output byte for outputting the comparator states (statement of the byte address)
 - Byte = 0: No output via digital NCK outputs
 - Byte = 1: Output via digital onboard NCK outputs (1 to 4)
 - Byte = 2: Output via external digital NCK outputs 9 to 16
 - Byte = 3: Output via external digital NCK outputs 17 to 24
 - Byte = 4: Output via external digital NCK outputs 25 to 32
 - Byte = 5: Output via external digital NCK outputs 33 to 40
- Bits 24 to 31: Inversion mask for the output of the comparator states (bits 0 to 7)
 - Bit = 0: Output bit is not inverted
 - Bit = 1: Output bit is inverted

Related to:

MD10530 \$MN_COMPAR_ASSIGN_ANA_INPUT_1
 MD10531 \$MN_COMPAR_ASSIGN_ANA_INPUT_2
 SD41600 \$SN_COMPAR_THRESHOLD_1
 SD41601 \$SN_COMPAR_THRESHOLD_2
 MD10360 \$MN_FASTIO_DIG_NUM_OUTPUTS

10541	COMPAR_TYPE_2	N10	A4
-	Parameterization of comparator byte 2	DWORD	PowerOn
-			
-	-	0	-

Description: This MD can be used to make the following settings for the individual output bits (0 to 7) of comparator byte 2:

- Bits 0 to 7: Comparison type mask (for comparator output bits 0 to 7)
 - Bit = 1: output bit = 1 if analog value \geq threshold value
 - Bit = 0: output bit = 1 if analog value $<$ threshold value
(Threshold value defined by SD41601 \$SN_COMPAR_THRESHOLD_2)
- Bits 8 to 15: not used (defined to be set to 0)
- Bits 16 to 23: Assignment of a HW output byte for outputting the comparator states (statement of the byte address)
 - Byte = 0: no output via digital NCK outputs
 - Byte = 1: output via digital onboard NCK outputs (1 to 4)
 - Byte = 2: output via external digital NCK outputs 9 to 16
 - Byte = 3: output via external digital NCK outputs 17 to 24
 - Byte = 4: output via external digital NCK outputs 25 to 32
 - Byte = 5: output via external digital NCK outputs 33 to 40

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- Bits 24 to 31: Inversion mask for the output of the comparator states (bits 0 to 7)

Bit = 0: Output bit is not inverted

Bit = 1: Output bit is inverted

Related to:

MD10530 \$MN_COMPAR_ASSIGN_ANA_INPUT_1

MD10531 \$MN_COMPAR_ASSIGN_ANA_INPUT_2

SD41600 \$SN_COMPAR_THRESHOLD_1

SD41601 \$SN_COMPAR_THRESHOLD_2

MD10360 \$MN_FASTIO_DIG_NUM_OUTPUTS

10600	FRAME_ANGLE_INPUT_MODE		EXP, N01, N09	K2
-	Sequence of rotation in FRAME			BYTE PowerOn
-				
-	-	1	1	2 7/2 M

Description: FRAME_ANGLE_INPUT_MODE sets how the rotations (ROT and AROT) around the three geometry axes are defined if more than one rotation is programmed in a block. The order in which these rotations are programmed within the block is irrelevant.

The rotations can be set to be calculated according to:

- Euler angle with FRAME_ANGLE_INPUT_MODE = 2

The rotations are calculated according to the Euler angle in the following order:

1. Rotation around Z
 2. Rotation around X
 3. Rotation around Y
- RPY with FRAME_ANGLE_INPUT_MODE = 1

The rotations are calculated according to the Euler angle in the following order:

1. Rotation around Z
2. Rotation around Y
3. Rotation around X

10602	FRAME_GEOAX_CHANGE_MODE		EXP, N01, N09	K2
-	Frames when changing geometry axes			BYTE PowerOn
-				
-	-	0	0	5 7/2 M

Description: Geometry axes can be switched over in the following states:

- Selection and deselection of transformations
- Switchable geometry axes GEOAX()

The current total frame is then defined as follows:

0: The current total frame is canceled.

1: The current total frame is recalculated when geometry axes are switched over. Translations, scaling and mirroring for the new geometry axes become active. The rotations of the old geometry axes still apply.

2: The current total frame is recalculated when geometry axes are switched over. Translations, scaling and mirroring for the new geometry axes become active. If rotations were active before switching over to the current base frames, current settable frame or programmable frame, switchover is canceled with an alarm.

3: The current total frame is deleted when selecting and deselecting transformations. When the GEOAX() command is entered, the frame is recalculated and transaction, scaling and mirroring for the new geometry axes become active. The rotations of the old geometry axes still apply.

10604	WALIM_GEOAX_CHANGE_MODE	EXP, N01, N09	A3
-	Working area limitation by changing geometry axes	BYTE	PowerOn
-			
-	-	0	0

Description: This machine data specifies whether a potentially active working area limitation will remain active after geo axis replacement, or whether it will be deactivated.

Meaning of the MD values:

- = 0 Working area limitation will be deactivated when replacing geo axis.
- = 1 Working area limitation will remain activated when replacing geo axis.

10610	MIRROR_REF_AX	EXP, N01, N09	K2
-	Reference axis for mirroring	BYTE	PowerOn
-			
-	-	0	0

Description: 0: Mirroring always takes place in the stated axis, without scaling.

The mirroring of a geometry axis can always be related to a defined reference axis.

1: x is the reference axis

Mirroring of the x axis is unique.

Mirroring of the y axis is mapped on:

a mirroring of the x axis and

a rotation of the z axis through 180 degrees.

Mirroring of the z axis is mapped on:

a mirroring of the x axis and

a rotation of the x axis through 180 degrees and

a rotation of the z axis through 180 degrees

2: y is the reference axis

Mirroring of the x axis is mapped on:

a mirroring of the y axis and

a rotation of the z axis through 180 degrees.

Mirroring of the y axis is unique.

Mirroring of the z axis is mapped on:

a mirroring of the y axis and

a rotation of the x axis through 180 degrees

3: z is the reference axis

Mirroring of the x axis is mapped on:

a mirroring of the z axis and

a rotation of the z axis through 180 degrees and

a rotation of the x axis through 180 degrees

Mirroring of the y axis is mapped on:

a mirroring of the z axis and

a rotation of the x axis through 180 degrees.

Mirroring of the z axis is unique.

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10612	MIRROR_TOGGLE		EXP, N01, N09	K2
-	Mirror toggle		BYTE	PowerOn
-				
-	-	1	0	1

Description: Mirror toggle function.

1: Programmed axis values are not evaluated. Toggle switching behavior.

0: Programmed axis values are evaluated.

The axes are mirrored in the case of values not equal to 0 if they are not already mirrored. Mirroring is disabled if the value is 0.

10613	NCBFRAME_RESET_MASK		EXP	K2
-	Active NCU global base frames after reset		DWORD	Reset
-				
-	-	0xFFFF	0	0xFFFF

Description: Bit mask for the reset setting of the NCU global base frames which are included in the channel.

The following applies:

When MD20110 \$MC_RESET_MODE_MASK bit0 = 1 and bit14 = 1

The entire base frame is derived on reset from the linking of the NCU global base frame field elements whose bit in the bit mask is 1.

When MD20110 \$MC_RESET_MODE_MASK bit0 = 1 and bit14 = 0

The entire base frame is deselected on reset.

10615	NCBFRAME_POWERON_MASK		EXP, N12	K2
-	Reset global base frames after power on		DWORD	PowerOn
-				
-	-	0	0	0xFFFF

Description: This machine data defines whether global base frames are reset in the data management on Power On.

That is

- Offsets are set to 0,
- Scalings are set to 1.
- Mirroring is disabled.

The individual base frames can be selected separately.

Bit 0 means base frame 0, bit 1 base frame 1 etc.

Value=0: Base frame is retained on Power On

Value=1: Base frame is reset in the data management on Power On.

Related to:

MD24004 \$MC_CHBFRAME_POWERON_MASK

10616	MAPPED_FRAME_MASK		N01	-
-	Enable frame mapping		DWORD	PowerOn
-				
-	-	0x3001	0	0x00003FFF

Description: Bit mask for channel-specific data management frames, the axial frames of which can be mapped onto other axial frames.

The mapping takes place via \$MA_MAPPED_FRAME[AXn] = "AXm".

Bit 0:\$P_SETFRSystem frame for actual value setting and scratching

Bit 1:\$P_EXTFRSystem frame for external work offset

Bit 2:\$P_PARTFRSystem frame for TCARR and PAROT
 Bit 3:\$P_TOOLFRSystem frame for TOROT and TOFRAME
 Bit 4:\$P_WPFRSystem frame for workpiece reference points
 Bit 5:\$P_CYCFRSystem frame for cycles
 Bit 6:\$P_TRAFRSystem frame for transformations
 Bit 7:\$P_ISO1FRSystem frame for ISO G51.1 Mirror
 Bit 8:\$P_ISO2FRSystem frame for ISO G68 2DROT
 Bit 9:\$P_ISO3FRSystem frame for ISO G68 3DROT
 Bit 10:\$P_ISO4FRSystem frame for ISO G51 Scale
 Bit 11: \$P_RELFRSystem frame for relative coordinate systems
 Bit12:\$P_CHBFRChannel-specific basic frames
 Bit13:\$P_UIFRSettable frames

10617	FRAME_SAVE_MASK	EXP	K2			
-	Behavior of frames in SAVE subroutines	DWORD	PowerOn			
-						
-	-	0	0	0x3	7/2	M

Description: This machine data is used to define which frames are restored with SAVE attribute at return from a subprogram.

Bit 0: Settable frames G54 through G599

Value = 0:
If the same G code is active at subprogram return and subprogram call, the active settable frame is maintained. If not, the settable frame is reactivated when the subprogram is called.

Value = 1:
At subprogram return, the settable frame is reactivated when the subprogram is called.

Bit 1: Basic frame

Value = 0:
The active basic frame is not changed at subprogram return. This is also the case, if a basic frame change is carried out in the subprogram by an operation or by an implicit frame deselection (possibly through TRAFOOF).

Value = 1:
At subprogram return, the basic frame is reactivated when the subprogram is called.

10618	PROTAREA_GEOAX_CHANGE_MODE	EXP, N01, N09	A3			
-	Protection range on change of geometry axes	BYTE	PowerOn			
-						
-	-	0	0	3	7/2	M

Description: This machine data is used to define whether any active protection zones will remain active after a transformation change or geo axis replacement, or whether they will be deactivated.

The machine data is bit-coded with the following meanings:

Bit 0 = 0
Protection zones deactivated on transformation change.

Bit 0 = 1
Active protection zones remain active after transformation change.

Bit 1 = 0
Protection zones deactivated on geo axis replacement.

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Bit 1 = 1

Active protection zones remain active after geo axis replacement.

10619	COLLISION_TOLERANCE	EXP	-			
mm	Tolerance for collision check	DOUBLE	NEW CONF			
-						
-	-	1	0.001	1000.0	7/3	M

Description: This parameter is used to set the required collision check accuracy. This means: If the distance between two protection zones is smaller than this value, a collision of those two protection zones may be signalled. But: Two protection zones that overlap by less than this value cannot be classified as colliding.

10620	EULER_ANGLE_NAME_TAB	N01, N09	F2,TE4			
-	Name of Euler angle	STRING	PowerOn			
-						
-	3	A2, B2, C2	-	-	7/2	M

Description:

- The name entered must not conflict with the designation and assignment of machine and geometry axis names.
- The name entered must not conflict with channel axis names in the channel (MD20080 \$MC_AXCONF_CHANAX_NAME_TAB), names for directional vectors (MD10640 \$MN_DIR_VECTOR_NAME_TAB), names for intermediate point coordinates for CIP (MD10660 \$MN_INTERMEDIATE_POINT_NAME_TAB) or the names for interpolation parameters (MD10650 \$MN_IPO_PARAM_NAME_TAB).
- The name entered must not contain the following reserved address letters:
 - D Tool offset (D function)
 - E Reserved
 - F Feedrate (F function)
 - G Preparatory function
 - H Auxiliary function (H function)
 - L Subprogram call
 - M Special function (M function)
 - N Subblock
 - P Number of subroutine repetitions
 - R Arithmetic parameter
 - S Spindle speed (S function)
 - T Tool (T function)
- Nor are keywords (e.g. DEF, SPOS etc.) or predefined identifiers (e.g. ASPLINE, SOFT) allowed.
- An angle identifier consists of a valid address letter (A, B, C, I, J, K, Q, U, V, W, X, Y, Z), followed by an optional numerical extension (1-99).

10622	COLLISION_SAFETY_DIST	EXP	-			
mm	Safety distance for collision check	DOUBLE	NEW CONF			
-						
-	-	0.0	0.000	1000.0	7/3	M

Description: If the distance between two protection zones becomes smaller than this safety distance, this is regarded as a collision. This machine data is globally effective for protective zone pairs for which no special safety distance was specified (s. function COLLCHECK).

10624	ORIPATH_LIFT_VECTOR_TAB	N01, N09	-			
-	Name of retraction vector for path-relative orientation.	STRING	PowerOn			
-						
-	3	A8, B8, C8	-	-	7/2	M

Description: List of identifiers for components of the retraction vector during reorientations for path relative interpolation of the tool orientation.
 The rules for axis identifiers as described in MD20080
 \$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers. The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, normal vectors, direction vectors, conical interpolation vectors, interpolation parameters, intermediate point coordinates).

10626	ORIPATH_LIFT_FACTOR_NAME	N01, N09	-			
-	Name of relative safety clearance with ORIPATH	STRING	PowerOn			
-						
-	-	ORIPLF	-	-	7/2	M

Description: Identifier for relative factor for determining a safety clearance for the retracting movement during reorientations for path relative interpolation of the tool orientation.
 The rules for axis identifiers as described in MD20080
 \$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers. The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, normal vectors, direction vectors, conical interpolation vectors, interpolation parameters, intermediate point coordinates).

10630	NORMAL_VECTOR_NAME_TAB	N01, N09	F2			
-	Name of normal vectors	STRING	PowerOn			
-						
-	6	A4, B4, C4, A5, B5, C5	-	-	7/2	M

Description: Normal vector programming from software version 3.2
 List of identifiers for the normal vector components at the beginning and end of the block.
 The rules for axis identifiers described in MD20080
 \$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.
 The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, direction vectors, interpolation parameters, intermediate point coordinates).

10640	DIR_VECTOR_NAME_TAB	N01, N09	F2,TE4			
-	Name of direction vectors	STRING	PowerOn			
-						
-	6	A3, B3, C3, AN3, BN3, CN3	-	-	7/2	M

Description: List of identifiers for the direction vector components. (A3 to C3)
 List of identifiers for the vector components perpendicular to the direction vector (AN3 to CN3)
 The rules for axis identifiers described in MD20080
 \$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.

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The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, interpolation parameters, intermediate point coordinates).

10642	ROT_VECTOR_NAME_TAB	N01, N09	F2
-	Name of rotation vectors	STRING	PowerOn
-			
-	3	A6, B6, C6	-

Description: List of identifiers for the rotation vector components in taper direction

The rules for axis identifiers as described in MD20080

\$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.

The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, interpolation parameters, intermediate point coordinates).

10644	INTER_VECTOR_NAME_TAB	N01, N09	F2
-	Name of intermediate vector components	STRING	PowerOn
-			
-	3	A7, B7, C7	-

Description: List of identifiers for the intermediate vector components

The rules for axis identifiers described in MD20080

\$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.

The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, interpolation parameters, intermediate point coordinates).

10646	ORIENTATION_NAME_TAB	N01, N09	F2
-	Identifiers for programming a 2nd orientation path	STRING	PowerOn
-			
-	3	XH, YH, ZH	-

Description: List of identifiers for programming of the 2nd space curve for tool orientation

The rules for axis identifiers as described in MD20080

\$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.

The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, interpolation parameters, intermediate point coordinates).

10648	NUTATION_ANGLE_NAME	N01, N09	F2
-	Name of aperture angle	STRING	PowerOn
-			
-	-	NUT	-

Description: Identifier for the opening angle for orientation interpolation

The rules for axis identifiers as described in MD20080

\$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.

The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

10650	IPO_PARAM_NAME_TAB		EXP, N01	K2
-	Name of interpolation parameters		STRING	PowerOn
-				
-	3	I, J, K	-	-

Description:

List of identifiers for the interpolation parameters

The rules for axis identifiers described in MD20080

\$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers.

The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

Related to:

MD10660 \$MN_INTERMEDIATE_POINT_NAME_TAB

References: /PA/, Programming Guide: Fundamentals

10652	CONTOUR_DEF_ANGLE_NAME		EXP, N01, N12	FBFA
-	Name of angle for contour definitions		STRING	PowerOn
-				
-	-	ANG	-	-

Description:

Identifier for contour angle

The identifier must be selected so that no conflict arises with other identifiers (e.g. axes, Euler angles, normal vectors, direction vectors, interpolation point coordinates).

10654	RADIUS_NAME		EXP, N01, N12	FBFA
-	Name of radius for contour definitions		STRING	PowerOn
-				
-	-	RND	-	-

Description:

Identifier for contour radius

The identifier must be selected so that no conflict arises with other identifiers (e.g. axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

10656	CHAMFER_NAME		EXP, N01, N12	FBFA
-	Name of chamfer for contour definitions		STRING	PowerOn
-				
-	-	CHR	-	-

Description:

Identifier for contour chamfer

The identifier must be selected so that no conflict arises with other identifiers (e.g. axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

10660	INTERMEDIATE_POINT_NAME_TAB		EXP, N01	K2
-	Name of interpolation point coordinates for G2/G3		STRING	PowerOn
-				
-	3	I1, J1, K1	-	-

Description:

List of identifiers for the intermediate point coordinates

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The rules for axis identifiers described in MD20080 \$MC_AXCONF_CHANAX_NAME_TAB apply to the selection of identifiers. The identifiers must be selected so that they do not cause any conflicts with other identifiers (axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

Related to:

MD10650 \$MN_IPO_PARAM_NAME_TAB

References: /PG/, Programming Guide: Fundamentals

10670	STAT_NAME		N01, N09	F2		
-	Name of state information		STRING	PowerOn		
-						
-	-	STAT	-	-	7/2	M

Description: Identifier for position information for solving ambiguities in Cartesian PTP travel.

An identifier must be chosen that does not conflict with other identifiers (e.g. axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

10672	TU_NAME		N01, N09	F2		
-	Name of state information of axes		STRING	PowerOn		
-						
-	-	TU	-	-	7/2	M

Description: Identifier for position information of axes for solving ambiguities in Cartesian PTP travel.

An identifier must be chosen that does not conflict with other identifiers (e.g. axes, Euler angles, normal vectors, direction vectors, intermediate point coordinates).

10674	PO_WITHOUT_POLY		N01	F2		
-	Polynomial programming programmable without G function POLY		BOOLEAN	PowerOn		
-						
-	-	FALSE	-	-	7/2	M

Description: Until now, the G function POLY has always had to be active during polynomial programming with PO[xx] = (xx), otherwise an alarm was output.

If MD10674 \$MN_PO_WITHOUT_POLY is set to TRUE, no alarm is output with POLY inactive during polynomial programming. The end point of the polynomial is then approached with the linear interpolation G1.

There is no polynomial interpolation if POLY is inactive.

10680	MIN_CONTOUR_SAMPLING_TIME		N01, EXP	-		
s	Minimum contour sampling time		DOUBLE	Reset		
-						
840dsl-71	-	0.004	-	-	0/0	M
840dsl-72	-	0.002	-	-	0/0	M
840dsl-73	-	0.0005	-	-	0/0	M

Description: Min. possible contour sampling time in seconds. This MD is used to limit the value that can be entered with MD10682 \$MN_CONTOUR_SAMPLING_FACTOR, independently of the current interpolation cycle of the control.

10682	CONTOUR_SAMPLING_FACTOR	N01, EXP	-			
-	Contour sampling factor	DOUBLE	Reset			
-						
-	-	1.0	-	-	1/1	M

Description: This factor defines the maximum time interval in which a curved contour is sampled in the interpolator.
 The maximum sampling time results from the set interpolation cycle (see MD10071 \$MN_IPO_CYCLE_TIME), the factor set with this data, and the tolerance set for the geometry axes in MD33100 \$MA_COMPRESS_POS_TOL[].
 The minimum sampling time cannot be shorter than the time set in MD10680 \$MN_MIN_CONTOUR_SAMPLING_TIME.

10690	DRAW_POS_TRIGGER_TIME	EXP, N01	-			
s	Trigger time for IPO event 'DRAW_POS'	DOUBLE	NEW CONF			
-						
-	-	0.3	0	30	1/1	M

Description: This can be used to set a time within which an IPO event for position output will always be generated. If a value smaller than the current interpolation cycle is entered here, the trigger will only be activated according to the maximum chord length in the case of complex geometries and in the last interpolation cycle in the case of non-complex geometries.

10700	PREPROCESSING_LEVEL	N01, N02	V2,K1			
-	Program preprocessing level	BYTE	PowerOn			
-						
-	-	0x25	-	-	2/2	M

Description: Bit 0 = 0:
 No preprocessing
 Bit 0 = 1:
 The call description of the cycles is formed during control power on. All the programs in the directories _N_CUS_DIR, _N_CMA_DIR and _N_CST_DIR can be called in the part program without EXTERNAL declaration. If the parameter interface of a cycle is changed in the control, then this change does not become active until after Power On.
 Bit 1=1:
 During control power on, all cycles in the directories _N_CUS_DIR, _N_CMA_DIR and _N_CST_DIR are preprocessed to form a process-optimizing compilation. These cycles are then processed more quickly. Changes to the cycle programs do not become active until after the next Power On.
 Bit 2=1:
 During control power on, the Siemens cycles in the directory _N_CST_DIR are preprocessed to form a process-optimizing compilation (from SW 3.5).
 Bit 3=1:
 During control power on, the user cycles in the directory _N_CUS_DIR are preprocessed to form a process-optimizing compilation (from SW 3.5).
 Bit 4=1:
 Preprocessing the user cycles in the directory _N_CMA_DIR
 Bit 5=1:
 All files marked with PREPRO in the PROG statement line are preprocessed (from SW 6.4)

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Bit 5=0:

During control power on, all cycles in the directories activated by bits 1 to 4 are preprocessed. This also applies to programs that are not marked with PREPRO.

Bit 6=1:

The compilation is stored in SRAM if there is inadequate space in DRAM (from SW 7.1).

Memory space is required for preprocessing cycles. Better utilization of memory can be achieved by selective setting of the preprocessing:

The runtime-critical cycles are brought together in one directory. The remaining cycles are in the other directory.

References:

/PG/, "Programming Guide Fundamentals" (EXTERNAL declaration)

10702	IGNORE_SINGLEBLOCK_MASK	N01	K1,Z1			
-	Prevents stopping at specific blocks in single block mode	DWORD	PowerOn			
-						
-	-	0	0	0x1FFFF	7/2	M

Description: This machine data prevents stopping at certain blocks with single block.

Single block stop can be prevented with the following bits of the mask:

Bit0 = 1

Means that there is no stop in any internal ASUB block. Exception: The single block stop has been explicitly activated by the SBLON command.

There are three different internal ASUBs that are triggered by different events.

- Repos: In the case of the events: change of operating mode to a manual mode (JOG, JOGREF, etc.) unless MODESWITCH_MASK is not set, switch skip block on and off, activate machine data, switch-on overstore, axis replacement, subroutine level cancelation, switch-on single block, switch dry run feedrate on and off, alarm with compensation block.
- Return: Delete distance-to-go, switchover after TEACH-IN, or deselection of MDI with corresponding MODESWITCH_MASK.
- _N_PROG_EVENT_SPF: Parameterizing MD 20108 \$MC_PROG_EVENT_MASK parameterizes the events whereby _N_PROG_EVENT_SPF is executed.

Bit1 = 1

Means that there is no stop in any user ASUB block. Exception: The single block stop has been explicitly activated via the SBLON command.

User ASUBs are linked to an interrupt channel by the part program command SETINT or via the PI- _N_ASUP__. The interrupt channel is then activated via PLC or the high-speed inputs, and the user ASUBs are retracted.

This disables machine data MD20117 \$MC_IGNORE_SINGLEBLOCK_ASUP. The NCK behavior corresponds to the machine data assignment MD20117 \$MC_IGNORE_SINGLEBLOCK_ASUP= FFFFFFFF.

Bit2 = 1

Means that there is no stop in any intermediate block. Intermediate blocks are generated at, among other events, tool change, ADIS and complicated geometry.

Bit3 = 1

Means that there is no stop in the block search pickup block. The block search pickup block is the 1st block that is loaded into the main run at the start after the search target has been found in the program.

Bit4 = 1
 Means that there is no stop in the INIT blocks. INIT blocks are generated from reset immediately after a part program start.

Bit5 = 1
 Means that there is no stop in any subprogram block with the parameter DISP-LOF.

Bit6 = 1
 Means that there is no stop in any block in which the NCK cannot reorganize. Reorganize is an internal procedure that is needed for mode change after JOG/JOGREF..., switch skip block on and off, activate machine data, axis replacement, switch on overstore, switch on single block, switch dry run feedrate on and off, subroutine level cancelation, user ASUBs delete distance-to-go, switchover after TEACH-IN. Reorganize is never needed in Reset state.

Example blocks in which reorganize is impossible:

- Tool change
- 1st block after the Repos procedure
- Block after an ASUB from JOG/canceled

Bit7 = 1
 Means that there cannot be a stop in any block in which repositioning is impossible.

Reposition is an internal procedure that is needed for mode change after JOG/JOGREF..., switch skip block on and off, activate machine data, axis replacement, switch on overstore, switch on single block, switch dry run feedrate on and off, subroutine level cancelation, and possibly user ASUBs. Reposition is never needed in Reset state.

Example blocks in which reposition is impossible:

- G33 + blocks in which reorganize is impossible.

Bit8 = 1
 Means that there is no stop in a residual block that does not contain traversing information.

Bit9 = 1
 Means that there is no stop in a run in/main run synchronization block (e.g. STOPRE, \$Variable) that is repeated because of an interruption with Reorg (e.g. mode change).

Bit10= 1
 Means that there is no stop in a "tool selection block". "Tool selection block" only occurs with tool management (magazine management or TMMG) active. This block gives the corresponding tool change command to the PLC.

This block is generally generated by T programming from the part program.

Example block "N1010 T="Drill" M6 D1"
 Depending on machine data, the "tool selection block" can be held in the interpolator until the PLC has acknowledged the corresponding tool change (see MD20310 \$MC_TOOL_MANAGEMENT_MASK). However the program status remains in "run".

Bit11= 1
 The control has to automatically generate implicit GET blocks for the axis replacement function (axis replacement: 2 or more channels control one axis alternately) if no explicit GET(D) has been programmed and the following block wants to traverse the axis. (The other channel had previously used this axis).
 An explicitly programmed GET may appear as follows "getd(x1,y1,z1) or get(x1,y1,z1)".

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There is no stop at explicit or implicit GET blocks in the single block with this bit 11.

Bit12= 1

There is no stop in the single block type 2 in the SBLON block.

Bit13= 1

If an axis is pulled out in the middle of a block and possibly assigned to another channel, then there is no stop at the PREMATURE end of this block. This block follows a REPOSA in order to traverse it to the end, there is no stop until this end has been reached.

Bit14=1

In a part program line, in which a substitution subroutine is called due to NC language replacement, only one stop is performed under the condition that the subroutine includes PROC attribute SBLOF. It is irrelevant whether the subroutine is called at block start and/or end or whether it is exited with M17 or RET.

Bit15=1

Means that there is no stop in any user ASUB block. Exception: The single block stop has been explicitly activated via the SBLON command.

There are three different internal ASUBs that are triggered by different events.

- Repos: In the case of the events: change of operating mode to a manual mode (JOG, JOGREF,...) unless MODESWITCH_MASK is not set, switch skip block on and off, activate machine data, switch-on overstore, axis replacement, subroutine level cancelation, switch-on single block, switch dry run feedrate on and off, alarm with compensation block.

- Return: Delete distance-to-go, switchover after TEACH-IN, or deselection of MDI with corresponding MODESWITCH_MASK.

Bit16=1

Activating SERUPRO (search run via prog test) prevents stopping at single blocks.

Related to:

MD20117 \$MC_IGNORE_SINGLEBLOCK_ASUP

10704	DRYRUN_MASK	N01	V1
-	Dry run feedrate activation	BYTE	PowerOn
-			
-	-	0	0
		2	7/2
			M

Description: DRYRUN_MASK == 0

Dryrun can only be switched on or off at the end of the block.

When DRYRUN_MASK = 1 is set, the dry run feedrate can also be activated during program execution (in the part program block).

NOTICE!

After activating dry run feedrate, the axes are stopped for the duration of the reorganization process.

DRYRUN_MASK == 2

Dryrun can be switched on or off in every phase and the axes are not stopped.

NOTICE:

However, the function does not become active until a "later" block in the program execution and this is with the next (implicit) StopRe block.

Related to:

SD42100 \$SC_DRY_RUN_FEED

10706	SLASH_MASK	N01	PG,A2			
-	Activation of block skip	BYTE	PowerOn			
-						
-	-	0	0	2	7/2	M

Description: If SLASH_MASK = 0, skip block can only be activated when stopped at the end of the block
 If SLASH_MASK = 1, skip block can also be activated during program execution.
NOTICE!
 After activating skip block, the axes are stopped for the duration of the reorganization process.
 If SLASH_MASK = 2 ,skip block can be activated in every phase.
Notice!
 However, the function does not become active until a "later" block in the program execution, and this is with the next (implicit) StopRe block.

10707	PROG_TEST_MASK	N01	K1			
-	Program test mode	DWORD	PowerOn			
-						
-	-	0x11	0	0x1F	7/2	M

Description: Bit-coded mask for program test
 Bit 0 == 1 Program test cannot be deselected in 'Stopped' program status.
 Bit 1 == 1 Enable to activate the program test using the PI command_N_NCKMOD
 Bit 2 == 1 Activation of program test with accelerated feed in normal program processing
 Bit 3 == 1 Activation of the program test with accelerated feed in the simulation
 Bit 4 == 1 Activation of the accelerated program test takes place in synchronized multi-channel mode.
 Bit 5..31 As yet unused.
 Program test with normal processing is always activated via the VDI interface.
 Program test in simulation is always activated via the NCKMode PI.
 Program test block search is always activated via the Find-Pi

10708	SERUPRO_MASK	N01	K1			
-	Block search modes	DWORD	PowerOn			
-						
-	-	0	0	31	7/2	M

Description: Bit-coded mask for block search via program test (abbr. SERUPRO).
 SERUPRO block search is activated with the PI service _N_FINDBL mode parameter == 5.
 SERUPRO means SEarchRUN by PROgram test; in other words, proceed under program test from start of program to search target. Note: Program test does not move any axes.
 Bit 0 == 0
 There is a stop at M0 during the search phase.
 Bit 0 == 1
 There is no stop at M0 during the search phase.

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Bit 1 == 0
 Alarm 16942 cancels the search phase on part programm command START.
 Bit 1 == 1
 Alarm 16942 is switched off.
NOTICE:
 A start program command might actually start the other channel!
 Bit 2 == 0
 Switches the function "Group Serupro" off
 Bit 2 == 1
 Switches the function "Group Serupro" on.
 "Group-Serupro" enables a search routine in which the start part program command is changed into a search routine for the other channel.
 Bit 3 == 0
 Forces all channels that have started SERUPRO to end SERUPRO simultaneously unless they are canceled via Reset or the channel reaches M30 without finding the search target. In other words, all channels that find the search target (including self-acting SERUPRO) terminate SERUPRO simultaneously.
 Bit 3 == 1
 Switches this function off
 Bit 4 == 0
 Take external override into account in SERUPRO.
 Bit 4 == 1
 An external override (sent via PLC signal or MCP) is ignored during SERUPRO.
 Bit 5 .. 31
 As yet unused.

10709	PROG_SD_POWERON_INIT_TAB		EXP, N01	K1		
-	Setting data to be initialized		DWORD	PowerOn		
-						
-	30	43200, 43202, 0, 0, 0, 0, 0, 0...	-	-	7/2	M

Description: Setting data to be initialized:

The values of the programmable SD indicated in this MD are set to their initial values on control power up.

Only the setting data listed in the table below, however, can be initialized. If invalid setting data numbers are configured, then the alarm 4009 is output at the next run-up of the control. The alarm shows the index used for configuring the invalid setting data. The alarm can only be eliminated by changing the invalid setting data, i.e. by entering either a valid number or zero!

SD42000 \$SC_THREAD_START_ANGLE	(GCODE)
SD42010 \$SC_THREAD_RAMP_DISP	SF
SD42125 \$SC_SERUPRO_SYNC_MASK	DITS/DITE
SD42400 \$SC_PUNCH_DWELLTIME	PDELAYON
SD42402 \$SC_NIBPUNCH_PRE_START_TIME	
SD42404 \$SC_MINTIME_BETWEEN_STROKES	
SD42800 \$SC_SPIND_ASSIGN_TAB	SETMS
SD43200 \$SA_SPIND_S	S with G94, G95, G97, G971, G972
SD43202 \$SA_SPIND_CONSTCUT_S	S with G96, G961, G962
SD43210 \$SA_SPIND_MIN_VELO_G25	G25 S

SD43220	\$SA_SPIND_MAX_VELO_G26	G26 S
SD43230	\$SA_SPIND_MAX_VELO_LIMS	LIMS
SD43235	\$SA_SPIND_USER_VELO_LIMIT	
SD43300	\$SA_ASSIGN_FEED_PER_REV_SOURCE	FPRAON
SD43350	\$SA_AA_OFF_LIMIT	
SD43420	\$SA_WORKAREA_LIMIT_PLUS	G26
SD43430	\$SA_WORKAREA_LIMIT_MINUS	G25
SD43600	\$SA_IPOBRAKE_BLOCK_EXCHANGE	
SD43610	\$SA_ADISPOSA_VALUE	
SD43700	\$SA_OSCILL_REVERSE_POS1	OSP1
SD43710	\$SA_OSCILL_REVERSE_POS2	OSP2
SD43720	\$SA_OSCILL_DWELL_TIME1	OST1
SD43730	\$SA_OSCILL_DWELL_TIME2	OST2
SD43740	\$SA_OSCILL_VELO	FA
SD43750	\$SA_OSCILL_NUM_SPARK_CYCLES	OSNSC
SD43760	\$SA_OSCILL_END_POS	OSE
SD43770	\$SA_OSCILL_CTRL_MASK	OSCTRL
SD43780	\$SA_OSCILL_IS_ACTIVE	OS
SD43790	\$SA_OSCILL_START_POS	

10710	PROG_SD_RESET_SAVE_TAB	EXP, N01	A3, V1
-	Setting data to be updated	DWORD	PowerOn
-			
-	30	0,0,0,0,0,0,0,0...	-

Description: Setting data to be backed up

The values of the SDs listed in this table are stored in non-volatile memory, i.e. they remain valid after power ON. The setting data whose HMI numbers were entered in the backup list are written into the (buffered) active file system after the description of the part program on reset.

Programmable setting data are:

SD	(GCODE)
42000	\$SC_THREAD_START_ANGLE SF
42010:	\$SC_THREAD_RAMP_DISP DITS/DITE
42400	\$SC_PUNCH_DWELLTIME PDELAYON
42800	\$SC_SPIND_ASSIGN_TAB SETMS
43200:	\$SA_SPIND_S S with G94,G95,G97,G971,G972
43202:	\$SA_SPIND_CONSTCUT_S S with G96,G961,G962
43210	\$SA_SPIND_MIN_VELO_G25 G25S
43220	\$SA_SPIND_MAX_VELO_G26 G26 S
43230	\$SA_SPIND_MAX_VELO_LIMS LIMS
43300	\$SA_ASSIGN_FEED_PER_REV_SOURCE FPRAON
43420	\$SA_WORKAREA_LIMIT_PLUS G26
43430	\$SA_WORKAREA_LIMIT_MINUS G25
43700	\$SA_OSCILL_REVERSE_POS1 OSP1
43710	\$SA_OSCILL_REVERSE_POS2 OSP2
43720	\$SA_OSCILL_DWELL_TIME1 OST1
43730	\$SA_OSCILL_DWELL_TIME2 OST2
43740	\$SA_OSCILL_VELO FA
43750	\$SA_OSCILL_NUM_SPARK_CYCLES OSNSC

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SD 43760 \$SA_OSCILL_END_POS OSE
 SD 43770 \$SA_OSCILL_CTRL_MASK OSCTRL
 SD 43780 \$SA_OSCILL_IS_ACTIVE OS
 The values of D43420 \$SA_WORKAREA_LIMIT_PLUS (working area limitation plus) and SD43430 \$SA_WORKAREA_LIMIT_MINUS (working area limitation minus) are to be stored in the buffered RAM after every RESET, M02, M30 or M17.
 --> PROG_SD_RESET_SAVE_TAB[0] = 43420
 --> PROG_SD_RESET_SAVE_TAB[1] = 43430
 See also: 'REDEF: change attributes of NC language elements', setting data/PRLOC

10711	NC_LANGUAGE_CONFIGURATION	EXP, N01	K1			
-	NC language commands of inactive options / functions	DWORD	PowerOn			
-						
-	-	0	0	4	0/0	M

Description: Manner of handling language commands whose associated option or function has not been activated.

All programmable commands in an NC program or cycle program are language commands. Detailed information is available in the description of the language command STRINGIS.

Value Meaning

 0: All language commands are known - especially those whose function has not been activated. That means that all language commands are programmable. Whether the required function is active is not detected until execution. If not, then a specific alarm is generated.

Option approved / not approved (for functions without options "Option approved" applies implicitly):

 1: All language commands are known. Language commands with options that have not been approved, are recognized at the beginning of the program interpretation and rejected with alarm 12553 "Option/function inactive".

Example:

If the option data for cylinder transformation has not been set, programming of TRACYL will be rejected with alarm 12553.

2: Only those language commands are known that correspond to the current scope of approved NCK software options. This means that options that are not approved are rejected with 12550 "Name not defined or option/function not available". In this case it is not possible to decide whether the relevant command is not known in Siemens NC language in general or whether it is simply not available on this system.

Example:

If the option data for cylinder transformation has not been set, programming of TRACYL will be rejected with alarm 12550.

Function active/inactive:

 3: All language commands are known. Language commands with inactive functions are recognized at the beginning of the program interpretation and rejected with alarm 12553 "Option/function inactive".

Example:

If the option data for cylinder transformation has been set, but transformation has not been activated with MD24100 \$MC_TRAFO_TYPE_1, programming of TRACYL will be rejected with alarm 12553.

4: Only those language commands are known that correspond to the current scope of active NCK software functions. This means that any command regarding inactive functions are rejected with alarm 12550 "Name not defined or option/function not available". In this case it cannot be decided whether the relevant command is not known in the Siemens NC language in general or whether it is simply not available on this system.

Example:

If the option data for cylinder transformation has been set, but transformation has not been activated with MD24100 \$MC_TRAFO_TYPE_1, programming of TRACYL will be rejected with alarm 12550.

Example:

See description for the STRINGIS language command.

10712	NC_USER_CODE_CONF_NAME_TAB	EXP, N01, N12	TE1,B1			
-	List of reconfigured NC codes	STRING	PowerOn			
-						
-	200	...	-	-	2/2	M

Description: List of identifiers of the NC codes reconfigured by the user.

The list is to be structured as follows:

Even address: Identifier to be changed

Subsequent odd address: New identifier

The following three types of NC codes can reconfigured:

1. G codes e.g.: G02, G64, ASPLINE...

2. NC addresses e.g.: RND, CHF, ...

3. Pre-defined subprograms e.g.: CONTPRON, ...

10713	M_NO_FCT_STOPRE	EXP, N12, N07	H2			
-	M function with preprocessing stop	DWORD	PowerOn			
-						
-	15	-1, -1, -1, -1, -1, -1, -1...	-	-	7/2	M

Description: The M functions defined by MD10713 \$MN_M_NO_FCT_STOPRE perform an implicit preprocessing stop.

That is, the interpretation of the next part program line will be stopped until the block with the M function defined in that way has been processed completely

(PLC acknowledgement, motion, etc.).

10714	M_NO_FCT_EOP	EXP, N07	K1,H2			
-	M function for spindle active after reset	DWORD	PowerOn			
-						
-	-	-1	-	-	7/2	M

Description: For spindles where a '2' is configured in MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET, no spindle reset is enabled with this M function when the part program is terminated. The spindle therefore remains active after the end of the part program.

Proposal: M32

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Restrictions: see MD10715 \$MN_M_NO_FCT_CYCLE

Related to:

MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET

MD10714 \$MN_M_NO_FCT_EOP,

MD10715 \$MN_M_NO_FCT_CYCLE,

MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,

MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,

MD10804 \$MN_EXTERN_M_NO_SET_INT

MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,

MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,

MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX

MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR

For nibbling:

MD26008 \$MC_NIBBLE_PUNCH_CODE

10715	M_NO_FCT_CYCLE		EXP, N12, N07	H2,K1		
-	M function to be replaced by a subroutine		DWORD	PowerOn		
-						
-	30	-1,-1,-1,-1,-1,-1,-1, -1...	-	-	7/2	M

Description: M number with which a subprogram is called.

The name of the subprogram is stated in MD10716 \$MN_M_NO_FCT_CYCLE_NAME[n].

If the M function defined with MD10715 \$MN_M_NO_FCT_CYCLE[n] is programmed in a part program block, the subprogram defined in MD10716

\$MN_M_NO_FCT_CYCLE_NAME[n] is started at the end of the block. If the M function is programmed again in the subprogram, there is no longer substitution by a subprogram call. MD10715 \$MN_M_NO_FCT_CYCLE[n] acts both in Siemens mode G290 and in external language mode G291.

The subprograms configured with MD10716 \$MN_M_NO_FCT_CYCLE_NAME[n] and MD10717 \$MN_T_NO_FCT_CYCLE_NAME must not be active simultaneously in one block (line of a part program). This means that no more than one M/T function replacement can be active in any one block. Neither an M98 nor a modal subprogram call can be programmed in a block with the M function replacement.

Subprogram return and end of part program are also not permitted. Alarm 14016 is output in the event of a conflict.

Restrictions:

M functions with a fixed meaning and configurable M functions are checked for conflicting settings. A conflict is reported with an alarm.

The following M functions are checked:

- M0 to M5,
- M17, M30,
- M19,
- M40 to M45,
- M function for spindle/axis mode switchover according to MD20094
\$MC_SPIND_RIGID_TAPPING_M_NR (default: M70),
- M functions for nibbling/punching as configured in MD26008
\$MC_NIBBLE_PUNCH_CODE if activated by MD26012 \$MC_PUNCHNIB_ACTIVATION.
- M19, M96-M99 for applied external language (MD18800
\$MN_MM_EXTERN_LANGUAGE).

Exception: The M function for the tool change defined by MD22560
\$MC_TOOL_CHANGE_M_CODE.

10716	M_NO_FCT_CYCLE_NAME	EXP, N12, N07	K1			
-	Subroutine name for M function replacement	STRING	PowerOn			
-						
-	30	...	-	-	7/2	M

Description: The machine data contains the name of the cycle. This cycle is called if the M function has been programmed from MD10715 \$MN_M_NO_FCT_CYCLE.
If the M function is programmed in a motion block, the cycle is executed after the motion.
MD10715 \$MN_M_NO_FCT_CYCLE is active in both Siemens mode G290 and in external language mode G291.
If a T number is programmed in the call block, then the programmed T number can be polled in the cycle under the variable \$P_TOOL.
M and T function replacements must not be programmed simultaneously in one block. This means that not more than one M or T function replacement may be active in any one block.
Neither an M98 nor a modal subprogram call may be programmed in a block with M function replacement.
Moreover, neither subprogram return nor part program end are allowed.
Alarm 14016 is issued if there is a conflict.
Related to:
MD10715 \$MN_M_NO_FCT_CYCLE,
MD10717 \$MN_T_NO_FCT_CYCLE_NAME

10717	T_NO_FCT_CYCLE_NAME	EXP, N12, N07	K1			
-	Name of tool-changing cycle for T function replacement	STRING	PowerOn			
-						
-	-	-	-	-	7/2	M

Description: Cycle name for tool change routine on call-up with a T function.
If a T function is programmed in a part program block, the subprogram defined in T_NO_FCT_CYCLE_NAME is called at the end of the block.
The T number programmed can be polled in the cycle via system variables \$C_T / \$C_T_PROG as a decimal value and via \$C_TS / \$C_TS_PROG as a string (only with tool management). MD10717 \$MN_T_NO_FCT_CYCLE_NAME is active both in Siemens mode G290 and in external language mode G291.
MD10716 \$MN_M_NO_FCT_CYCLE_NAME and MD10717 \$MN_T_NO_FCT_CYCLE_NAME must not be active in one block at the same time, i.e. no more than one M/T function replacement can be active per block. Neither an M98 nor a modal subprogram call can be programmed in a block with a T function replacement. Furthermore, neither subprogram return nor part program end are allowed.
Alarm 14016 is output in the event of a conflict.
Related to:
MD10715 \$MN_M_NO_FCT_CYCLE,
MD10716 \$MN_M_NO_FCT_CYCLE_NAME

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10718	M_NO_FCT_CYCLE_PAR	EXP, N12, N07	K1
-	M function replacement with parameters	DWORD	PowerOn
-			
-	- -1 - - - 7/2 M		

Description: If an M function replacement was configured with MD10715 \$MN_M_NO_FCT_CYCLE[n] / MD10716 \$MN_M_NO_FCT_CYCLE_NAME[n], a parameter transfer via system variable can be specified for one of these M functions using MD10718 \$MN_M_NO_FCT_CYCLE_PAR, in the same way as T function replacement. The parameters stored in the system variables always refer to the part program line where the M function to be replaced was programmed.

The following system variables are available:

\$C_ME : Address extension of the replaced M function
 \$C_T_PROG : TRUE if address T was programmed
 \$C_T : Value of address T (Integer)
 \$C_TE : Address extension of address T
 \$C_TS_PROG : TRUE if address TS was programmed
 \$C_TS : Value of address TS (string, only with tool management)
 \$C_D_PROG : TRUE if address D was programmed
 \$C_D : Value of address D
 \$C_DL_PROG : TRUE if address DL was programmed
 \$C_DL : Value of address DL

10719	T_NO_FCT_CYCLE_MODE	EXP, N12, N07	K1
-	Setting of T function substitution	DWORD	PowerOn
-			
-	- 0 0 7 7/2 M		

Description: This machine data parameterizes the execution of the replacement subprogram for the tool and tool offset selection.

Bit 0 = 0:

D or DL number is transferred to the replacement subprogram (default value)

Bit 0 = 1:

The D or DL number is not transferred to the replacement subprogram if the following conditions are fulfilled: \$MC_TOOL_CHANGE_MODE = 1 Programming D/ DL with T or M function with which the tool change cycle is called, in a part program line.

Bit 1 = 0

Execution of the replacement subprogram at end of block (default value)

Bit 1 = 1

Execution of the replacement subprogram at block start

Bit 2 = 0:

Execution of the replacement subprogram according to the setting of bit 1

Bit 2 = 1:

Execution of the replacement subprogram at block start and at end of block.

10720	OPERATING_MODE_DEFAULT	N01	H2
-	Setting of mode after power ON	BYTE	PowerOn
-			
-	10 7, 7, 7, 7, 7, 7, 7... 0 12 7/2 M		

Description: Default modes of the mode groups after power ON.

If no mode is selected by the PLC, all the channels associated with mode group n are in the mode preset by OPERATING_MODE_DEFAULT[n -1] after power ON:

- 0 = Automatic mode
- 1 = Automatic mode, submode REPOS
- 2 = MDI mode
- 3 = MDI mode, submode REPOS
- 4 = MDI mode, submode Teach In
- 5 = MDI mode, submode Reference point approach
- 6 = JOG mode
- 7 = JOG mode, submode Reference point approach
- 8 = AUTO mode, submode Teach In
- 9 = AUTO mode, submode Teach In, submode Reference point approach
- 10 = AUTO mode, submode Teach In, submode Repos
- 11 = MDI mode, submode Teach In, submode Reference point approach
- 12 = MDI mode, submode Teach In, submode Repos

NOTICE! Depending on the machine data MD10721 \$MN_OPERATING_MODE_EXTENDED, the mode set here might not be adopted after power ON

10721	OPERATING_MODE_EXTENDED	N01	H2			
-	Extended setting of mode after power ON	BYTE	PowerOn			
-						
-	10	0, 0, 0, 0, 0, 0, 0, 0...	0	1	7/2	M

Description: Extended setting of an operating mode of the operating mode groups after power on:
 0 = Selection of the operating mode according to MD10720
 \$MN_OPERATING_MODE_DEFAULT
 1 = Selection of the JOG mode if the PLC signal "Retract data available" (DB21-30 DBX377.5) is set in at least one channel of the operating mode group

10722	AXCHANGE_MASK	EXP, N01	K5			
-	Parameterization for axis replacement behavior	DWORD	PowerOn			
-						
-	-	0	0	0xFFFF	7/2	M

Description: The axis replacement behavior can be changed with this machine data.

Bit0 = 1
 Means that there is an automatic axis replacement via channels even if the axis has been brought into a neutral state by Waitp.

Bit1 = 1
 Means that an AXCTSWE fetches all the axis container axes that can be assigned to the channel by means of implicit GET or GETD, and an axis replacement is not permitted again until after the axis container rotation.

Bit2 = 1
 Means that, in the case of a GET, an intermediate block without preprocessing stop is generated, and whether a reorganization is needed is not checked until main run.

Bit3 = 1 means, that the NC carries out an axis replacement request for the VDI interface only for:

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- an axis exclusively controlled by the PLC (\$MA_BASE_FUNCTION_MASK Bit 4 == 1)

- a permanently assigned PLC axis (\$MA_BASE_FUNCTION_MASK Bit 5 == 1)

For such axes, the VDI interface signal 'Axis replacement possible' is always 1.

For all other axes, the VDI interface signal 'Axis replacement possible' is always 0.

For permanently assigned PLC axes, an axis replacement is possible only from neutral axis to PLC axis

or from PLC axis to neutral axis.

Bit3 = 0 means that an axis replacement can be requested by the PLC for each axis.

For permanently assigned PLC axes, an axis replacement is only possible from neutral axis to PLC axis

or from PLC axis to neutral axis.

10731	JOG_MODE_KEYS_EDGETRIGGRD	EXP, N01	IAF
-	Functioning of the JOG keys	BOOLEAN	PowerOn
-			
-	-	TRUE	-

Description: This data determines whether the signals of the VDI interface, which set the JOG mode (progressive INC10000, ... INC1), work as switches (level triggered) or as push buttons (edge triggered). In the latter case, a setting is made in the NCK to retain the function of the key last pressed.

10735	JOG_MODE_MASK	EXP, N01	K1
-	Settings for JOG mode	DWORD	PowerOn
-			
-	-	0	0

Description: Bit 0:
Enables JOG in automatic.
JOG is enabled in automatic when all channels in the mode group are in the RESET state and no channel of the DRF mode group has been selected. The mode group changes internally to JOG with the +/- key and the handwheel, and the axis moves. After the JOG motion has ended, a change back to AUTO is also made internally.
Bit 1:
Position with AxFrame.
The function 'JOG to position' considers all axial frames and, in the case of an axis configured as geometry axis, the tool length offset.
Bit 2:
Travel in opposite direction.
The functions 'JOG to position' and 'Approach machine fixed point manually' allow travel in opposite direction, i.e. away from the specified position.
Bit 3:
Tool radius offset.
MD21020 \$MC_WORKAREA_WITH_TOOL_RADIUS is active with JOG motions of the geometry axes.
Bit 4:
Alarm suppression operating range limit in the basic coordinate system in JOG.

Alarms that would be output in JOG when an operating range limit is reached in the basic coordinate system, are suppressed.

Bit 5:

Alarm suppression operating range limit in the workpiece coordinate system in JOG.

Alarms that would be output in JOG when an operating range limit is reached in the workpiece coordinate system, are suppressed.

Bit 6, 7:

JOG of circles:

Bit 7 and bit 6 = 0: traversing the 2nd geometry axis of the active plane to PLUS for radius increase, traversing to MINUS for radius decrease independently of inner or outer machining being active.

Bit 7 = 1 and bit 6 = 0: traversing the 2nd geometry axis of the active plane to PLUS always travels in the direction of the limiting circle. This means that the radius is increased on inner machining and decreased on outer machining.

Bit 7 = 1 and bit 6 = 1: traversing the 2nd geometry axis of the active plane to MINUS always travels in the direction of the limiting circle. This means that the radius is increased on inner machining and decreased on outer machining.

Bit 8:

Bit 8 = 0 If there is a JOG retract movement, the retraction axis can only be jogged in the plus direction.

Bit 8 = 1 If there is a JOG retract movement, the retraction axis can only be jogged in the plus and minus direction.

Bits 9-31:

Currently unassigned.

10750	SPRINT_FORMAT_P_CODE	N12	PGA			
-	String coding of the SPRINT format %P	DWORD	PowerOn			
-						
-	-	0	0	2	7/2	M

Description:

Description:

Specification of the character or punched tape code used to code the string which the SPRINT command generates with format control character %P:

0: ASCII

1: ISO (DIN66024)

2. EIA (RS-244)

10751	SPRINT_FORMAT_P_DECIMAL	N12	PGA			
-	Parameterization of the SPRINT format %P	DWORD	PowerOn			
-						
-	-	0	0	1	7/2	M

Description:

Description:

Parameterization of the format description %n.mP of the SPRINT command

Value range:

0: The format specification %n.mP generates a string from a transfer parameter of type REAL or INT consisting of an integer with n + m places. The first n places represent the integer places and the following m places the decimal places of the transfer parameter. Missing decimal places are filled with 0. If there are more than m decimal places, the number is rounded. Missing integer places are filled with spaces.

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1: The format specification %n.mP generates a string from a transfer parameter of type REAL or INT that consists of a decimal number with up to n integer places, the decimal point and m decimal places, which are filled with 0 or rounded as necessary.

10760	G53_TOOLCORR	N12	FBFA
-	Method of operation of G53, G153 and SUPA	DWORD	NEW CONF
-			
-	-	0	0

Description: With this MD you define whether tool length offset and tool radius offset are also to be suppressed with language commands G53, G153 and SUPA
The machine data is bit-coded.
Bit 0 = 0: G53, G153 and SUPA cause block-by-block suppression of work offsets. The active tool length offset and tool radius offset remain active.
Bit 0 = 1: G53, G153 and SUPA cause block-by-block suppression of work offsets, active tool length offset and tool radius offset. The tool length behavior can be modified with bit 1.
Bit 1 is only evaluated, if the value of bit 0 is 1.
Bit1 = 0: with bit 0 set, the tool length is always suppressed with G53, G153 and SUPA.
Bit1 = 1: with bit 0 set the tool length is only suppressed with G53, G153 and SUPA, if a cutting edge is not selected in the same block (this can also be the cutting edge that is already active).

10780	UNLOCK_EDIT_MODESWITCH	EXP, N01	-
-	Cancel start disable when editing a part program	BOOLEAN	PowerOn
-			
-	-	FALSE	-

Description: To avoid inconsistent states, a start disable is forced in Teach In mode when a part program is edited.
This start disable during editing can be canceled together with the operating algorithms of the individual HMIs by an NC reset or a mode group change.
0: Start disable when editing is also canceled with NC Reset
1: Start disable when editing is also canceled on a mode group change.

10800	EXTERN_CHAN_SYNC_M_NO_MIN	EXP, N12	H2
-	1st M function for channel synchronization	DWORD	PowerOn
-			
-	-	-1	-

Description: M number of the first M function which can be used to perform a channel (program) synchronization in ISO2/3 mode.
To avoid conflicts with standard M functions the lowest permissible value is 100. If you enter a value between 0 and 99, alarm 4170 will be issued.

10802	EXTERN_CHAN_SYNC_M_NO_MAX	EXP, N12	H2
-	Last M function for channel synchronization	DWORD	PowerOn
-			
-	-	-1	-

Description: M number of the last M function which can be used to perform a channel (program) synchronization in ISO2/3 mode.

In combination with MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN, the machine data defines an M number range reserved for channel synchronization. This range may be a maximum of 10 times the number of channels as only 10 WAIT marks may be set for each channel.

Alarm 4170 is output if a value is entered between 0 and 99 or less than MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN.

10804	EXTERN_M_NO_SET_INT	EXP, N12	H2,K1
-	M function to activate ASUB	DWORD	PowerOn
-			
-	-	96	-

Description: M function number used to activate an interrupt program (ASUB) in ISO2/3 mode. The interrupt program is always started by the 1st high-speed input of the numerical control.

The M number defined in the machine data replaces M96 in external language mode.

Restrictions: Refer to MD10715 \$MN_M_NO_FCT_CYCLE

Related to:

MD10714 \$MN_M_NO_FCT_EOP,
MD10715 \$MN_M_NO_FCT_CYCLE,
MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,
MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,
MD10804 \$MN_EXTERN_M_NO_SET_INT
MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,
MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,
MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX
MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR

For nibbling:

\$MC_NIBBLE_PUNCH_CODE

10806	EXTERN_M_NO_DISABLE_INT	EXP, N12	H2,K1
-	M function to deactivate ASUB	DWORD	PowerOn
-			
-	-	97	-

Description: M function number used to deactivate an interrupt program (ASUB) in ISO2/3 mode.

The M number defined in the machine data replaces M97 in external language mode.

Restrictions: refer to MD10715 \$MN_M_NO_FCT_CYCLE

MD10714 \$MN_M_NO_FCT_EOP,
MD10715 \$MN_M_NO_FCT_CYCLE,
MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,
MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,
MD10804 \$MN_EXTERN_M_NO_SET_INT
MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,
MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,

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MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX
 MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR
 For nibbling:
 MD26008 \$MC_NIBBLE_PUNCH_CODE

10808	EXTERN_INTERRUPT_BITS_M96	EXP, N12	FBFA
-	Activate interrupt program (ASUB)	DWORD	PowerOn
-			
-	-	0	-

Description: Setting the various bits can influence the processing of the interrupt routine activated by M96 P...

Bit 0 = 0,
 No interrupt program possible, M96/M97 are normal M functions
 Bit 0 = 1,
 Using M96/M97 to activate an interrupt program is allowed
 Bit 1 = 0,
 Continue processing part program at the final position of the next block after the interrupt block
 Bit 1 = 1,
 Continue processing part program from interrupt position
 Bit 2 = 0,
 The interrupt signal immediately interrupts the current block and starts the interrupt routine
 Bit 2 = 1,
 The interrupt routine will not be started until the end of the block
 Bit 3 = 0,
 Interrupt machining cycle at an interrupt signal
 Bit 3 = 1,
 Do not start interrupt program until the end of a machining cycle.

10810	EXTERN_MEAS_G31_P_SIGNAL	EXP, N12	FBFA
-	Config. of measuring inputs for G31 P..	BYTE	PowerOn
-			
-	4	1, 1, 1, 1	0

Description: This machine data defines the assignment of measurement inputs 1 and 2 to the P numbers programmed with G31 P1 (- P4). The machine data is bit-coded. Only bits 0 and 1 are evaluated. For example, if bit 0 = 1 in MD10810 \$MN_EXTERN_MEAS_G31_P_SIGNAL[1], the 1st measurement input is activated with G31 P2. If MD10810 \$MN_EXTERN_MEAS_G31_P_SIGNAL[3]=2, the 2nd measurement input is activated with G31 P4.

Bit 0: = 0, Do not evaluate measurement input 1 with G31 P1 (- P4)
 Bit 0: = 1, Activate measurement input 1 with G31 P1 (- P4)
 Bit 1: = 0, Do not evaluate measurement input 2 with G31 P1 (- P4)
 Bit 1: = 1, Activate measurement input 2 with G31 P1 (- P4)

10812	EXTERN_DOUBLE_TURRET_ON	EXP, N12	FBFA			
-	Double turret with G68	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: This machine data is used to determine whether double-slide machining (channel synchronization for 1st and 2nd channel) is to be started using G68 or whether the second tool of a double turret (= two closely-linked tools at a distance defined in the MD42162 SC_EXTERN_DOUBLE_TURRET_DIST) is to be activated.

FALSE:

Channel synchronization for double-slide machining

TRUE:

Load 2nd tool of a double turret (that is, activate \$SC_EXTERN_DOUBLE_TURRET_DISTANCE as additive work offset and mirroring around Z axis)

10814	EXTERN_M_NO_MAC_CYCLE	EXP, N12	H2,K1			
-	Macro call via M function	DWORD	PowerOn			
-						
-	30	-1, -1, -1, -1, -1, -1, -1...	-	-	7/2	M

Description: A macro is called with this M number.

The name of the subprogram is stated in MD10815
\$MN_EXTERN_M_NO_MAC_CYCLE_NAME[n].

If the M function specified with MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE[n] is programmed in a part program block, the subprogram defined in MD10815 \$MN_EXTERN_M_NO_MAC_CYCLE_NAME[n] is started. All addresses programmed in the block are written into the corresponding variables.

If the M function is programmed again in the subprogram, there is no longer a replacement by a subprogram call.

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE[n] is only active in the external language mode G291.

The subprograms configured with MD10815 \$MN_EXTERN_M_NO_MAC_CYCLE_NAME[n] must not be active simultaneously in a block (part program line), i.e. only one M function replacement can become active in any one block. Neither an M98 nor a modal subprogram call may be programmed in the block with the M function replacement.

Subprogram return and the part program end are also not permitted. Alarm 14016 is issued in case of a conflict. Restrictions: see MD10715

\$MN_M_NO_FCT_CYCLE

Related to:

MD10714 \$MN_M_NO_FCT_EOP,

MD10715 \$MN_M_NO_FCT_CYCLE,

MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,

MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,

MD10804 \$MN_EXTERN_M_NO_SET_INT

MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,

MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,

MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX

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MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR
 For nibbling: MD26008 \$MC_NIBBLE_PUNCH_CODE

10815	EXTERN_M_NO_MAC_CYCLE_NAME		EXP, N12	H2		
-	Name of subroutine for M function macro call		STRING	PowerOn		
-						
-	30	...	-	-	7/2	M

Description: Name of the subprogram started by a call via the M function defined by MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE[n].

10816	EXTERN_G_NO_MAC_CYCLE		EXP, N12	FBFA		
-	Macro call via G function		DOUBLE	PowerOn		
-						
-	50	-1., -1., -1., -1., -1., -1., -1., -1....	-	-	7/2	M

Description: G number for calling a macro.

The name of the subprogram is stated in MD10817
 \$MN_EXTERN_G_NO_MAC_CYCLE_NAME[n].

If the G function specified with MD10816 \$MN_EXTERN_G_NO_MAC_CYCLE[n] is programmed in a part program block, the subprogram defined in MD10817
 \$MN_EXTERN_G_NO_MAC_CYCLE_NAME[n] is started. All addresses programmed in the block are written in the corresponding \$C_xx variables.

No subprogram call is executed if a subprogram call is already active via an M/G macro or an M replacement. If a standard G function is programmed in this case, this code is executed. Otherwise, alarm 12470 is issued.

MD10816 \$MN_EXTERN_G_NO_MAC_CYCLE[n] is only active in the external language mode G291.

Only a single subprogram call may be included in any one block. This means that only a single M/G function replacement may be programmed in a block, and no additional subprogram (M98) or cycle call may be included in the block. Furthermore, a subprogram return and a part program end are not permitted in the same block.

Alarm 14016 is issued in case of a conflict.

10817	EXTERN_G_NO_MAC_CYCLE_NAME		EXP, N12	FBFA		
-	Name of subroutine for G function macro call		STRING	PowerOn		
-						
-	50	...	-	-	7/2	M

Description: Name of the subprogram started by call via the G function defined by MD10816
 \$MN_EXTERN_G_NO_MAC_CYCLE[n].

10818	EXTERN_INTERRUPT_NUM_ASUP		EXP, N12	FBFA		
-	Interrupt number for ASUB start (M96)		BYTE	PowerOn		
-						
-	-	1	1	8	7/2	M

Description: Number of the interrupt input starting an asynchronous subprogram activated in ISO mode. (M96 <program number>)

10820	EXTERN_INTERRUPT_NUM_RETRAC	EXP, N12	FBFA			
-	Interrupt number for rapid retraction (G10.6)	BYTE	PowerOn			
-						
-	-	2	1	8	7/2	M

Description:

Number of the interrupt input triggering rapid retraction to the position programmed with G10.6 in ISO mode.

10830	EXTERN_PRINT_DEVICE	EXP, N12	FBFA		
-	Output device for ISOPRINT	STRING	PowerOn		
-					
-	-	-	-	7/2	M

Description: Path of output device for ISOPRINT

10831	EXTERN_PRINT_MODE	EXP, N12	FBFA			
-	Parameterize output device for ISOPRINT	DWORD	PowerOn			
-						
-	-	0	0	63	7/2	M

Description: Parameterize output device for ISOPRINT

Bit 0: 0= Synchronous output
 1= Asynchronous output
 Bit 1: 0= Exclusive assignment
 1= Shared assignment
 Bit 2: Output of DC2 (H12) on opening
 Bit 3: Output of DC4 (H14) on closing
 Bit 4: Output string concluded with LF
 Bit 5: Output string concluded with CR + LF

10850	MM_EXTERN_MAXNUM_OEM_GCODES	EXP, N01, N12	-			
-	Maximum number of OEM G codes	DWORD	PowerOn			
-						
-	-	0	0	1000	1/1	M

Description: This machine data is used to define the number of G codes implemented for an external language via an OEM application.

10880	MM_EXTERN_CNC_SYSTEM	N01, N12	FBFA			
-	Definition of the control system to be adapted	DWORD	PowerOn			
-						
-	-	1	1	3	7/2	M

Description: Definition of the external CNC system whose part programs are to be executed on the SINUMERIK control in addition to SINUMERIK code (ISO_1):

- 1: ISO_21: System Fanuc0 milling (5.1 and higher)
- 2: ISO_31: System Fanuc0 turning (P5.2 and higher)
- 3: External language via OEM application (P6.2 and higher)
- 4: ISO_22: System Fanuc0 Milling (P7 and higher)
- 5: ISO_32: System Fanuc0 Turning (P7 and higher)

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10881	MM_EXTERN_GCODE_SYSTEM	N01, N12	FBFA
-	ISO_3 Mode: GCodeSystem	DWORD	PowerOn
-			
-	- 0 0 2 7/2 M		

Description: Definition of the GCodeSystem to be actively executed in ISO_3 Mod (turning):
Value = 0 : ISO_3: Code system B
Value = 1 : ISO_3: Code system A
Value = 2 : ISO_3: Code system C

10882	NC_USER_EXTERN_GCODES_TAB	N12	FBFA
-	List of user-specific G commands of an external NC language	STRING	PowerOn
-			
-	60 ... - - 2/2 M		

Description: List of G commands of external NC languages which have been reconfigured by the user.
The implemented G commands are to be taken from the current Siemens documentation for this programming language.
The list is structured as follows:
Even address: G command to be changed
Subsequent odd address: New G command
Only G codes can be reconfigured, e.g.: G20, G71.

10884	EXTERN_FLOATINGPOINT_PROG	N12	FBFA
-	Evaluation of programmed values without decimal point	BOOLEAN	PowerOn
-			
-	- TRUE - - 7/2 M		

Description: This MD defines how programmed values without a decimal point are evaluated:
0: Values without a decimal point are interpreted in internal units. For example, X1000 = 1 mm (for 0.001 mm input resolution) X1000.0 = 1000 mm
1: Values without decimal point are interpreted as mm, inch or degrees. For example, X1000 = 1000 mm X1000.0 = 1000 mm
Related to:
MD10886 \$MN_EXTERN_INCREMENT_SYSTEM

10886	EXTERN_INCREMENT_SYSTEM	N12	FBFA
-	Incremental system in external language mode	BOOLEAN	PowerOn
-			
-	- FALSE - - 7/2 M		

Description: This machine data is active for external programming languages, that is if MD18800 \$MN_MM_EXTERN_LANGUAGE = 1.
This machine data specifies which incremental system is active:
0: Incremental system IS-B = 0.001 mm/degree
= 0.0001 inch
1: Incremental system IS-C = 0.0001 mm/degree
= 0.00001 inch
Related to:
MD10884 \$MN_EXTERN_FLOATINGPOINT_PROG

10888	EXTERN_DIGITS_TOOL_NO	N12	FBFA			
-	Digits for T number in ISO mode	BYTE	PowerOn			
-						
-	-	2	0	8	7/2	M

Description: This machine data is only active when MD10880 \$MN_MM_EXTERN_CNC_SYSTEM == 2.
 Number of digits of the tool number in the programmed T word.
 From the programmed T word, the number of leading digits specified in MD10888
 \$MN_EXTERN_DIGITS_TOOL_NO are interpreted as the tool number.
 The following digits address the offset memory.
 Entering a value > 0 in MD \$MN_EXTERN_DIGITS_OFFSET_NO renders MD
 \$MN_EXTERN_DIGITS_TOOL_NO ineffective.
 \$MN_EXTERN_DIGITS_OFFSET_NO has priority over \$MN_EXTERN_DIGITS_TOOL_NO.

10889	EXTERN_DIGITS_OFFSET_NO	N12	FBFA			
-	Digits for offset number in ISO mode	BYTE	PowerOn			
-						
-	-	0	0	8	7/2	M

Description: This machine data is only active when \$MN_MM_EXTERN_CNC_SYSTEM == 2.
 Number of digits of the offset number in the programmed T word.
 From the programmed T word, the number of leading digits specified in
 \$MN_EXTERN_DIGITS_OFFSET_NO are interpreted as the offset number.
 The following digits address the tool number.

10890	EXTERN_TOOLPROG_MODE	N12	FBFA			
-	Tool change programming for external language	DWORD	PowerOn			
-						
-	-	0x0	-	-	7/2	M

Description: Configuration for programming the tool change in an external programming language:
 Bit0=0:
 Only active if MD10880 \$MN_MM_EXTERN_CNC_SYSTEM =2: The tool number and offset number are programmed in the T word. \$MN_DIGITS_TOOLNO defines the number of leading digits that form the tool number.
 Example:
 \$MN_DIGITS_TOOLNO = 2
 T=1234 ; Tool number 12,
 ; Offset number 34
 Bit0=1:
 Only active if MD10880 \$MN_MM_EXTERN_CNC_SYSTEM =2: Only the tool number is programmed in the T word. Offset number = Tool number. \$MN_DIGITS_TOOLNO is irrelevant.
 Example:
 T=12 ; Tool number 12
 ; Offset number 12
 Bit1=0:
 Only active if MD10880 \$MN_MM_EXTERN_CNC_SYSTEM =2: A leading 0 is added if the number of digits programmed in the T word is the same as that in MD10888
 \$MN_EXTERN_DIGITS_TOOL_NO.

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Bit1=1:

Only active if MD10880 \$MN_MM_EXTERN_CNC_SYSTEM =2: If the number of digits programmed in the T word is equal to the number of digits defined in MD10888 \$MN_EXTERN_DIGITS_TOOL_NO, the programmed number is both the offset number and the tool number

Bit2=0:

Only active if MD10880 \$MN_MM_EXTERN_CNC_SYSTEM =2: ISO T offset selection only with D (Siemens cutting edge number)

Bit2=1:

Only active if MD10880 \$MN_MM_EXTERN_CNC_SYSTEM =2: ISO T offset selection only with H (\$TC_DPH[t,d])

Bit6=0:

The offset memories for the tool length and tool radius are linked so that tool length and tool radius are always selected when either H or D is programmed.

Bit6=1:

The offset memories for the tool length and tool radius are not linked, so that the number of the tool length value is selected when H is programmed, and the number of the tool radius value is selected when D is programmed.

Bit7=0:

Only active if \$MN_MM_EXTERN_CNC_SYSTEM =2. If T substitution (\$MN_T_NO_FCT_CYCLE_NAME) is active, the H number programmed in the T word is transferred to the cycle in the variable \$C_D.

Bit7=1:

Only active if \$MN_MM_EXTERN_CNC_SYSTEM =2. If T substitution (\$MN_T_NO_FCT_CYCLE_NAME) is active, the Siemens cutting edge number D corresponding to the H number programmed in the T word is transferred to the cycle in the variable \$C_D.

10900	INDEX_AX_LENGTH_POS_TAB_1	N09	T1			
-	Number of positions for indexing axis table 1	DWORD	Reset			
-						
-	-	0	0	60	7/2	M

Description: The indexing position table is used to assign the axis positions in the valid unit of measurement (mm, inches or degrees) to the indexing positions [n] on the indexing axis. The number of indexing positions used in table 1 is defined by MD10900 \$MN_INDEX_AX_LENGTH_POS_TAB_1.

These indexing positions must be assigned valid values in table 1. Any indexing positions in the table above the number specified in the machine data are ignored. Up to 60 indexing positions (0 to 59) can be entered in the table. Table length = 0 means that the table is not evaluated. If the length is not equal to 0, then the table must be assigned to an axis with MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB.

If the indexing axis is defined as a rotary axis (MD30300 \$MA_IS_ROT_AX = "1") with modulo 360° (MD30310 \$MA_ROT_IS_MODULO = "1"), the machine data defines the last indexing position after which, with a further traversing movement in the positive direction, the indexing positions begin again at 1. Special cases:

Alarm 17090 "Value violates upper limit" if values over 60 are entered in MD10900 \$MN_INDEX_AX_LENGTH_POS_TAB_1.

Related to:

MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB (axis is an indexing axis)
 MD10910 \$MN_INDEX_AX_POS_TAB_1 (indexing position table 1)
 MD30300 \$MA_IS_ROT_AX (rotary axis)
 MD30310 \$MA_ROT_IS_MODULO (modulo conversion for rotary axis)

10910	INDEX_AX_POS_TAB_1	N09	T1
mm/inch, degrees	Indexing position table 1	DOUBLE	Reset
-			
-	60	0., 0., 0., 0., 0., 0., 0., 0....	-

Description: The indexing position table is used to assign the axis positions in the valid unit of measurement (mm, inches or degrees) to the indexing positions [n] on the indexing axis.

[n] = indexing for the entry of the indexing positions in the indexing position table.

Range: 0 y n x 59, where 0 corresponds to the 1st indexing position and 59 to the 60th indexing position.

Note.

Programming with the absolute indexing position (e.g. CAC) starts with indexing position 1. This corresponds to the indexing position with indexing n = 0 in the indexing position table.

The following should be noted when entering the indexing positions:

- Up to 60 different indexing positions can be stored in the table.
- The 1st entry in the table corresponds to indexing position 1; the nth entry corresponds to indexing position n.
- The indexing positions must be entered in the table in ascending order (starting with the negative and going to the positive traversing range) with no gaps between the entries. Consecutive position values must not be identical.
- If the indexing axis is defined as a rotary axis (MD30300 \$MA_IS_ROT_AX = "1") with modulo 360° (MD30310 \$MA_ROT_IS_MODULO = "1"), then the position values are limited to a range of 0° x pos. < 360°.

The number of indexing positions used in the table is defined by MD10900 \$MN_INDEX_AX_LENGTH_POS_TAB_1.

Entering the value 1 in axial MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB assigns indexing position table 1 to the current axis.

Special cases:

Alarm 17020 "Illegal array index" if over 60 positions are entered in the table.

Related to:

MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB (axis is an indexing axis)
 MD10900 \$MN_INDEX_AX_LENGTH_POS_TAB_1 (number of indexing positions used in table 1)
 MD30300 \$MA_IS_ROT_AX (rotary axis)
 MD30310 \$MA_ROT_IS_MODULO (modulo conversion for rotary axis)

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10920	INDEX_AX_LENGTH_POS_TAB_2	N09	T1			
-	Number of positions for indexing axis table 2	DWORD	Reset			
-						
-	-	0	0	60	7/2	M

Description:

The indexing position table is used to assign the axis positions in the valid unit of measurement (mm, inches or degrees) to the indexing positions [n] on the indexing axis. The number of indexing positions used in table 2 is defined by MD10920 \$MN_INDEX_AX_LENGTH_POS_TAB_2.

These indexing positions in table 2 must be assigned valid values. Any indexing positions in the table above the number specified in the machine data are ignored.

Up to 60 indexing positions (0 to 59) can be entered in the table.

Table length = 0 means that the table is not evaluated. If the length is not equal to 0, the table must be assigned to an axis with MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB.

If the indexing axis is defined as a rotary axis (MD30300 \$MA_IS_ROT_AX = "1") with modulo 360° (MD30310 \$MA_ROT_IS_MODULO = "1"), the machine data defines the last indexing position after which, with a further traversing movement in the positive direction, the indexing positions begin again at 1.

Not relevant for tool magazines (revolvers, chain magazines)

Special cases:

Alarm 17090 "Value violates upper limit" if a value over 60 is entered in MD10920 \$MN_INDEX_AX_LENGTH_POS_TAB_2.

Related to:

MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB (axis is an indexing axis)

MD10930 \$MN_INDEX_AX_POS_TAB_2 (indexing position table 2)

MD30300 \$MA_IS_ROT_AX (rotary axis)

MD30310 \$MA_ROT_IS_MODULO (modulo conversion for rotary axis)

10930	INDEX_AX_POS_TAB_2	N09	T1			
mm/inch, degrees	Indexing position table 2	DOUBLE	Reset			
-						
-	60	0., 0., 0., 0., 0., 0., 0....	-	-	7/2	M

Description:

The indexing position table is used to assign the axis positions in the valid unit of measurement (mm, inches or degrees) to the indexing positions [n] on the indexing axis.

[n] = indexing for the entry of the indexing positions in the indexing position table.

Range: 0 y n x 59, where 0 corresponds to the 1st indexing position and 59 to the 60th indexing position.

Note:

Programming with the absolute indexing position (e.g. CAC) starts with indexing position 1. This corresponds to the indexing position with indexing n = 0 in the table.

The following should be noted when entering the indexing positions:

- Up to 60 different indexing positions can be stored in the table.
- The 1st entry in the table corresponds to indexing position 1; the nth entry corresponds to indexing position n.

- The indexing positions should be entered in the table in ascending order (starting with the negative and going to the positive traversing range) with no gaps between the entries. Consecutive position values must not be identical.
- If the indexing axis is defined as a rotary axis (MD30300 \$MA_IS_ROT_AX = "1") with modulo 360° (MD30310 \$MA_ROT_IS_MODULO = "1"), then the position values are limited to a range of 0° x pos. < 360°.

The number of indexing positions used in the table is defined by MD10920 \$MN_INDEX_AX_LENGTH_POS_TAB_2.

Entering the value 1 in axial MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB assigns indexing position table 1 to the current axis.

Special cases:

Alarm 17020 "Illegal array index" if over 60 positions are entered in the table.

Related to:

MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB (axis is an indexing axis)

MD10920 \$MN_INDEX_AX_LENGTH_POS_TAB_2 (number of indexing positions used in table 2)

MD30300 \$MA_IS_ROT_AX (rotary axis)

MD30310 \$MA_ROT_IS_MODULO (modulo conversion for rotary axis)

10940	INDEX_AX_MODE	EXP	T1			
-	Settings for indexing position	DWORD	PowerOn			
-						
-	-	0	0	1	7/2	M

Description: Affects the display of indexing positions (AA_ACT_INDEX_AX_POS_NO and aaActIndexAxPosNo).

Bit 0 = 0:

Indexing position display changes on reaching/passing the indexing position (indexing range lies between the indexing positions, compatible behavior).

Bit 0 = 1:

Indexing position display changes on passing the half indexing axis position (indexing range lies quasi symmetrically round the indexing position)

11100	AUXFU_MAXNUM_GROUP_ASSIGN	N01, N07, N02	H2			
-	Number of auxiliary functions distr. amongst aux. fct. groups	DWORD	PowerOn			
-						
-	-	1	1	255	7/2	M

Description: The maximum number of auxiliary functions that can be assigned to a group by AUXFU_ASSIGN_TYPE,
AUXFU_ASSIGN_EXTENTION,
AUXFU_ASSIGN_VALUE and
AUXFU_ASSIGN_GROUP.

This number includes only the user-defined auxiliary functions, not the pre-defined auxiliary functions.

Related to:

MD22010 \$MC_AUXFU_ASSIGN_TYPE [n].

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11110	AUXFU_GROUP_SPEC	N07	H2
-	Auxiliary function group specification	DWORD	PowerOn
-			
-	168 0x81, 0x21, 0x41, 0x41, 0x41, 0x41, 0x41...	-	- 7/2 M

Description: Defines the output options for the auxiliary functions belonging to a group. However, the output option of an auxiliary function configured by MD22080 \$MC_AUXFU_PREDEF_SPEC[preIndex] or MD22035 \$MC_AUXFU_ASSIGN_SPEC[auxIndex] has a higher priority.

Bit 0=1"Normal" acknowledgement after an OB1 cycle
 Bit 1=1"Quick" acknowledgement with OB40
 Bit 2=1No predefined auxiliary function
 Bit 3=1No output to PLC
 Bit 4=1Spindle response after acknowledgement by the PLC
 Bit 5=1Output prior to motion
 Bit 6=1Output during motion
 Bit 7=1Output at end of block
 Bit 8=1No output after block search types 1, 2, 4
 Bit 9=1Collection during block search type 5 (SERUPRO)
 Bit 10 = 1 No output during block search type 5 (SERUPRO)
 Bit 11 = 1Cross-channel auxiliary function (SERUPRO)
 Bit 12 = 1Output via synchronized action
 Bit 13 = 1 Implicit auxiliary function
 Bit 14 = 1 Active M01
 Bit 15 = 1 No output during running-in test
 Bit 16 = 1 Nibbling off
 Bit 17 = 1 Nibbling on
 Bit 18 = 1 Nibbling

The MD must be defined for each existing auxiliary function group.
 The index [n] corresponds to the auxiliary function group: 0...63
 The assignment of individual auxiliary functions to specific groups is defined in channel-specific machine data (AUXFU_PREDEF_TYPE, AUXFU_PREDEF_EXTENTION, AUXFU_PREDEF_VALUE, AUXFU_PREDEF_GROUP, AUXFU_ASSIGN_TYPE, AUXFU_ASSIGN_EXTENTION, AUXFU_ASSIGN_VALUE, AUXFU_ASSIGN_GROUP).

M0, M1, M2, M17 and M30 are assigned to group 1 by default.
 The specification of this group (0x81: output duration 1 OB1 pass, output at end of block) must not be changed.
 All spindle-specific auxiliary functions (M3, M4, M5, M19, M70) are assigned to group 2 by default.
 If several auxiliary functions with different output types (before / during / at end of motion) are programmed in one motion block, then the output of the individual auxiliary functions occurs in accordance with their output types.
 All auxiliary functions are output simultaneously in a block without motion.
 Default setting:
 AUXFU_GROUP_SPEC[0]=81H
 AUXFU_GROUP_SPEC[1]=21H
 AUXFU_GROUP_SPEC[2]=41H

...

AUXFU_GROUP_SPEC [n] = 41H

11120	LUD_EXTENDED_SCOPE	N01	PG			
-	Function "program global user data (PUD)" is active	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: Activate function "Program-global user data (PUD)":
MD = 0: User data of the main program level are only active on this level.
MD = 1: User data of the main program level are also visible in the subprogram levels.

11140	GUD_AREA_SAVE_TAB	N01	-			
-	Additional saving for GUD modules	DWORD	Immediately			
-						
-	9	0,0,0,0,0,0,0,0...	-	-	7/2	M

Description: This data indicates in which area the contents of the GUD module are also saved.

MD11140 \$MN_GUD_AREA_SAVE_TAB[0] : SGUD_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[1] : MGUD_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[2] : UGUD_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[3] : GUD4_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[4] : GUD5_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[5] : GUD6_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[6] : GUD7_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[7] : GUD8_DEF
MD11140 \$MN_GUD_AREA_SAVE_TAB[8] : GUD9_DEF
BitNo. Hexadec. Meaning when bit is set

Value

0 (LSB) 0x00000001 TOA area

11160	ACCESS_EXEC_CST	N01	-			
-	Execution right for /_N_CST_DIR	BYTE	PowerOn			
-						
-	-	7	-	-	7/2	M

Description: Execution right assigned to the program stored in directory /_N_CST_DIR :

Value 0: Siemens password
Value 1: Machine OEM password
Value 2: Password of setup engineer, service
Value 3: End user password
Value 4: Keypad position 3
Value 5: Keypad position 2
Value 6: Keypad position 1
Value 7: Keypad position 0

Machine data can only be written with values 0 and 1, and with the corresponding password also active.

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11161	ACCESS_EXEC_CMA	N01	-
-	Execution right for /_N_CMA_DIR	BYTE	PowerOn
-			
-	-	7	-

Description: Execution right assigned to the programs stored in directory /_N_CMA_DIR :
 Value 0: Siemens password
 Value 1: Machine OEM password
 Value 2: Password of setup engineer, service
 Value 3: End user password
 Value 4: Keypad position 3
 Value 5: Keypad position 2
 Value 6: Keypad position 1
 Value 7: Keypad position 0
 Machine data can only be written with values 0 and 1, and with the corresponding password also active.

11162	ACCESS_EXEC_CUS	N01	-
-	Execution right for /_N_CUS_DIR	BYTE	PowerOn
-			
-	-	7	-

Description: Execution right assigned to the programs stored in directory /_N_CUS_DIR :
 Value 0: Siemens password
 Value 1: Machine OEM password
 Value 2: Password of setup engineer, service
 Value 3: End user password
 Value 4: Keypad position 3
 Value 5: Keypad position 2
 Value 6: Keypad position 1
 Value 7: Keypad position 0
 Machine data can only be written with values 0, 1 and 2, and with the corresponding password also active.

11165	ACCESS_WRITE_CST	N01	-
-	Write protection for directory /_N_CST_DIR	DWORD	PowerOn
-			
-	-	-1	-

Description: Set write protection for cycle directory /_N_CST_DIR:
 Assigned to the programs:
 Value -1: Keep the value currently set
 Value 0: Siemens password
 Value 1: Machine OEM password
 Value 2: Password of setup engineer, service
 Value 3: End user password
 Value 4: Keypad position 3
 Value 5: Keypad position 2
 Value 6: Keypad position 1
 Value 7: Keypad position 0

The machine data can only be written with values 0 and 1, and with the corresponding password also active.

11166	ACCESS_WRITE_CMA	N01	-
-	Write protection for directory /_N_CMA_DIR	DWORD	PowerOn
-			
-	-	-1	-

Description: Set write protection for cycle directory /_N_CMA_DIR:

Assigned to the programs:

Value -1: Keep the value currently set

Value 0: Siemens password

Value 1: Machine OEM password

Value 2: Password of setup engineer, service

Value 3: End user password

Value 4: Keypad position 3

Value 5: Keypad position 2

Value 6: Keypad position 1

Value 7: Keypad position 0

The machine data can only be written with values 0 and 1, and with the corresponding password also active.

11167	ACCESS_WRITE_CUS	N01	-
-	Write protection for directory /_N_CUS_DIR	DWORD	PowerOn
-			
-	-	-1	-

Description: Set write protection for cycle directory /_N_CUS_DIR:

Assigned to the programs:

Value -1: Keep the value currently set

Value 0: Siemens password

Value 1: Machine OEM password

Value 2: Password of setup engineer, service

Value 3: End user password

Value 4: Keypad position 3

Value 5: Keypad position 2

Value 6: Keypad position 1

Value 7: Keypad position 0

The machine data can only be written with values 0, 1 and 2, and with the corresponding password also active.

11170	ACCESS_WRITE_SACCESS	N01	-
-	Write protection for _N_SACCESS_DEF	BYTE	PowerOn
-			
-	-	7	-

Description: Set write protection for definition file /_N_DEF_DIR/_N_SACCESS_DEF:

Value 0: Siemens password

Value 1: Machine OEM password

Value 2: Password of setup engineer, service

Value 3: End user password

Value 4: Keypad position 3

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Value 5: Keypad position 2

Value 6: Keypad position 1

Value 7: Keypad position 0

The machine data can only be written with values 0 and 1, and with the corresponding password also active.

11171	ACCESS_WRITE_MACCESS	N01	-			
-	Write protection for _N_MACCESS_DEF	BYTE	PowerOn			
-						
-	-	7	-	-	7/2	M

Description: Set write protection for definition file /_N_DEF_DIR/_N_MACCESS_DEF:

Value 0: Siemens password

Value 1: Machine OEM password

Value 2: Password of setup engineer, service

Value 3: End user password

Value 4: Keypad position 3

Value 5: Keypad position 2

Value 6: Keypad position 1

Value 7: Keypad position 0

The machine data can only be written with values 0 and 1, and with the corresponding password also active.

11172	ACCESS_WRITE_UACCESS	N01	-			
-	Write protection for _N_UACCESS_DEF	BYTE	PowerOn			
-						
-	-	7	-	-	7/3	M

Description: Set write protection for definition file /_N_DEF_DIR/_N_UACCESS_DEF:

Value 0: Siemens password

Value 1: Machine OEM password

Value 2: Password of setup engineer, service

Value 3: End user password

Value 4: Keypad position 3

Value 5: Keypad position 2

Value 6: Keypad position 1

Value 7: Keypad position 0

The machine data can only be written with values 0, 1 and 2, and with the corresponding password also active.

11200	INIT_MD	EXP, N01	IAF,IAD,IA			
-	Standard machine data loaded at next Power On	BYTE	PowerOn			
-						
-	-	0	-	-	7/2	M

Description: A power on must be triggered after setting MD11200 \$MN_INIT_MD. The function is executed and the MD reset to "0" at power on.

Meaning of the input:

Bit 0 set:

All machine data (with the exception of the memory-configuring data) will be overwritten with the compiled values at the next NCK power on.

Bit 1 set:

All memory-configuring machine data will be overwritten with the compiled values at the next NCK power on.

Bit 2 set:

The OEM machine data and the SIEMENS cycle machine data brought in by compile cycles will be deleted from the buffered memory at the next power on.

Bit 3 set:

All setting data will be overwritten with the compiled values at the next power on.

Bit 4 set:

All option data will be overwritten with the compiled values at the next power on.

INIT_MD is automatically set to 0 at power on.

Memory configuring MDs are described in:

References: /IAD/, Installation and Setup Guide, Memory Configuration

- MD10010 \$MN_ASSIGN_CHAN_TO_MODE_GROUP
- All machine data starting with "MM_"

MD 18000 - 18999 (general MD)

MD 28000 - 28999 (channel-specific MD)

MD 38000 - 38999 (axis-specific MD)

11202	MD_MODE_MASK	EXP, N01	IA			
-	Behavior of machine data changes	BYTE	PowerOn			
-						
-	-	0	-	-	7/2	M

Description: Behavior of machine data changes

Bit 0 (LSB): When configuring linear/rotary axes, do not load initial values for axis type-dependent MDs

Due to the existence of one plausible default value each for a linear axis or rotary axis, axial machine data can facilitate commissioning for the user.

With the switchover process (Lin -> Rot, or Rot -> Lin), the respectively configured default values become active as actual values at the next warm restart of the controller.

11210	UPLOAD_MD_CHANGES_ONLY	N01, N05	IAD			
-	Machine data backup of changed machine data only	BYTE	Immediately			
-						
-	-	0xFF	-	-	7/3	M

Description: Either all data or only those data which differ from the default setting can be set to be output when creating standard archives (ARC) and copying 'NC active data'.

Bit0(LSB) Effectiveness of the differential upload with INI/TEA files

0: All data are output

1: Only those MDs which have changed in comparison to the compiled values are output

Bit1 is reserved and acts like bit 0

Bit2 Change to an array element

0: Complete array is output

1: Only those elements of an array which have changed are output

Bit3 R variables (only for INI files)

0: All R variables are output

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1: Only those R variables not equal to '0' are output
 Bit4 Frames (only for INI files)
 0: All frames are output
 1: Only those frames which are not zero frames are output.
 Bit5 Tool data (cutting edge parameters) (only for INI files)
 0: All tool data are output
 1: Only those tool data not equal to '0' are output.
 Bit6 Buffered system variables (\$AC_MARKER[], \$AC_PARAM[] only for INI files)
 0: All system variables are output
 1: Only those system variables not equal to '0' are output
 Bit7 Synchronized actions GUD (for INI files only)
 0: All Syna GUD are output
 1: Only those Syna GUD not equal to '0' are output
 Active: The change in the data becomes active on the start of the upload for the next range.
 The settings are only effective if the following applies
`$MN_UPLOAD_CHANGES_ONLY=FALSE`

11212	UPLOAD_CHANGES_ONLY	N01, N05	IAD
-	Data backup type for an active file system.	BOOLEAN	Immediately
-			
-	-	TRUE	-

Description: Only those values of the selected file of the active file system that deviate from the default settings are backed up.
 TRUE = Only the values of the selected file of the active file system that deviate from the standard setting are backed up. (differential data backup)
 The value of `$MN_UPLOAD_MD_CHANGES_ONLY` then has no effect.
 FALSE = All values of the selected file of the active file system are backed up.
 Same meaning as `$MN_UPLOAD_MD_CHANGES_ONLY=0`.
 However, if `$MN_UPLOAD_MD_CHANGES_ONLY` is not equal to 0, this setting is effective.

11220	INI_FILE_MODE	N01, N05	G2
-	Error response to INI file errors	BYTE	Reset
-			
-	-	1	0

Description: If, while reading machine data files (INI files) into controls, data are read in

- that are faulty or
- do not agree with the check sum

then alarms are generated and the reading in may be canceled. The following control behaviors can be selected via machine data settings:
 0: Output of an alarm, cancelation on detection of 1st error. (As SW versions 1 and 2).
 1: Output of an alarm, continuation of execution. An alarm with the number of errors is output at the end of execution.

2: Execution continues despite possible errors. An alarm with the number of errors is output at the end of execution.

11230	MD_FILE_STYLE	N01, N05	IAD
-	Structure of machine data backup files	BYTE	Immediately
LINK			
-	-	0x3	-

Description: Appearance of a machine data file at 'upload'
 Bit 0 (LSB): Line check sum is generated
 Bit 1:
 MD numbers are generated
 Bit 2:
 Channel axis name as field index with axis-MD in the TEA file
 Bit 3:
 With an NCU-link, the MDs of the LINK axes are also output.
 Bit 4:
 All local axes are output (even when they are not activated by MD20070 \$MC_AXCONF_MACHAX_USED)
 Active:
 The change in the data becomes active on the start of the upload for the next area.
 Default setting:
 The line check sums and MD numbers are generated, but not channel names as field index with axis-MD.

11250	PROFIBUS_SHUTDOWN_TYPE	EXP, N01	G3,FBU
-	PROFIBUS/PROFINET shutdown handling	BYTE	PowerOn
-	-	0	0
-	-	2	7/2

Description: For PROFIBUS/PROFINET only:
 Handling of PROFIBUS/PROFINET when shutting down NCK (NCK reset)
 Value 0:
 The bus is shut down directly from cyclic operation, without 'prewarning'
 Value 1:
 When shutting down NCK, the bus is changed to the CLEAR state for at least 20 cycles. Then, it is shut down. If this is not possible on the hardware side, the procedure described for value 2 is used instead.
 Value 2:
 When shutting down NCK, the bus is changed to a state where all drives are sent a zero word as control word1 and control word2 (pseudoclear) for at least 20 cycles. The bus itself remains in the Operate status.

11280	WPD_INI_MODE	N01	IAD
-	Handling ofINI files in workpiece directory	BYTE	PowerOn
-	-	0	0
-	-	1	7/2

Description: Processing mode ofINI files in the workpiece directory:
 Value = 0:
 AnINI file, _N_werkstück_INI, stored in the workpiece directory is executed on the first NC start after workpiece selection.

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Value = 1:
INI files with the names of the selected part program and extensions are executed on the first NC start after workpiece selection
SEA,
GUD,
RPA,
UFR,
PRO,
TOA,
TMA and
CEC

.

11285	MACH_MODEL_MODE	EXP	IAD
-	Type of file with machine model	BYTE	Immediately
-			
-	- 0 0 1 3/3 M		

Description: If 3D protection zones have been defined, creation of a machine model can be requested with this machine data.
Value 0: No model is created.
Value 1: After each change (including activation) of the 3D protection zones, a machine model is created in user directory `_N_VRML_DIR` with the name `_N_VRMLMODEL_WRL`.

11294	SIEM_TRACEFILES_CONFIG	EXP	-
-	Configuration of the SIEM* trace file	DWORD	PowerOn
-			
-	- 0 - - 2/2 M		

Description: Configuration of the tracefiles SIEM*

Bit0:
Additional information about the PDUs sent is to be entered in `_N_SIEMDOMAINSEQ_MPF` for download

Bit1:
Additional information about the PDUs received is to be entered in `_N_SIEMDOMAINSEQ_MPF` for download

Bit2:
Trace of warm start and connection cancelation in `_N_SIEMDOMAINSEQ_MPF`

Bit4:
Additional information about the PDUs sent is to be entered in `_N_SIEMDOMAINSEQ_MPF` for upload

Bit5:
Additional information about the PDUs received is to be entered in `_N_SIEMDOMAINSEQ_MPF` for upload

11295	PROTOC_FILE_MEM	N01	-
-	Memory type for log files	BYTE	PowerOn
-			
-	10 1, 1, 1, 1, 1, 1, 1... 0 1 1/1 M		

Description: Type of memory in which the contents of log files are stored.
0: SRAM

1: DRAM area TMP

11297	PROTOC_IPOCYCLE_CONTROL	N01	-			
-	Prevent overrun of IPO time level	BYTE	PowerOn			
-						
-	10	1, 1, 1, 1, 1, 1, 1, 1...	0	1	1/1	M

Description: Setting whether an overflow of the time level is to be prevented during the recording of data in the time level of the IPO.

If applicable, data sets are discarded when the function is active, and are not entered in the log file in order to prevent an impending overflow of the IPO time level.

This may mean that data sets are also then lost if a level overflow would not yet have occurred with the function inactive.

11298	PROTOC_PREPTIME_CONTROL	N01	-			
-	Interruption time prep time level in seconds.	DOUBLE	PowerOn			
-						
-	10	1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-	-	1/1	M

Description: Time in seconds, for which the prep time level may be blocked. If the PREP does not manage to pass through within the set time, the cyclic events are not logged. It is thus ensured that operation cannot be completely blocked by data recording.

11300	JOG_INC_MODE_LEVELTRIGGRD	N01	H1,R1			
-	INC and REF in jog mode	BOOLEAN	PowerOn			
-						
-	-	TRUE	-	-	7/2	M

Description: 1: Jog mode for JOG-INC and reference point approach

JOG-INC:

When the traversing key is pressed in the required direction (e.g. +), the axis begins to traverse the set increment. If the key is released before the increment has been completely traversed, the movement is interrupted and the axis stops. If the same key is pressed again, the axis completes the remaining distance-to-go until this is 0.

0: Continuous operation for JOG-INC and reference point approach

JOG-INC:

When the traversing key is pressed (first rising edge) the axis travels the whole set increment. If the same key is pressed again (second rising edge) before the axis has completed traversing the increment, the movement is canceled, i.e. not completed.

The differences in axis travel behavior between the jog mode and continuous operation in incremental traversing are described in detail in the relevant chapters.

For travel behavior in reference point approach see

References: /FB/, R1, "Reference Point Approach"

MD irrelevant for:

Continuous traversing (JOG continuous)

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11310	HANDWH_REVERSE	N09	H1
-	Threshold for direction change handwheel	BYTE	PowerOn
-			
-	-	2	-

Description: Handwheel travel:

Value = 0:

No immediate travel in the opposite direction

Value > 0:

Immediate travel in the opposite direction if the handwheel is turned at least the stated number of pulses in the opposite direction.

Whether this machine data is also active for handwheel travel with DRF depends on bit10 of MD20624 \$MC_HANDWH_CHAN_STOP_COND.

11320	HANDWH_IMP_PER_LATCH	N09	H1
-	Handwheel pulses per detent position	DOUBLE	PowerOn
-			
-	6	1., 1., 1., 1., 1., 1.	-

Description: The connected handwheels are adapted to the control in MD11320 \$MN_HANDWH_IMP_PER_LATCH.

The number of pulses generated by the handwheel for each handwheel detent position has to be entered. The handwheel pulse weighting must be defined separately for each connected handwheel (1 to 3). With this adaptation, each handwheel detent position has the same effect as one press of the traversing key in incremental traversal.

Entering a negative value reverses the direction of rotation of the handwheel.

Related to:

MD31090 \$MA_JOG_INCR_WEIGHT

(weighting of an increment of a machine axis for INC/manual).

11322	CONTOURHANDWH_IMP_PER_LATCH	N09	H1
-	Contour handwheel pulses per detent position	DOUBLE	PowerOn
-			
-	6	1., 1., 1., 1., 1., 1.	-

Description: Adaptation factor to the hardware of the contour handwheel:

Enter the number of pulses issued per detent position by the contour handwheel.

Because of this normalization, a detent position of the contour handwheel corresponds to one press of a key with incremental jog processes.

Sign reversal reverses the direction of evaluation.

11324	HANDWH_VDI REPRESENTATION	N01	OEM
-	Display of handwheel number in VDI Interface	DWORD	PowerOn
-			
-	-	0	0

Description: The number of the handwheel is displayed in the channel/axis-specific signals of the VDI interface:

Value = 0 :
 Bit coded (1 of 3, only 3 handwheels can be displayed)
 Value = 1 :
 Binary coded (6 handwheels can be displayed)

11330	JOG_INCR_SIZE_TAB	EXP, N09	H1			
-	Increment size for INC/handwheel	DOUBLE	PowerOn			
-						
-	5	1., 10., 100., 1000., 10000.	-	-	7/2	M

Description: In incremental traversal or handwheel travel, the number of increments to be traversed by the axis can be defined by the user, e.g. via the machine control panel.
 In addition to the variable increment size (INCvar), 5 fixed increment sizes (INC...) can also be set.
 The increment size for each of these 5 fixed increments is defined collectively for all axes by entering values in JOG_INCR_SIZE_TAB [n]. The default setting is INC1, INC10, INC100, INC1000 and INC10000.
 The entered increment sizes are also active for DRF.
 The size of the variable increment is defined in SD41010 \$SN_JOG_VAR_INCR_SIZE.
Related to:
 MD31090 \$MA_JOG_INCR_WEIGHT (weighting of an increment for INC/manual)
 NC/PLC interface signal DB21-30 DBX41.0-.4, DBX47.0-.4, DBX53.0-.4
 (Geometry axis 1-3 active machine function: INC1; ...;
 INC10000)
 NC/PLC interface signal DB31, ... DBB65.0 - .5
 (active machine function: INC1; ...; INC10000).

11342	ENC_HANDWHEEL_MODULE_NR	N01	H1			
-	3rd handwheel: drive number / measuring circuit number	BYTE	PowerOn			
-						
-	-	0	0	31	7/2	M

Description: For SIMODRIVE611D only (or for PROFIBUS/PROFINET for test purposes):
 Number of the module within a segment (MD11340 \$MN_ENC_HANDWHEEL_SEGMENT_NR) used to address the 3rd handwheel. On the SIMODRIVE611D, the logical drive number must be entered here (see MD13010 \$MN_DRIVE_LOGIC_NR).
 = 0: The configuration of a 3rd handwheel is deactivated,
 in this case the settings of MD11340 \$MN_ENC_HANDWHEEL_SEGMENT_NR and MD11344 \$MN_ENC_HANDWHEEL_INPUT_NR are irrelevant.
Related to MD13010 \$MN_DRIVE_LOGIC_NR
 MD11340 \$MN_ENC_HANDWHEEL_SEGMENT_NR
 MD11344 \$MN_ENC_HANDWHEEL_INPUT_NR

11344	ENC_HANDWHEEL_INPUT_NR	N01	H1			
-	3rd handwheel: Input to module/meas. circ. Board	BYTE	PowerOn			
-						
-	-	1	1	2	7/2	M

Description: For SIMODRIVE611D only (or for PROFIBUS/PROFINET for test purposes):
 Number of the input on a module used to address the 3rd handwheel.

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840D: 1/2 = upper/lower actual value input
 Related to MD11340 \$MN_ENC_HANDWHEEL_SEGMENT_NR
 MD11342 \$MN_ENC_HANDWHEEL_MODULE_NR

11346	HANDWH_TRUE_DISTANCE	N01	H1,P1,W1			
-	Handwheel default path or velocity	BYTE	PowerOn			
-						
-	-	1	0	7	7/2	M

Description: Setting the behavior for traversing with the handwheel, contour handwheel and with FDA=0:

Value = 1: (default value)

The default settings of the handwheel are path defaults. No pulses are lost. Residual axis motions occur as a result of the limitation to a maximal permissible velocity.

Value = 0:

The default settings of the handwheel are velocity defaults. The axes stop as soon as the handwheel stops. The motion is immediately braked if no pulses come from the handwheel in an interpolation cycle.

Therefore, only a short residual motion of the axes can occur as a result of the braking ramp. The handwheel pulses do not supply a path default.

Value = 2:

The default settings of the handwheel are velocity defaults. The axes are to stop as soon as the handwheel stops. The motion is immediately braked if no pulses come from the handwheel in an interpolation cycle.

However, in contrast to

value = 0 braking is not along the shortest possible path but to the next possible point in a notional grid.

Each increment in the grid corresponds to a displacement which the selected axis travels per handwheel detent position (see MD31090 \$MA_JOG_INCR_WEIGHT and

MD11330 \$MN_JOG_INCR_SIZE_TAB, MD20620 \$MC_HANDWH_GEOAX_MAX_INCR_SIZE, MD32080 \$MA_HANDWH_MAX_INCR_SIZE). The start of the traversing is taken as the zero point of the grid.

Value = 3:

The default settings of the handwheel are path defaults. If premature braking is required

on account of settings in other machine data (MD11310 \$MN_HANDWH_REVERSE != 0, MD20624 \$MC_HANDWH_CHAN_STOP_COND, MD32084 \$MA_HANDWH_STOP_COND), then, in contrast to value = 1 braking is not along the shortest possible path, but to the next possible point in a notional grid (see value = 2).

Value = 6:

Same as value = 2, but travel does not stop at the last possible grid position in front of a limit, but at the limit.

Value = 7:

Same as value = 3, but travel does not stop at the last possible grid position in front of a limit, but at the limit.

11350	HANDWHEEL_SEGMENT	N09	H1
-	Handwheel segment	BYTE	PowerOn
-			
-	6	0,0,0,0,0,0	-

Description: Machine data defines which hardware segment the handwheel is connected to:

- 0 = SEGMENT_EMPTY ;no handwheel
- 1 = SEGMENT_840D_HW ;handwheel at 840D HW
- 2 = SEGMENT_8xxD_HW ;handwheel at 828D sl, 808D -HW
- 5 = SEGMENT_PROFIBUS ;handwheel at PROFIBUS
- 7 = SEGMENT_ETHERNET ;handwheel at Ethernet

11351	HANDWHEEL_MODULE	N09	H1
-	Handwheel module	BYTE	PowerOn
-			
-	6	0,0,0,0,0,0	0

Description: Machine data specifies the hardware module to which the handwheel is connected.

(Content dependent on MD11350 \$MN_HANDWHEEL_SEGMENT) :

- 0 = no handwheel configured
- \$MN_HANDWHEEL_MODUL =
- 1 ;SEGMENT_840D_HW
- 1 ;SEGMENT_8xxD_HW; 828D sl, 808D -HW
- 1..6 ;SEGMENT_PROFIBUS/PROFINET ;index for MD11353
- \$MN_HANDWHEEL_LOGIC_ADDRESS [(x-1)]
- 1 ;SEGMENT_ETHERNET

11352	HANDWHEEL_INPUT	N09	H1
-	Handwheel connection	BYTE	PowerOn
-			
-	6	0,0,0,0,0,0	0

Description: Machine data which is intended to select the handwheels connected to a hardware module:

- 0 = No handwheel configured
- 1..6 = Handwheel connection to HW module/Ethernet interface

11353	HANDWHEEL_LOGIC_ADDRESS	N04, N10	H1
-	Logical handwheel slot addresses	DWORD	PowerOn
-			
-	6	0,0,0,0,0,0	0

Description: For PROFIBUS/PROFINET only:

Logical start address of the hand wheel slots if handwheels are connected by PROFIBUS/PROFINET (\$MN_HANDWHEEL_SEGMENT = 5)

1.3 NC machine data

11354	HANDWHEEL_FILTER_TIME	N09	-
s	Filter time for handwheel pulses	DOUBLE	PowerOn
-			
-	6	0.0, 0.0, 0.0, 0.0, 0.0, 0.0	0.0 2.0 7/2 M

Description: The filter time indicates the time during which the pulses from the handwheel are output to the interpolator. The values are incremented internally in interpolation cycles.

In the case of a filter time setting = 0.0, the pulses from the handwheel are output to the interpolator within a single interpolation cycle. This can cause the controlled axis to exhibit jerk during traversing.

Machine data is valid for the following types of handwheel (see 11350 \$MN_HANDWHEEL_SEGMENT) :

SEGMENT_ETHERNET:

- Recommended filter time: 0.2 - 0.5 s

11380	MONITOR_ADDRESS	EXP, N06	STZ
-	Test MD for changing the NCK code or data for Safety Integrated	DWORD	Immediately
NBUP, NDLD			
-	-	0	-

Description: Address of an NCU memory location whose content is displayed in the MD11382 \$MN_MONITOR_DISPLAY_INT and 11384 \$MN_MONITOR_DISPLAY_REAL.

There are no protective measures incorporated to prevent unauthorized access. That is the input address points to a memory area protected by the system or unoccupied, so refreshing the MD values MONITOR_DISPLAY_INT and MONITOR_DISPLAY_REAL causes a time-out and the NCU remains at a standstill (watchdog LED lights up) !

There is a list of permissible addresses for the test, which depends on the software version.

A restart resets the address to its starting value.

It then points to any writable and readable memory location that is not used by any other system function.

11382	MONITOR_DISPLAY_INT	EXP, N06	STZ
-	INTEGER display of the addressed location	DWORD	Immediately
NBUP, NDLD			
-	-	0	-

Description: INTEGER display of the addressed location SW3.2

This MD displays the content of the NCU memory location that is defined in MD11380 \$MN_MONITOR_ADDRESS. The displayed values contains the four consecutive bytes from the stated address, whereby the first byte is on the extreme right and the fourth on the extreme left.

This MD is a display MD whose content is read anew on every display refresh. Writing to this MD is ignored (without alarm).

11384	MONITOR_DISPLAY_REAL	EXP, N06	STZ
-	REAL display of the addressed location	DOUBLE	Immediately
NBUP, NDLD			
-	-	0.0	-

Description: REAL display of the addressed location SW3.2

This MD displays the content of the NCU memory location that is defined in MDMD11380 \$MN_MONITOR_ADDRESS. The displayed value interprets the eight consecutive memory locations from the stated address as a floating point number with double accuracy (64 bit IEEE format). 0.0 is displayed if this value does not correspond to a valid floating point number.

This MD is a display MD whose content is read anew on every display refresh. Writing to this MD is ignored (without alarm).

11386	MONITOR_INPUT_INT	EXP, N06	STZ			
-	INTEGER input for the addressed location	DWORD	Immediately			
NBUP, NDLD						
-	-	0	-	-	0/0	M

Description: INTEGER input for addressed location, SW3.2

The value is written with the aid of MD11390 \$MN_MONITOR_INPUT_STROBE into the address selected with MD11380 \$MN_MONITOR_ADDRESS. The 4 bytes from the stated address are taken over by writing the value 1 in the MD11390 \$MN_MONITOR_INPUT_STROBE.

In so doing, the byte moves to the extreme right of the memory location MONITOR_ADDRESS, the byte to its left into the memory location MONITOR_ADDRESS+1, etc.

11388	MONITOR_INPUT_REAL	EXP, N06	STZ			
-	REAL input for addressed location	DOUBLE	Immediately			
NBUP, NDLD						
-	-	0.0	-	-	0/0	M

Description: REAL input for addressed location, SW3.2

The value is written with the aid of MD11390 \$MN_MONITOR_INPUT_STROBE into the address selected with MD11380 \$MN_MONITOR_ADDRESS. The 8 bytes from the stated address are taken over by writing the value 2 in the MD11390 \$MN_MONITOR_INPUT_STROBE.

In so doing, the input floating point number is converted into 64 bit IEEE format.

11390	MONITOR_INPUT_STROBE	EXP, N06	STZ			
-	Overwrite the addressed location with MONITOR_INT/REAL	BYTE	Immediately			
NBUP, NDLD						
-	-	0	0	2	0/0	M

Description: Overwriting the addressed location with MD11386 \$MN_MONITOR_INPUT_INT/REAL or MD11388 \$MN_MONITOR_INPUT_REAL SW3.2

An input into this MD takes over the content of the MD11386 \$MN_MONITOR_INPUT_INT or the MD11388 \$MN_MONITOR_INPUT_REAL. The input value decides which data is taken over:

0: No action

1: Content of MD11386 \$MN_MONITOR_INPUT_INT is written in four NCU bytes from MD11380 \$MN_MONITOR_ADDRESS.

2: Content of MD11388 \$MN_MONITOR_INPUT_REAL is written in eight NCU bytes from MD11380 \$MN_MONITOR_ADDRESS.

The content of MONITOR_INPUT_STROBE is reset to 0 after the takeover (no action). A new input can therefore be made immediately.

In order to familiarize oneself with this function, one should first leave MD11380 \$MN_MONITOR_ADDRESS at its default value. One can then write data without causing damage.

1.3 NC machine data

Examples:

```
MONITOR_INPUT_INT = 55AA
MONITOR_INPUT_STROBE = 1
=> in MONITOR_DISPLAY_INT appears 55AA
MONITOR_INPUT_REAL = 1.234
MONITOR_INPUT_STROBE = 2
=> in MONITOR_DISPLAY_REAL appears 1.234
```

Caution!!!

Writing data to unknown addresses can even destroy the NCK system program! That may have unforeseen consequences (danger to machine and people!). If the machine and those present survive such an action undamaged, the system program can usually be restored by power off/on.

11398	AXIS_VAR_SERVER_SENSITIVE	EXP	B3
-	Axis-Var server response	BYTE	PowerOn
-			
-	- 0 - - 7/2 M		

Description: The axis-variable server supplies the data for the OPI blocks SMA/SEMA, SGA/SEG A and SSP.

If no value can be supplied for an axis (e.g. because the axis is a link axis) then a default value (usually 0) is returned.

For debugging purposes, this machine data can be used to set the axis-var-server to sensitive so that an error message is returned instead of a default value.

0: default value

1: error message

11400	TRACE_SELECT	EXP	-
-	Activation of internal trace functions	DWORD	PowerOn
-			
-	- 0 - - 0/0 M		

Description: Bit string for activating internal trace functions for NCK time measurements, analog output of variables etc.

11405	TCI_TRACE_ACTIVE	EXP	-
-	Activation of internal task trace function	BOOLEAN	PowerOn
-			
-	- FALSE - - 0/0 M		

Description: Control the activation of the TCI interface for the NRKpro. It will activate the tci and kernel task traces modules.

11410	SUPPRESS_ALARM_MASK	EXP, N06	D1,M3,K3,S1,V1,W1
-	Mask for support of special alarm outputs	DWORD	PowerOn
-			
-	- 0x108000 0 0xFFFFFFFF 7/2 M		

Description: Mask for suppressing special alarm outputs

Bit set: The corresponding alarm (warning) is NOT triggered.

Bit 0:

Alarm 15110 "Channel %1 block %2 REORG not possible"

Bit 1:
Alarm 10763 "Channel %1 block %2. The path component of the block in the contour plane is zero"

Bit 2:
Alarm 16924 "Channel %1 Caution: Program testing can modify tool/magazine data"
--> Note: The alarm is only a message alarm

Bit 3:
Alarm 22010 "Channel %1 spindle %2 block %3. Actual gear stage does not correspond to set gear stage"

Bit 4:
Alarm 17188 "Channel %1 D number %2 with tool T nos. %3 and %4 defined"
Alarm 17189 "Channel %1 D number %2 of the tools in magazines/magazine locations %3 and %4 defined". The two alarms are of equal status and are only message alarms.

Bit 5:
Alarm 22071 "TO unit %1 tool %2 duplo no. %3 is active but not in the active wear grouping." The alarm is only a message alarm.

Bit 6:
Alarm 4027 "NOTICE! MD %1 was also changed for the other axes in the axis container %2 "
Alarm 4028 "NOTICE! The axial MDs in the axis container will be aligned on the next runup "

Bit 7:
Alarm 22070 "TO unit %1 please change tool T= %2 to magazine. Repeat data backup". The alarm is only a message alarm.

Bit 8:
Alarm 6411 "Channel %1 tool %2 with duplo no. %3 has reached tool prewarning limit"
Alarm 6413 "Channel %1 tool %2 with duplo no. %3 has reached tool monitoring limit."
The two alarms are only message alarms. They occur during program execution.

Bit 9:
Alarm 6410 "TO unit %1 tool %2 with duplo no. %3 has reached tool prewarning limit."
Alarm 6412 "TO unit %1 tool %2 with duplo no. %3 has reached tool monitoring limit".
The two alarms are only message alarms. They occur as a result of an operator action.

Bit10:
Alarm 10604 "channel %1 block %2 "Thread lead increase too high"
Alarm 10605 "channel %1 block %2 "Thread lead decrease too high"

Bit 11:
Alarm 14088 "Channel 51 block %2 axis %3 doubtful position".

Bit 12:
obsolete (Alarm 10607)"

Bit13:
Alarm 10704 " channel %1 block %2 Protection area monitoring is not guaranteed."

Bit14:
Alarm 21701 "Measuring reactivated too soon (<2 IPO cycles)"

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Bit15:
Alarm 5000 "Communication order cannot be executed"
Bit16:
Alarm 21600 "Monitoring active for ESR"
Bit17:
Alarm 16945 "Channel %1 action %2<ALNX> is delayed until block end"
Note: The alarm is only a message alarm.
Bit18:
Alarm 10750 "Channel %1 block %2 Activation of the tool radius compensation without tool number"
Bit19: Alarm 17193 "Channel %1 block %2 The active tool ist no longer at tool holder no./spindle no. %3, program %4"
Bit20:
Alarm 2900 "Reboot is delayed"
Bit21:
Alarm 22012 "Channel %1 block %2. Leading axis %3 is in simulation mode"
Alarm 22013 "Channel %1 block %2. Following axis %3 is in simulation mode"
Alarm 22014 "Channel %1 block %2. The dynamics of leading axis %3 and following axis %4 are very different"
Alarm 22040 "Channel%1 Block %3 Spindle %2 not referenced with zero mark" is no longer checked (cyclically) with
 Bit21 set after power ON of the closed loop position control.
Bit22:
Alarm 26080 "Channel %1 retraction position of axis %2 not programmed or invalid"
Alarm 26081 "Channel %1 single axis trigger axis %2 is triggered, but axis is not PLC controlled"
Bit23:
Alarm 16949 "Correspondence between marks of channel %1 and channel %2 is invalid"
Bit24:
Alarm 16950 "Channel %1 search run with holding block"
Bit25:
Alarm 22016 "Channel %1 block %2 following spindle %3 in range of reduced acceleration capacity"
Bit26:
Alarm 22015 "Channel %1 block %2 following spindle %3 no dynamic response for additional motion"
Bit27:
Alarms 16112 and 22030 "Channel %1 block %2 following spindle %3 impermissible programming"
Bit28:
Alarm 26083 "Channel %1 ESR for PLC controlled axis %2 was triggered"
Bit29:
Alarm 16772 "Channel %1 block %2 axis %3 is following axis, coupling is opened"
Bit30:
Alarm 16600 "Channel %1 block %2 spindle %3 gear stage change not possible"
Bit31:
Alarm 16774 "Channel %1 axis %2 synchronization canceled"

11411	ENABLE_ALARM_MASK	EXP	D1,K1			
-	Activation of warnings	DWORD	Reset			
-	-	-	-			
	0x0	0	0xFFFFFFFF	7/2	M	

Description: Mask for generating alarms that are normally suppressed.

Bit set: Alarms of this alarm group are output.

Bit not set: Alarms of this alarm group are not output.

Bit Hex. Meaning

value	=====
0: 0x1Alarms that have SHOWALARMAUTO as the alarm response are output.	=====
1: 0x2Alarms that have SHOWWARNING as the alarm response are output.	=====
2: 0x4Alarm 22280 "Thread power up path too short" is output.	=====
3: 0x8Alarms that are triggered by the NCU LINK MODULE are switched on.	=====
4: 0x10Alarm 10883 "Chamfer or rounding must be shortened" allowed.	=====
5: 0x20Alarm 20096 "Brake test canceled" is output.	=====
6: 0x40Alarm 16956 "Program cannot be started because of global start disable" is output.	=====
7: Alarm14005 "Program cannot be started because of program-specific start disable" is output. Alarm can only be switched on in channel status RESET, in all other channel states it is output without conditions.	=====
8: 0x80Alarm 16957 "Stop delay range is suppressed" is output.	=====
9: 0x100Alarm 1011 fine coding150019 or 150020 "Incorrect axis number in the LINK".	=====
10: 0x200Alarm 22033 Diagnostics 1 to 6 for "Track synchronism" (linkages).	=====
11: 0x400Alarm 15122 "PowerOn after Powerfail: %1 data were restored, thereof %2 machine data, %3 errors" is output.	=====
12: 0x800Alarms 10722, 10723, 10732 or 10733 are output instead of alarms 10720, 10721, 10730 or 10731.	=====
13: 0x1000Alarm 22033 diagnostics greater than or equal to 7 for "Track synchronism" (linkages)	=====

11412	ALARMREACTIONCHAN_NOREADY	EXP, N01	D1			
-	Alarm response CHAN_NOREADY permitted	BOOLEAN	PowerOn			
-	-	-	-			
	FALSE	-	-	7/2	M	

Description: This MD is used for compatibility with the PLC systems older than SW4.1. If this MD is not set, the behavior implemented before SW4.1 (configured alarm reaction) is set. With SW 4.1 and higher, it is possible to set signal CHANNEL_NOREADY on the PLC in response to alarms. If this MD is not set, then the alarm handler internally re-configures BAG_NOREADY into CHAN_NOREADY.

11413	ALARM_PAR_DISPLAY_TEXT	EXP, N01	D1			
-	Alarm parameter as text output	BOOLEAN	PowerOn			
-	-	-	-			
	FALSE	-	-	0/0	M	

Description: If the MD is set, texts can be output as alarm parameters instead of numbers.

1.3 NC machine data

11414	ALARM_CLR_NCSTART_W_CANCEL	EXP, N01	D1			
-	Clear NCSTART alarms with CANCEL	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: If this MD is set, then alarms that have ClearInfo=NCSTART are cleared by the Alarm Cancel button as well as by NC-Start.
 If this MD is not set, then NCSTART alarms are not cleared by Cancel.
 The purpose of this MD is to provide compatibility with system behavior.

11415	SUPPRESS_ALARM_MASK_2	EXP, N06	-			
-	Masking of alarm outputs	DWORD	PowerOn			
-						
-	-	0x8	-	-	7/2	M

Description: Screen form for suppressing special alarm outputs
 Bit set: Corresponding alarm (warning) is NOT triggered.
 Bit Hex. Meaning
 value
 ======
 ======
 0: 0x116773 "Channel %1 axis %3 is slave axis. The axis/spindle disables for the master axes differ."
 1: 0x22100 "NCK battery warning level reached"
 2101 "NCK battery alarm"
 2102 "NCK battery alarm"
 2: 0x42120 "NCK fan alarm" (ineffective on modules which do not require a fan by design)
 3: 0x815120 "PowerFail: Show buffer overflow"
 4: 0x1015187 "Error during execution of PROGEVENT file"
 5: 0x2015188 "Error during execution of ASUB file"
 6: 0x4026120 "\$AA_ESR_ENABLE = 1 and axis is to become neutral"
 26121 "Axis is neutral and \$AA_ESR_ENABLE =1 is to be set"
 26123 "\$AA_ESR_ENABLE = 1 is to be set, but \$MA_ESRREACTION is not set"
 26124 "\$AC_TRIGGER triggered, but axis is neutral, ESR ignores this axis"
 7: 0x80:10724 "Software limit violated at start of block"
 10734 "Operating range limit violated at start of block"
 10737 "Work (WCS) operating range limit violated at start of block"
 8: 0x100:14008 "WRITE command in /_N_EXT_DIR"
 10734 "Operating range limit violated at start of block"
 10737 "Work (WCS) operating range limit violated at start of block"
 9: 0x20014006 "Invalid program name"
 10: 0x400:4006 "Maximum number of axes that can be activated exceeded"
 11: 0x80016017 "LIFTFAST ignores this axis, as it cannot be used for the current axis type"
 12: 0x100022025 "Channel %1 Block %2 Following axis/spindle %3 Synchronism (2): Fine tolerance exceeded"
 - Exception: Alarm is generated if CPMALAR[FAX] bit 8 = 0 is programmed for the corresponding slave axis/spindle.

22026 "Channel %1 Block %2 Following axis/spindle %3 Synchronism (2): Coarse tolerance exceeded"
 - Exception: Alarm is generated if CPMALARM[FAX] bit 9 = 0 is programmed for the corresponding slave axis/spindle.

13: 0x200022001 "Braking ramp longer than Stop D time."
 22002 "Braking ramp longer than Stop D time with gear stage %3 reason %4"

14: 0x400016963 "ASUB start refused."

15: 0x800021751, "Limit velocity %2 deg/min on modulo axis %1 exceeded (defective cam output)"
 21752, "Axis %1 minimum cam width cam %3 undershot at curr. velocity %2 "

16: 0x1000017212 "Channel %1 Tool management: Load manual tool %3, Duplo no. %2 to spindle/toolholder"
 17214 "Channel %1 Tool management: Unload manual tool %3 from spindle/toolholder %2"
 17215 "Channel %1 Tool management: Unload manual tool %3 from buffer location %2"
 17216 "Channel %1 Unload manual tool from toolholder %4 and load manual tool %3 %2"

17: 0x2000016771 "Channel %1 Block %3 Following axis %2 Overlaid movement not enabled"
 18: 0x400004039 "Channel %1 Axis container %2 Advance not allowed: Channel has no container axes"
 19: 0x800007204 "The compile cycle %1 is a preliminary version
 20: 0x100000 This bit is effective at RESET. This means that the SHOWALARM and SETVDI responses of the following alarms can be suppressed:
 10700 "Channel %1 block %2 NCK protection area %3 in automatic or MDI violated"
 10701 "Channel %1 block %2 channel-specific protection area %3 in automatic or MDI violated"
 21: 0x20000026295 "Protection area %1 was only roughly approximated."

11420	LEN_PROTOCOL_FILE	N01	PGA			
-	Size of protocol files (kB)	DWORD	PowerOn			
-						
-	-	1	1	1000000	7/2	M

Description: Blocks from the part program can be stored in a file in the passive file system with the WRITE command. The length of the log file is limited. If this maximum length is exceeded, the WRITE command returns an error (error code 10).

11422	PROTOCOL_FILE_MODE	EXP, N01	PGA			
-	Setting the behavior of the WRITE command	DWORD	PowerOn			
-						
-	-	0	0	0x3	7/2	M

Description: Setting the behavior of the WRITE command for writing to the passive file system
 Bit 0 = 0:
 The file created with WRITE is stored persistently in the USR area (see \$MM_U_FILE_MEM_SIZE).
 The block written with WRITE becomes persistent immediately, i.e. it is stored power failsafe.

1.3 NC machine data

WRITE is slowed down by the backup with this setting.

Bit 0 = 1:
The file created with WRITE is stored persistently in the USR area (see \$MM_U_FILE_MEM_SIZE).
The block written with WRITE becomes persistent after a time delay.
WRITES less than one second old may be lost in the event of a power failure.
WRITE runs faster with this setting.

Bit 1: Reserved

11450	SEARCH_RUN_MODE	EXP, N01	K1,TE3,N4,H2,Z1			
-	Parameterization for search run	DWORD	PowerOn			
-						
-	-	0	0	0x3F	7/2	M

Description: The behavior during the action blocks after search run can be affected by the following bits:

Bit 0 = 0:
Machining is stopped after loading of the last action block after search run, the NC/PLC interface signal DB21-30 DBX32.6 (last action block active) and alarm 10208 is output.
Bit 0 = 1:
Machining is stopped with the loading of the last action block after search run, and the NC/PLC interface signal DB21-30 DBX32.6 (last action block active) is set. Alarm 10208 is not output until the PLC requests it by setting the NC/PLC interface signal DB21-30 DBX1.6 (PLC action finished).

Usage:

Starting an ASUB from the PLC after search run.

The message to the operator that another NC start is required in order to continue with the program is not to be displayed until after the end of the ASUB.

Bit1 = 1

Automatic ASUB start after output of the action blocks (see also MD11620 \$MN_PROG_EVENT_NAME). Alarm 10208 is not output until the ASUB has finished.

Bit2 = 0:

Spindle: The auxiliary functions are output in the action blocks

Bit2 = 1:

The output of the auxiliary functions in the action blocks is suppressed. The spindle programming collected by search run can be output at a later point in time (e.g. in an ASUB).

The program data for this are stored in the following system variables:

```
$P_SEARCH_S,  
$P_SEARCH_SDIR,  
$P_SEARCH_SGEAR,  
$P_SEARCH_SPOS,  
$P_SEARCH_SPOSMODE.
```

Bit 3 = 1:

The cascaded search run is disabled (default setting: release).

Cascaded search run means that the search run is restarted immediately after finding a search target.

Bit 4: Reserved

Bit 5 = 0:

During block search on a nibbling block the 1st nibbling stroke is not executed.

Bit 5 = 1:

During block search on a nibbling block a punching stroke is triggered at block start (1st nibbling stroke).

11460	OSCILL_MODE_MASK	N09	P5			
-	Mode mask for asynchronous oscillation	DWORD	PowerOn			
-						
-	-	0x0	0	0xFFFF	7/2	M

Description: Bit 0

Value 1

In the case of block search, the oscillation movement is started immediately after NC start, i.e. during approach to approach position, provided it has been activated in the program section being processed.

Value 0

(default value)

The oscillation movement is not started until the approach position is reached.

11470	REPOS_MODE_MASK	EXP, N01	K1			
-	Repositioning properties	DWORD	PowerOn			
-						
-	-	0x8	0	0xFFFF	7/2	M

Description: This bit mask can be used to set the behavior of the control during repositioning.

Bit no. Meaning when bit set

-----	-----
-	
0 (LSB)	The dwell time is continued in the residual block from where it was interrupted. (If the bit is not set, the dwell time is repeated completely).
1	Reserved
2	When the bit is set, the repositioning of individual axes can be prevented or delayed via the VDI interface.
3	When the bit is set, positioning axes are repositioned in the approach block during search run via program test.
4	As 3, but after every Repos, not only during search run.
5	When the bit is set, changed feeds and spindle speeds already become valid in the residual block, otherwise not until the following block.
6	When the bit is set, neutral axes and positioning spindles are repositioned after SERUPRO as command axes in the approach block.
7	The bit changes the behavior of the VDI-AXIN interface signal "Repos Delay". The level of "Repos Delay" is read if REPOSA is interpreted. Axes that are neither geo nor orientation axes are then excluded from the REPOS, that is REPOS does NOT move these axes.

1.3 NC machine data

11480	PLC_OB1_TRACE_DEPTH	EXP, N03, N09	-
-	Buffer depth of PLC trace data at OB1	DWORD	PowerOn
-			
-	-	2	2

Description: Buffer depth of PLC trace data at OB1.

Multiple values of PLC data are buffered, between the time of collection in the PLC and the time of inspection in NCK. Variables traced at "OB1" are collected once per complete PLC scan, but can only be inspected once per IPO cycle.

The buffer size must accomodate at least one more value than the total number of buffered values to be inspected. This is to prevent NCK from inspecting a value that the PLC is in the process of collecting.

A good value to start with is one more than MD10074 \$MN_PLC_IPO_TIME_RATIO. The larger the buffer depth, the fewer PLC variables that can be traced, because there is a single, small, fixed pool of data slots for sending data samples from the PLC to NCK (64 data slots). Every PLC variable being traced is allocated as many data slots from the pool as the value of the buffer depth.

This single pool of data slots is shared by data collected at OB1, OB35, and OB40 (even though the buffer depths of OB1, OB35, and OB40 can be configured to be different from one another). It is also shared by all concurrent users of trace, even though the users might have no knowledge of one another.

11481	PLC_OB35_TRACE_DEPTH	EXP, N03, N09	-
-	Buffer depth of PLC trace data at OB35	DWORD	PowerOn
-			
-	-	2	2

Description: Buffer depth of PLC trace data at OB35.

Multiple values of PLC data are buffered, between the time of collection in the PLC and the time of inspection in NCK. Variables traced at "OB35" are collected every time the PLC timer interrupts, but can only be inspected once per IPO cycle.

The buffer size must accomodate at least one more value than the number of buffered values to be inspected. This is to prevent NCK from inspecting a value that the PLC is in the process of collecting.

A good value to start with is one more than the number of PLC timer interrupts expected to occur every IPO cycle.

The larger the buffer depth, the fewer PLC variables that can be traced, because there is a single, small, fixed pool of data slots for sending data samples from the PLC to NCK (64 data slots). Every PLC variable being traced is allocated as many data slots from the pool as the value of the buffer depth.

This single pool of data slots is shared by data collected at OB1, OB35, and OB40 (even though the buffer depths of OB1, OB35, and OB40 can be configured to be different from each other). It is also shared by all concurrent users of trace, even though the users might have no knowledge of one another.

11482	PLC_OB40_TRACE_DEPTH	EXP, N03, N09	-			
-	Buffer depth of PLC trace data at OB40	DWORD	PowerOn			
-						
-	-	2	2	8	2/2	M

Description: Buffer depth of PLC trace data at OB40.

Multiple values of PLC data are buffered, between the time of collection in the PLC and the time of inspection in NCK. Variables traced at "OB40" are collected just when the PLC receives the special, programmably initiated OB40 interrupt from NCK, but can only be inspected once per IPO cycle.

The buffer size must accommodate at least one more value than the number of buffered values to be inspected. This is to prevent NCK from inspecting a value that the PLC is in the process of collecting.

If the OB40 interrupt is issued less frequently than once per IPO cycle, then the OB40 buffer depth should be 2. Otherwise it should be one more than the largest number of interrupts expected during any one IPO cycle.

The larger the buffer depth, the fewer PLC variables that can be traced, because there is a single, small, fixed pool of data slots for sending data samples from the PLC to NCK (64 data slots). Every PLC variable being traced is allocated as many data slots from the pool as the value of the buffer depth.

The single pool of data slots is shared by data collected at OB1, OB35, and OB40 (even though the buffer depths of OB1, OB35, and OB40 can be configured to be different from each other). It is also shared by all concurrent users of trace, even though the users might have no knowledge of one another.

11500	PREVENT_SYNACT_LOCK	N01, N09, -	S5,FBSY			
-	Protected synchronized actions	DWORD	PowerOn			
-						
-	2	0,0	0	255	7/2	M

Description: First and last IDs of a protected synchronized action area.

Synchronized actions with ID numbers in the protected area can no longer be

- overwritten
- disabled (CANCEL)
- locked (LOCK)

once they have been defined. Furthermore, protected synchronized actions cannot be locked by the PLC (LOCK). They are shown at the interface to the PLC as non-lockable.

Note:

The protection should be suspended while creating the synchronized actions to be protected, as otherwise a Power On will be necessary after every change in order to be able to redefine the logic. There is no area of protected synchronized actions with 0.0. The function is disabled. The values are read as absolute values, and over and under values can be given in any order.

11510	IPO_MAX_LOAD	N01, N05	-			
%	Max. permitted IPO load	DOUBLE	PowerOn			
-						
-	-	0.00	0.0	100.0	7/2	M

Description: Enable utilization analysis via synchronized actions.

1.3 NC machine data

This MD11510 \$MN_IPO_MAX_LOAD sets the IPO computing time (in % of the IPO cycle) after which the variable \$AN_IPO_LOAD_LIMIT is to be set to TRUE. The variable is reset to FALSE if the value falls below this after having once exceeded it.

This diagnostics function is disabled if the machine data is 0.

11550	STOP_MODE_MASK	N01	V1			
-	Defines the stop behavior.	DWORD	PowerOn			
-						
-	-	0	0	0x1	7/2	M

Description: This MD describes the stop behavior of the NCK under certain conditions:

Bit no. Meaning

Bit 0 == 0 :=

No stop if G codes G331/G332 are active and a path motion or G4 has also been programmed.

Bit 0 == 1 :=

Same behavior as until SW version 6.4, i.e. a stop is possible during G331/G332.

Bits 1.....15

Not assigned

11600	BAG_MASK	N01	K1,Z1			
-	Defines the mode group behavior	DWORD	PowerOn			
-						
-	-	0	0	0x3	7/2	M

Description: This MD describes the effect of the VDI signals on the channels of a mode group (BAG) in respect of ASUBs and interrupt routines.

Bit no. Hexadec. Meaning when bit set value

Bit0: 0x0 Normal response to mode group signals in all channels of the mode group (as SW 3) All channels switch into a program operating mode on interrupt.

Bit0: 0x1 No response of other mode group VDI signals in the channel in which an interrupt handling (ASUB) is running. (BAG-RESET, BAG-STOP, individual block types A and B, mode selection). Furthermore, there is an internal operating mode changeover only in those channels which have received an interrupt request.

Bit1: 0x1 There is an internal operating mode changeover only in those channels which have received an interrupt request.

This is similar to Bit0, however, mode group VDI signals effect the interrupt.

11602	ASUP_START_MASK	N01, -	K1,M3,TE3,TE7			
-	Ignore stop conditions for ASUB	DWORD	PowerOn			
-						
-	-	0	0	0xf	7/2	M

Description: This machine data defines which stop reasons are to be ignored on an ASUB start. The ASUB is started or the following stop reasons are ignored:

Bit 0 :

STOP reason: STOP key, M0 or M01

An ASUB is started immediately if NCK is in RESET status (or JOG mode) (no ASUB can be started in RESET/JOG without this bit).

Bit 1 :
 Reserved! This bit was replaced by MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK and MD20115 \$MC_IGNORE_REFP_LOCK_ASUP.

Bit 2 :
 Start allowed even if a read-in disable is active; in other words, the blocks of the ASUB program are loaded and executed immediately. This disables machine data IGNORE_INHIBIT_ASUP. The NCK behavior corresponds to the machine data content of IGNORE_INHIBIT_ASUP== FFFFFFFF.

If the bit is not set:
 The ASUB is selected internally but is not processed until the read-in disable is canceled.
 The assignment of the machine data IGNORE_INHIBIT_ASUP is evaluated.
 If IGNORE_INHIBIT_ASUP = 0 also applies, then an ASUB is triggered internally immediately but the blocks of the ASUB program are not loaded until the read-in disable is canceled.
 The path is decelerated immediately when the ASUB is triggered (except with option BLSYNC).
 The read-in disable is set once more in the ASUB program.

Bit 3 :
Notice:
 The following function can always be activated in single-channel systems. Multi-channel systems require bit1 in MD11600 \$MN_BAG_MASK in addition. The function is active *o_n_l_y* for those ASUBs that were activated from the cancelation program status (Reset channel status). The function is not active in multi-channel systems without MD11600 \$MN_BAG_MASK bit1.
 If an ASUB is started automatically from JOG, the user may stop in the middle of the ASUB program. JOG mode is displayed continuously for the user. With bit 3 set, the user may jog in this situation. This is not possible without bit 3. In this case mode change is locked with alarm 16927. By pressing the Start key, the user can continue the ASUB program. As long as the ASUB program is running, the user is naturally not able to jog. After ASUB program end the user may jog again.

Bits 4 to 15:Reserved
Related to:
 MD11604 \$MN_ASUP_START_PRIO_LEVEL

11604	ASUP_START_PRIO_LEVEL	N01, -	K1,TE3,TE7			
-	Priorities from which 'ASUP_START_MASK' is effective	DWORD	PowerOn			
-						
-	-	0	0	128	7/2	M

Description: This machine data defines the ASUB priority from which MD11602 \$MN_ASUP_START_MASK is to be applied. MD11602 \$MN_ASUP_START_MASK is applied from the level specified here up to the highest ASUB priority level 1.

Related to:
 MD11602 \$MN_ASUP_START_MASK

1.3 NC machine data

11610	ASUP_EDITABLE	N01	K1
-	Activation of a user-specific ASUB program	DWORD	PowerOn
-			
-	-	0	0x7

Description: This MD determines whether user-specific routine: _N_ASUP_SPF stored in directory _N_CUS_DIR/ _N_CMA_DIR is to be used to process RET and REPOS. The user ASUB is searched for first in _N_CUS_DIR.

Value: Meaning:

0 Routine _N_ASUP_SPF is not activated for either RET or REPOS.

Bit0 = 1User-specific routine _N_ASUP_SPF is executed for RET, the routine supplied by the system is executed for REPOS.

Bit1 = 1User-specific routine _N_ASUP_SPF is executed for REPOS, the routine supplied by the system is executed for RET

Bit0= + bit1 = 3User-specific routine _N_ASUP_SPF is executed for both RET and REPOS

Bit2 = 1User ASUB _N_ASUP_SPF is searched for first in _N_CMA_DIR

Related to:

MD11612 \$MN_ASUP_EDIT_PROTECTION_LEVEL

References:

/IAD/ "Installation and Setup Guide"

11612	ASUP_EDIT_PROTECTION_LEVEL	N01	K1
-	Protection level of the user-specific ASUB program	DWORD	PowerOn
-			
-	-	2	0

Description: Protection level of the user-specific ASUB program for RET and/or REPOS
The data is active only if MD11610 \$MN_ASUP_EDITABLE is set to a value other than 0.

This machine data defines the protection level of the program _N_ASU_CUS.

MD irrelevant for:

MD11610 \$MN_ASUP_EDITABLE set to 0

Related to:

MD11610 \$MN_ASUP_EDITABLE

11620	PROG_EVENT_NAME	EXP, N12	K1
-	Program name for PROG_EVENT	STRING	PowerOn
-			
-	-	-	7/2

Description: Name of the user program called by the "event-driven program calls" and "automatic ASUB start after block search" functions (MD11450 \$MN_SEARCH_RUN_MODE, bit 1). _N_PROG_EVENT_SPF is the default setting.
The default setting is activated if MD11620 \$MN_PROG_EVENT_NAME includes a blank string.
If the machine data does not contain a blank string, then the syntax of the string is checked as in the case of a subprogram identifier. This means that the first two characters must be letters (not numbers) or underscores. If this is not the case, alarm 4010 is output during ramp-up.
The program must be located in a cycle directory. When it is called, the search runs through the cycle directories in accordance with the setting of \$MN_PROG_EVENT_PATH.

The prefix (_N_) and the suffix (_SPF) of the program name are added automatically if they have not been specified.

11622	PROG_EVENT_PATH	N01	-			
-	Call path for PROG_EVENT	BYTE	PowerOn			
-						
-	-	3	0	3	7/2	M

Description: Path on which the user program set with \$MN_PROG_EVENT_NAME is called in response to an event-driven program call configured with \$MC_PROG_EVENT_MASK:

- 0: /_N_CMA_DIR
- 1: /_N_CUS_DIR
- 2: /_N_CST_DIR
- 3: Search path in the sequence /_N_CUS_DIR, /_N_CMA_DIR, and /_N_CST_DIR

11640	ENABLE_CHAN_AX_GAP	N01, N11	K2			
-	Allow channel axis gaps in AXCONF_MACHAX_USED	DWORD	PowerOn			
-						
-	-	0x0	0	0x1	2/2	M

Description: Bit0 = 1
 Machine data allows configuration of channel axis gaps in the MD20070 \$MC_AXCONF_MACHAX_USED.
 Permits following MD assignment:

```
$AXCONF_MACHAX_USED[0] = 1      ; 1st MA is 1st axis in channel
$AXCONF_MACHAX_USED[1] = 2      ; 2nd MA is 2nd axis in channel
$AXCONF_MACHAX_USED[2] = 0      ; Channel axis gap
$AXCONF_MACHAX_USED[3] = 3      ; 3rd MA is 3rd axis in channel
$AXCONF_MACHAX_USED[4] = 0
```

 C A U T I O N:
 (BIT0 set with MD20070 \$MC_AXCONF_MACHAX_USED):
 If a geo axis is placed in a channel axis gap with MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[1]= 3, the control responds as with MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[1]= 0. This eliminates the geo axis!
 Transformation machine data must not be assigned a channel axis number specified as a gap.
 BIT1 - BIT31: not used.
 Related to:
 MD20080 \$MC_AXCONF_CHANAX_NAME_TAB,
 MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB,
 MD20060 \$MC_AXCONF_GEOAX_NAME_TAB
 MD20070 \$MC_AXCONF_MACHAX_USED
 MD24... \$MC_TRAFO_AXES_IN...
 MD24... \$MC_TRAFO_GEOAX_ASSIGN_TAB...

11717	D_NO_FCT_CYCLE_NAME	EXP, N12, N07	K1		
-	Subroutine name for D function replacement	STRING	PowerOn		
-					
-	-	-	-	7/2	M

Description: Cycle name for replacement routine of the D function.

1.3 NC machine data

If a D function is programmed in a part program block, then, depending on machine data MD10717 \$MN_T_NO_FCT_CYCLE_NAME, MD10719 \$MN_T_NO_FCT_CYCLE_MODE and MD10718 \$MN_M_NO_FCT_CYCLE_PAR, the MD subprogram defined in MD11717 \$MN_D_NO_FCT_CYCLE_NAME is called.

The programmed D number can be polled in the cycle via system variable \$C_D / \$C_D_PROG.

MD11717 \$MN_D_NO_FCT_CYCLE_NAME is only active in Siemens mode (G290).

No more than one M/T/D function replacement can be active per part program line.

A modal subprogram call must not be programmed in the block with the D function replacement. Furthermore, neither subprogram return nor part program end are allowed.

In the event of a conflict alarm 14016 is output.

11750	NCK_LEAD_FUNCTION_MASK	N09	-			
-	Functions for master value coupling	DWORD	NEW CONF			
-						
-	-	0x00	0	0x10	1/1	M

Description: Special functions of the master value coupling are set with this MD.

The MD is bit-coded, the following bits are assigned:

Bits 0-3:

reserved

Bit 4 == 0:

the following axis of a master value coupling decelerates independently on NC or mode group stop or channel-specific feed disable

Bit 4 == 1:

the following axis of a master value coupling does not decelerate independently on NC or mode group stop or channel-specific feed disable

Bits 5-31:

reserved

11752	NCK_TRAIL_FUNCTION_MASK	N09	-			
-	Functions for coupled motion	DWORD	NEW CONF			
-						
-	-	0x200	0	0x210	1/1	M

Description: Special functions for coupled motions are set with this MD.

The MD is bit-coded; the following bits are assigned:

Bits 0-3:

reserved

Bit 4 = 0:

the following axis of a coupled axis grouping activated by a synchronized action decelerates independently on NC or mode group stop or channel-specific feed disable

Bit 4 = 1:

the following axis of a coupled axis grouping activated by a synchronized action does not decelerate independently on NC or mode group stop or channel-specific feed disable

Bits 5-31:

reserved

11756	NCK_EG_FUNCTION_MASK	N09	-			
-	Functions for Electronic Gear	DWORD	NEW CONF			
-						
-	-	0x0	0	0x2F	1/1	M

Description: This MD is used to set special functions of Electronic Gear (EG). The MD is bit-coded, the following bits are occupied:

Bit 0 - 4:
reserved

Bit 5 = 0:
Positions indicated in EGONSYN and EGONSYNE are evaluated according to setting G700 or G710 inch or metric that is valid in the currently machined part program block.

Bit 5 = 1
Positions indicated in EGONSYN and EGONSYNE are evaluated in the basic system involved.

Bit 6 - 31:
reserved

12000	OVR_AX_IS_GRAY_CODE	EXP, N10	V1,Z1			
-	Axis feedrate override switch Gray-coded	BOOLEAN	PowerOn			
-						
-	-	TRUE	-	-	7/2	M

Description: This machine data is used to adapt the axis feed override switch to the interface coding of the PLC interface.

1: The 5 low-order bits of the PLC interface signal DB31, ... DBB0 (Feed override A-H) are interpreted as a Gray code. The value which is read corresponds to a switch setting. It is used as an index for selecting the correct override factor from the table of MD12010 \$MN_OVR_FACTOR_AX_SPEED [n].

0: The feed override byte of the PLC interface is interpreted as a binary representation of the override value in percent (limit 200 percent).

Related to:
NC/PLC interface signal DB31, ... DBB0 (Feed override A-H), (axis-specific)
MD12010 \$MN_OVR_FACTOR_AX_SPEED [n]
(Evaluation of the axis feed override switch)

12010	OVR_FACTOR_AX_SPEED	EXP, N10	V1,Z1			
-	Evaluation of axis feedrate override switch	DOUBLE	PowerOn			
-						
-	31	0.00, 0.01, 0.02, 0.04, 0.06, 0.08, 0.10...	0.00	2.00	7/2	M

Description: Evaluation of the axis velocity override switch with gray-coded interface.
Not relevant with:
MD12000 \$MN_OVR_AX_IS_GRAY_CODE = 0
Related to:
NC/PLC interface signal DB31, ... DBB0 (Feed override A-H), (axis-specific)

1.3 NC machine data

12020	OVR_FEED_IS_GRAY_CODE	EXP, N10	V1,Z1			
-	Path feedrate override switch Gray-coded	BOOLEAN	PowerOn			
-						
-	-	TRUE	-	-	7/2	M

Description:

This machine data is used to adapt the path feed override switch to the interface coding of the PLC interface.

1: The 5 low-order bits of the NC/PLC interface signal DB31, ... DBB0 (Feed override A-H) are interpreted as a Gray code. The value which is read corresponds to a switch setting. It is used as an index for selecting the correct override factor from the table of MD12030 \$MN_OVR_FACTOR_FEEDRATE [n].

0: The feed override byte of the PLC interface is interpreted as a binary representation of the override value in percent (limit 200 percent).

Related to:

NC/PLC interface signal DB31, ... DBB0 (Feed override A-H)

MD12030 \$MN_OVR_FACTOR_FEEDRATE [n]

(Evaluation of the path feed override switch)

12030	OVR_FACTOR_FEEDRATE	EXP, N10	V1,B1,Z1			
-	Evaluation of path feedrate override switch	DOUBLE	PowerOn			
-						
-	31	0.00, 0.01, 0.02, 0.04, 0.06, 0.08, 0.10...	0.00	2.00	7/2	M

Description: Evaluation of the feedrate override switch with gray-coded interface.

Special function of the 31st value for the velocity control:

The setting of the 31st override value defines the dynamic reserves which take the velocity control to be an excessive increase in the path feed. The setting should correspond to the highest override factor actually used.

The function of the 31st value is thus identical to the effect of MD12100 \$MN_OVR_FACTOR_LIMIT_BIN when using the binary-coded interface.

Not relevant with:

MD12020 \$MN_OVR_FEED_IS_GRAY_CODE = 0

Related to:

NC/PLC interface signal DB31, ... DBB0 (Feed override A-H)

12040	OVR_RAPID_IS_GRAY_CODE	EXP, N10	V1,Z1			
-	Rapid traverse override switch Gray-coded	BOOLEAN	PowerOn			
-						
-	-	TRUE	-	-	7/2	M

Description: This machine data is used to adapt the rapid traverse override switch to the interface coding of the PLC interface.

1: The 5 low-order bits of the PLC interface signal DB21-30 DBB5 (Rapid traverse override A-H) are interpreted as a Gray code. The value which is read corresponds to a switch setting.

It is used as an index for selecting the correct override factor from the table of MD12050 \$MN_OVR_FACTOR_RAPID_TRA[n].

0: The rapid traverse override byte of the PLC interface is interpreted as a binary representation of the override value in percent (limit 200 percent).

Related to:

NC/PLC interface signal DB21-30 DBB5 (Rapid traverse override A-H)

MD12050 \$MN_OVR_FACTOR_RAPID_TRA [n]
 (Evaluation of the rapid traverse override switch)

12050	OVR_FACTOR_RAPID_TRA		EXP, N10	V1,Z1	
-	Evaluation of rapid traverse override switch		DOUBLE	PowerOn	
-					
-	31	0.00, 0.01, 0.02, 0.04, 0.06, 0.08, 0.10...	0.00 1.00	7/2 M	

Description: Evaluation of the rapid traverse override switch with gray-coded interface.

Not relevant with:

MD12040 \$MN_OVR_RAPID_IS_GRAY_CODE = 0

Related to:

NC/PLC interface signal DB21-30 DBB5 (Rapid traverse override A-H)

12060	OVR_SPIND_IS_GRAY_CODE		EXP, N10	V1,Z1	
-	Spindle override switch Gray-coded		BOOLEAN	PowerOn	
-					
-	-	TRUE	-	7/2 M	

Description: This machine data is used to adapt the spindle speed override switch to the interface coding of the PLC interface.

1: The 5 low-order bits of the "spindle speed override" PLC interface signal are interpreted as a Gray code. The value which is read corresponds to a switch setting. It is used as an index for selecting the correct override factor from the table of MD12070 \$MN_OVR_FACTOR_SPIND_SPEED [n].

0: The spindle speed override byte of the PLC interface is interpreted as a binary representation of the override value in percent (limit 200 percent).

Related to:

NC/PLC interface signal DB31, ... DBB19 (Spindle speed override)

MD12070 \$MN_OVR_FACTOR_SPIND_SPEED [n]

(Evaluation of the spindle speed override switch)

12070	OVR_FACTOR_SPIND_SPEED		EXP, N10	V1,Z1	
-	Evaluation of spindle override switch		DOUBLE	PowerOn	
-					
-	31	0.5, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80...	0.00 2.00	7/2 M	

Description: Evaluation of the spindle-specific override switch with Gray-coded interface.

Special function of the 31st value for the velocity control:

The setting of the 31st override value defines the dynamic reserves which take the velocity control to be an excessive increase in the spindle feed. The setting should correspond to the highest override factor actually used.

The function of the 31st value is thus identical to the effect of MD12100 \$MN_OVR_FACTOR_LIMIT_BIN when using the binary-coded interface.

Not relevant for:

MD12060 \$MN_OVR_SPIND_IS_GRAY_CODE = 0

Related to:

NC/PLC interface signal DB31, ... DBB19 (Spindle speed override)

1.3 NC machine data

12080	OVR_REFERENCE_IS_PROG_FEED	N10, N09	V1
-	Override reference speed	BOOLEAN	PowerOn
-			
-	-	TRUE	-

Description: The entry in this MD specifies whether the spindle override given by the IS refers to the speed limited by MD/SD or to the programmed speed.

- 1: Spindle override acts with reference to the programmed speed
(programmed speed - spindle override 100%)
0: Spindle override acts on the speed limited by MD or SD
(speed limited by MD/SD - spindle override 100%)

Related machine data:

A speed limitation is effected by the following MDs or SDs:

MD35100 \$MA_SPIND_VELO_LIMIT	Maximum spindle speed
MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT	Maximum speed of gear stage
MD35160 \$MA_SPIND_EXTERN_VELO_LIMIT	Spindle speed limitation by PLC
SD43220 \$SA_SPIND_MAX_VELO_G26	Maximum spindle speed
SD43230 \$SA_SPIND_MAX_VELO_LIMS	Spindle speed limitation with G96

12082	OVR_REFERENCE_IS_MIN_FEED	N10, N09	V1
-	Specification of the reference of the path override	BOOLEAN	PowerOn
-			
-	-	FALSE	-

Description: The reference speed for the path feed override specified via the machine control panel can be set differently from the standard.

0: Standard:

The override is relative to the programmed feed.

1: Special case:

The override is relative to the programmed feed or to the path feed limit, depending on which resulting value is lower. In this way, even for a great feed reduction (due to the permissible axis dynamics), the effect of the override value (in the range 0 to 100%) is always visible.

12090	OVR_FUNCTION_MASK	N01, N10, N09	-
-	Selection of override specifications	DWORD	Reset
-			
-	-	0	0

Description: The functionality of the override switches can be affected by the bits.

Bit 0: = 0,

Standard: Spindle override active with G331/G332
= 1,

Path override is active instead of spindle override with G331/G332
(Tapping without compensating chuck)

12100	OVR_FACTOR_LIMIT_BIN	EXP, N10	V1,B1,Z1
-	Limitation for binary-coded override switch	DOUBLE	PowerOn
-			
-	-	1.2	0.0

Description: This machine data can be used as an additional limit for the override factor when using the binary-coded interface for path, axis and spindle feeds.

In this case, the maximum values

- 200% for channel-specific feed override
- 100% for channel-specific rapid traverse override
- 200% for axis-specific feed override
- 200% for spindle override

are replaced with the limit value entered in MD: OVR_FACTOR_LIMIT_BIN when this value is lower.

Example: OVR_FACTOR_LIMIT_BIN = 1.20

--> maximum override factor for

- channel-specific feed override =120%
- channel-specific rapid traverse override =100%
- axis-specific feed override =120%
- spindle override =120%

This value also defines the dynamic reserves maintained by the speed control for increasing the path and spindle feedrates.

References: /FB/, B1, "Continuous Path Mode, Exact Stop and Look Ahead"

12200	RUN_OVERRIDE_0		N01, N09	FBMA,V1,Z1
-	Traversing response with override 0		BOOLEAN	PowerOn
-				
-	-	FALSE	-	7/2 M

Description: = 0

Override 0 is active and means deceleration (JOG mode, safety function).

Bits 0 and 1 in MD32084 \$MA_HANDWH_STOP_COND for hand wheels and in MD20624 \$MC_HANDWH_CHAN_STOP_COND for machine axes define whether the pulses are collected for geometry axes and contour handwheel.

= 1

Traversing with handwheels and in JOG mode with fixed feedrates is also possible with a 0 % override.

Related to:

MD32084 \$MA_HANDWH_STOP_COND

MD20624 \$MC_HANDWH_CHAN_STOP_COND

12202	PERMANENT_FEED		N01, N09	Z1,V1
mm/min	Fixed feedrates for linear axes		DOUBLE	Reset
-				
-	4	0., 0., 0., 0.	-	7/2 M

Description: In AUTOMATIC mode:

After activating a fixed feedrate via an interface signal, traversing is done with a fixed feedrate instead of the programmed feedrate.

Note:

The fixed feedrate is also evaluated in continuous-path mode in order to optimize the overhead for the Look Ahead calculation. Unnecessarily high values should therefore be avoided. Enter zero if a fixed feedrate is not wanted.

In JOG mode:

After activating a fixed feedrate via an interface signal, and traversing the linear axis with a traversing key, traversing proceeds in the selected direction with the fixed feedrate.

n = 0, 1, 2, 3 mean fixed feedrates 1, 2, 3, 4. The values must be entered in ascending order.

Special cases, errors,

1.3 NC machine data

The maximum velocity defined by MD32000 \$MA_MAX_AX_VEL0 is active. An override setting of 100 % is assumed. MD12200 \$MN_RUN_OVERRIDE_0 is active if the override is 0.

Related to:

MD12200 \$MN_RUN_OVERRIDE_0

12204	PERMANENT_ROT_AX_FEED	N01, N09	V1
rev/min	Fixed feedrates for rotary axes	DOUBLE	Reset
-			
-	4	0., 0., 0., 0.	-

Description: Fixed feedrate values:

In AUTOMATIC mode:

After activating a fixed feedrate via an interface signal, traversing is done with a fixed feedrate instead of the programmed feedrate.

Note: PERMANENT_ROT_AX_FEED is used instead of PERMANENT_FEED for the path motion if all synchronously traversed axes in the current block are rotary axes. PERMANENT_FEED applies if linear and rotary axes are to be synchronously traversed together.

The fixed feedrate is also evaluated in continuous-path mode in order to optimize the overhead for the Look Ahead calculation. Unnecessarily high values should therefore be avoided. Enter zero if a fixed feedrate is not wanted.

In JOG mode:

After activating a fixed feedrate via an interface signal, and traversing the rotary axis with a traversing key, traversing proceeds in the selected direction with the fixed feedrate.

n = 0, 1, 2, 3 mean fixed feedrates 1, 2, 3, 4.

Special cases, errors,

The maximum velocity defined by MD32000 \$MA_MAX_AX_VEL0 is active. An override setting of 100 % is assumed. MD12200 \$MN_RUN_OVERRIDE_0 is active if the override is 0.

Related to:

MD12200 \$MN_RUN_OVERRIDE_0

12205	PERMANENT_SPINDLE_FEED	N01, N09	FBMA
rev/min	Fixed feedrates for spindles	DOUBLE	Reset
-			
-	4	0., 0., 0., 0.	-

Description: Fixed feedrate values:

JOG: A spindle is traversed with a fixed feedrate by activating the traversing keys and activating the appropriate signals in the PLC interface.

The override is not active.

Depending upon MD12200 \$MN_RUN_OVERRIDE_0, traversing also takes place with override 0.

The value defined by MD32000 \$MA_MAX_AX_VEL0 is taken as the upper limit. If the fixed feedrate has a larger value, the aforementioned limiting value applies.

12300	CENTRAL_LUBRICATION	N01, N09	-			
-	Central lubrication active	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description:

When a settable axial path has been exceeded, the axial VDI signals request a lubrication pulse from the PLC (compare MD33050 \$MA_LUBRICATION_DIST). These axial pulses act (by default) independently of each other.

If the machine construction requires a central lubrication, i.e. the lubrication pulse of any axis is acting on all axes, the corresponding path monitoring of all axes must be restarted after lubrication pulse output. This start synchronization of the monitoring is executed via MD12300 \$MN_CENTRAL_LUBRICATION=TRUE.

12510	NCU_LINKNO	N01	B3			
-	NCU number in an NCU cluster	DWORD	PowerOn			
-						
-	-	1	1	16	7/2	M

Description:

Number or name for identifying an NCU within an NCU grouping.

In an NCU grouping (NCU cluster), the NCUs are connected to one another by a link bus.

Related to:

MD18780 \$MN_MM_NCU_LINK_MASK

12520	LINK_TERMINATION	N01	B3			
-	NCU numbers for which bus termination resistances are activated	BYTE	PowerOn			
LINK						
-	2	0, 1	0	15	3/2	M

Description:

LINK_TERMINATION defines with which NCUs the bus termination resistances for the timing circuit must be switched in through the link module.

Related to: MD18780 \$MN_MM_NCU_LINK_MASK

12540	LINK_BAUDRATE_SWITCH	N01	B3			
-	Link bus baud rate	DWORD	PowerOn			
LINK						
-	-	9	0	9	3/2	M

Description:

The assigned baud rate for the link communication is defined by the values entered:

Set value	Rate
0	9,600 kBd
1	19,200 kBd
2	45,450 kBd
3	93,750 kBd
4	187,000 kBd
5	500,000 kBd
6	1,500 MBd
7	3,000 MBd
8	6,000 MBd
9	12,000 MBd

1.3 NC machine data

Not relevant for:
 Systems without link modules
 Related to:
 MD18780 \$MN_MM_NCU_LINK_MASK

12550	LINK_RETRY_CTR	N01	B3			
-	maximum number of message frame transmission retries	DWORD	PowerOn			
LINK						
-	-	4	1	15	3/2	M

Description: Maximum retry limit in cases of error.

Not relevant for:
 Systems without link modules
 Related to:
 MD18780 \$MN_MM_NCU_LINK_MASK

12551	TIMEOUT_LINK_COMMUNICATION	EXP	-			
s	Wait time at start of link communication	DOUBLE	PowerOn			
-						
-	6	110.0, 60.0, 9.0, 60.0, 0.0, 0.0	110.0, 0.0, 0.0, 0.0, 0.0, 0.0	1000.0, 1000.0, 1000.0, 1000.0, 1000.0...	0/0	M

Description: Configuration data is exchanged between the individual NCUs during NCK ramp-up. For this purpose, the NCUs involved in data replication must be synchronized in time. The machine data specifies timeouts for data exchange. In the case of Solutionline this is achieved via PROFINET communication. During ramp-up this is standard Ethernet communication; IRT communication takes over subsequently. The significance of the individual elements is as follows:
 Element 0: Timeout for the first synchronization for data replication during ramp-up
 Element 1: Timeout for synchronization for isochronous transition to cyclic operation
 Element 2: Timeout for a non-real-time telegram during ramp-up (Solutionline only)
 Element 3: Timeout until the PROFINET software switches to the 'Operate' state (Solutionline only)

12552	LINK_LIFECYCLE_MAX_LOOP	EXP	-			
-	Maximum number of loops for synchronization of the link life cycle.	DWORD	PowerOn			
-						
-	-	5000	-	-	0/0	M

Description: During NCK ramp-up, the NCK switches to the cyclic plane at a certain point in time (in other words, the IPO and servo tasks start to work). If these points in time deviate too significantly in the NCK link grouping, alarm 280003 will be output. This wait time can be increased in IPO clock steps by increasing this machine data.

12701	AXCT_AXCONF_ASSIGN_TAB1	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Structure of entries:

NCm_AXn with NCU number m: 1..16
and machine axis address n: 1... 31

Example:

NC2_AX1 ; The axis is on the NCU2 and is the
; 1st machine axis there.

AX5 ; local axis 5 only with one NCU
; the axis container mechanism is only used by
; several channels of one NCU.

The reference to an axis container location of a channel is defined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The actually assigned axis at a specific time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels of various NCUs access this container, then inter-NCU consistency must be ensured.

Example:

CHANDATA (1)

```
$MC_MACHAX_USED[4]=9 $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1  
$MN_AXCT_AXCONF_ASSIGN_TAB1[0]="NC1_AX1"  
$MN_AXCT_AXCONF_ASSIGN_TAB1[1]="NC2_AX1"
```

This machine data is distributed via NCU-link.

Related to:

MD10002 \$MN AXCONF LOGIC MACHAX TAB

12702	AXCT_AXCONF_ASSIGN_TAB2	N01	B3			
-	Assignment of an axis container location	STRING	PowerOn			
CTDE						
-	32	...	-	-	3/2	M

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Structure of entries:

NCm_AXn with NCU number m: 1..16
and machine axis address n: 1 .. 31

Example:

NC2_AX1 ; The axis is on the NCU2 and is the 1st machine axis there

AX5 ; local axis 5 only with one NCU
; the axis container mechanism is only used by
; several channels of one NCU

The reference to an axis container location of a channel is defined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

1.3 NC machine data

The actually assigned axis at a specific time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels of various NCUs access this container, then inter-NCU consistency must be ensured.

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9
$MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed via NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12703	AXCT_AXCONF_ASSIGN_TAB3	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	3/2 M

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

```
NCm_AXn           with NCU number m: 1..16
                    and machine axis address n: 1... 31
```

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5      ; local axis 5, with only one NCU
          ; the axis container mechanism is only used by
          ; several channels of one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs.

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12704	AXCT_AXCONF_ASSIGN_TAB4	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.
Method of writing entries:

NCm_AXn with NCU number m: 1..16
and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5       ; local axis 5, with only one NCU
          ; the axis container mechanism is only used by
          ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCU's access this container, ensure that there is consistency between the NCU's!

Example:

CHANDATA (1)

**\$MC_MACHAX_USED[4]=9 \$MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
\$MN_AXCT_AXCONF_ASSIGN_TAB1[0] = "NC1_AX1"**

\$MN_AXCT_AXCONF_ASSIGN_TAB1[1] = "NC2_AX1"

This machine

Related to:

12705	AXCT_AXCONF_ASSIGN_TAB5	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	-	3/2 M

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
and machine axis address n: 1 .. 31

Example:

NC2_AX1 ; The axis is on the NCU2 and is the
; 1st machine axis there

AX5 ; local axis 5, with only one NCU
; the axis container mechanism is only used by
; several channels of one NCU

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

1.3 NC machine data

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9
$MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12706	AXCT_AXCONF_ASSIGN_TAB6	N01	B3			
-	Assignment of an axis container location	STRING	PowerOn			
CTDE						
-	32	...	-	-	3/2	M

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

```
NCm_AXn           with NCU number m: 1..16
                    and machine axis address n: 1... 31
```

Example:

```
NC2_AX1          ; The axis is on the NCU2 and is the
                  ; 1st machine axis there
AX5              ; local axis 5, with only one NCU
                  ; the axis container mechanism is only used by
                  ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12707	AXCT_AXCONF_ASSIGN_TAB7	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
 and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5      ; local axis 5, with only one NCU
          ; the axis container mechanism is only used by
          ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0]="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1]="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB

12708	AXCT_AXCONF_ASSIGN_TAB8	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
 and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5      ; local axis 5, with only one NCU
          ; the axis container mechanism is only used by
          ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

1.3 NC machine data

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12709	AXCT_AXCONF_ASSIGN_TAB9	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

```
NCm_AXn           with NCU number m: 1..16
                    and machine axis address n: 1... 31
```

Example:

```
NC2_AX1          ; The axis is on the NCU2 and is the
                  ; 1st machine axis there
AX5              ; local axis 5, with only one NCU
                  ; the axis container mechanism is only used by
                  ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12710	AXCT_AXCONF_ASSIGN_TAB10	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
 and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5 ; local axis 5, with only one NCU
      ; the axis container mechanism is only used by
      ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9   $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0]="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1]="NC2_AX1"
This machine data is distributed over the NCU-link.
```

Related to:

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB

12711	AXCT_AXCONF_ASSIGN_TAB11	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-
		-	-
		3/2	M

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
 and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5 ; local axis 5, with only one NCU
      ; the axis container mechanism is only used by
      ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

1.3 NC machine data

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12712	AXCT_AXCONF_ASSIGN_TAB12	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

```
NCm_AXn           with NCU number m: 1..16
                    and machine axis address n: 1... 31
```

Example:

```
NC2_AX1          ; The axis is on the NCU2 and is the
                  ; 1st machine axis there
AX5              ; local axis 5, with only one NCU
                  ; the axis container mechanism is only used by
                  ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] ="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] ="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12713	AXCT_AXCONF_ASSIGN_TAB13	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

```
NCm_AXn           with NCU number m: 1..16
                    and machine axis address n: 1... 31
```

Example:

```
NC2_AX1      ; The axis is on the NCU2 and is the
              ; 1st machine axis there
AX5          ; local axis 5, with only one NCU
              ; the axis container mechanism is only used by
              ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in

```
MD20070 $MC_AXCONF_MACHAX_USED and MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB.
```

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
```

```
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0]="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1]="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

```
MD10002 $MN_AXCONF_LOGIC_MACHAX_TAB
```

12714	AXCT_AXCONF_ASSIGN_TAB14	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-
		-	3/2
			M

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

```
NCm_AXn      with NCU number m: 1..16
              and machine axis address n: 1... 31
```

Example:

```
NC2_AX1      ; The axis is on the NCU2 and is the
              ; 1st machine axis there
AX5          ; local axis 5, with only one NCU
              ; the axis container mechanism is only used by
              ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
```

```
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0]="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1]="NC2_AX1"
```

This machine data is distributed over the NCU-link.

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Related to:

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB

12715	AXCT_AXCONF_ASSIGN_TAB15	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
 and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5      ; local axis 5, with only one NCU
          ; the axis container mechanism is only used by
          ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

```
CHANDATA(1)
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0]="NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1]="NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB

12716	AXCT_AXCONF_ASSIGN_TAB16	N01	B3
-	Assignment of an axis container location	STRING	PowerOn
CTDE			
-	32	...	-

Description: Assignment of an axis container location (slot s) to a machine axis or link axis. A maximum of 32 locations can be assigned axes in an axis container.

Method of writing entries:

NCm_AXn with NCU number m: 1..16
 and machine axis address n: 1... 31

Example:

```
NC2_AX1 ; The axis is on the NCU2 and is the
          ; 1st machine axis there
AX5      ; local axis 5, with only one NCU
          ; the axis container mechanism is only used by
          ; several channels from one NCU.
```

The reference to an axis container location of a channel is determined by the definitions in MD20070 \$MC_AXCONF_MACHAX_USED and MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

The axis actually assigned at a given time is dependent upon the container rotation status. All channels that access an axis container use the same axis entries stored there. If channels from various NCUs access this container, ensure that there is consistency between the NCUs!

Example:

CHANDATA(1)

```
$MC_MACHAX_USED[4]=9      $MN_AXCONF_LOGIC_MACHAX_TAB[8]=CL1_SL1
$MN_AXCT_AXCONF_ASSIGN_TAB1[0] = "NC1_AX1"
$MN_AXCT_AXCONF_ASSIGN_TAB1[1] = "NC2_AX1"
```

This machine data is distributed over the NCU-link.

Related to:

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB

12750	AXCT_NAME_TAB			N01	B3	
-	Axis container identifier			STRING	PowerOn	
CTDE						
-	16	CT1, CT2, CT3, CT4, CT5, CT6...	-	-	1/1	M

Description: List of axis container identifiers

In addition to the channel identifier of an axis, the axis container identifier, which can be defined by the user here, can also be used as an axis container name for e.g. a rotation of an axis container (AXCTSWE(CT1)).

12760	AXCT_FUNCTION_MASK			N09	-	
-	Functions for the axis container			DWORD	NEW CONF	
-						
-	-	0x0	0	0x1	1/1	M

Description: This MD is used to set the specific functions for the axis container.

The MD is bit-coded, the following bits are assigned:

Bit 0 = 0: For a direct axis container switch (AXCTSWE), all other channels must be in RESET status.

Bit 0 = 1: For a direct axis container switch (AXCTSWE), only those other channels which have interpolation right on axes of the axis container must be in RESET status.

12970	PLC_DIG_IN_LOGIC_ADDRESS			N10	-	
-	Logical start address of the digital PLC input address			DWORD	PowerOn	
-						
-	-	0	0	1023	0/0	M

Description: Logical start address of the digital input addresses of the PLC

Related to:

MD12971 \$MN_PLC_DIG_IN_NUM

12971	PLC_DIG_IN_NUM			N10	-	
-	Number of digital input addresses			DWORD	PowerOn	
-						
-	-	64	1	1023	0/0	M

Description: Number of digital input addresses as from the start address

Machine and setting data

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Related to:

MD12970 \$MN_PLA_DIG_IN_LOGIC_ADDRESS

12974	PLC_DIG_OUT_LOGIC_ADDRESS	N10	-			
-	Logical start address of the digital PLC output addresses	DWORD	PowerOn			
-						
-	-	0	0	1023	0/0	M

Description: Logical start address of the digital output addresses of the PLC

Related to:

MD12975 \$MN_PLA_DIG_OUT_NUM

12975	PLC_DIG_OUT_NUM	N10	-			
-	Number of digital output addresses	DWORD	PowerOn			
-						
-	-	48	1	1023	0/0	M

Description: Number of digital output addresses as from the start address

12978	PLC_ANA_IN_LOGIC_ADDRESS	N10	-			
-	Logical start address of the analog PLC input addresses	DWORD	PowerOn			
-						
-	-	0	0	1023	0/0	M

Description: Logical start address of the analog input addresses of the PLC

Related to:

MD12979 \$MN_PLA_ANA_IN_NUM

12979	PLC_ANA_IN_NUM	N10	-			
-	Number of analog input addresses	DWORD	PowerOn			
-						
-	-	0	0	1023	0/0	M

Description: Number of analog input addresses as from the start address

Related to:

MD12978 \$MN_PLA_ANA_IN_LOGIC_ADDRESS

12982	PLC_ANA_OUT_LOGIC_ADDRESS	N10	-			
-	Logical start address of the analog PLC output addresses	DWORD	PowerOn			
-						
-	-	0	0	1023	0/0	M

Description: Logical start address of the analog output addresses of the PLC

Related to:

MD12983 \$MN_PLA_ANA_OUT_NUM

12983	PLC_ANA_OUT_NUM	N10	-			
-	Number of analog output addresses	DWORD	PowerOn			
-						
-	-	0	0	1023	0/0	M

Description: Number of analog output addresses as from the start address

Related to:

MD12982 \$MN_PLA_ANA_OUT_LOGIC_ADDRESS

13050	DRIVE_LOGIC_ADDRESS			N04, N10	G2	
-	Logical drive addresses			DWORD	PowerOn	
-						
-	31	4100, 4140, 4180, 4220, 4260, 4300, 4340...	258	16383	7/2	M

Description: For PROFIdrive only:
 Logical I/O addresses of the PROFIdrive drives on the PROFIBUS/PROFINET. An address is assigned to a drive.
 This MD is the link to the description of the PROFIBUS/PROFINET configuration in SDB.
 The MD value is the address index of the logical I/O drive address assigned with HW-Config (SIMATIC Manager S7).
Example:
 DRIVE_LOGIC_ADDRESS[1] = 272 (The start address 272 is assigned to drive 1.)
 The SDB defines the logical I/O address of the drives on the PROFIBUS/PROFINET. An address is assigned to a drive or to a slave.
 The address index is used for actual-value and setpoint-value assignment (MD30220 \$MA_ENC_MODULE_NR[n], MD30110 \$MA_CTRLOUT_MODULE_NR[n]).
Note:
 The same drive (I/O address) must be assigned to the MD30220 \$MA_ENC_MODULE_NR[0] and MD30110 \$MA_CTRLOUT_MODULE_NR[0] of a machine axis.
 Each drive or slave must be assigned to a single logical address index.
 The index [n] of the machine data has the following coding: [Drive index]:
 Drive 1 -->n--=0
 Drive 2 -->n--=1,

13060	DRIVE_TELEGRAM_TYPE			N04, N10	G2	
-	Standard message frame type for PROFIdrive			DWORD	PowerOn	
-						
-	31	116, 116, 116, 116, 116, 116, 116, 116...	-	-	7/2	M

Description: For PROFIdrive only:
 Standard telegram type for PROFIdrive axes:
 0 = No standard type, user-defined
 (telegram type 103 is then used internally in the NCK,
 whereby other process data can be added.)
 1... 6 = PROFIdrive type
 101...107 = SIEMENS type
 116 = SIEMENS type as 106 plus trace data
 118 = SIEMENS type as 116, but use of encoders 2+3
 136 = SIEMENS type as 116 plus torque feedforward control
 138 = SIEMENS type as 136, but use of encoders 2+3
 139 = SIEMENS type telegram specifically for Weiss spindle functionality
 201...203 = internal type
 Notes: Alarm 26015 is issued with reference to this machine data

1.3 NC machine data

if the telegram configuration exhibits inconsistencies, i.e. if the telegram type selected on the NCK does not match the telegram type set on the drive (see parameter P922) and the process data configuration does not match (see parameters P923, P915, P916). The check for telegram configuration errors can be disabled using MD DRIVE_FUNCTION_MASK bit 15.

The SIEMENS telegram types 1xx must be operated in the SINUMERIK context in 611U interface mode.

13070	DRIVE_FUNCTION_MASK	N04, N10	G2
-	PROFIdrive expansion functions	DWORD	PowerOn
-			
-	31	2, 2, 2, 2, 2, 2, 2, 2...	-

Description: For PROFIdrive only:
 Bit-coded mask for skipping the scope of available functions for PROFIdrive axes expected by the NCK.
 Meaning of set bits:
 Bit 0:Deactivation of axial drive alarm display
 Note: the effect of this bit may be hidden, depending on the value in MD13140 \$MN_PROFIBUS_ALARM_ACCESS.
 Bit 1:Deactivation of 611U description file intermediate storage in the NCK
 Bit 2:Deactivation of axial encoder driver parameter accesses
 Bit 3:Deactivation of axial output driver parameter accesses
 Bit 4:Reserved, free (previously activation of DSC bits)
 Bit 5:Deactivation of the 611U-specific drive parking (STW2.7/STA2.7)
 Bit 6:Deactivation of the 611U-specific travel to fixed stop (STW2.8/STA2.8)
 Bit 7:Deactivation of the 611U-specific motor switching int. (STW2.9 to 2.11)
 Bit 8:Deactivation of the 611U-specific ramp block (STW1.11+13)
 Bit 9:Deactivation of the 611U-specific function generator bits (STW1.8/ STA1.13)
 Bit 10:Deactivation of the control of the holding brake (STW1.12 / STA2.5)
 Bit 11:Deactivation of the effect of OFF2/OFF3 on DB31, ... DBX93.5 (Drive Ready)
 Bit 12:Deactivation of the error/warning class SINAMICS (STA1.11 to STA1.12)
 Bit 13:Drive parking simulation (STA2.7 = STW2.7)
 Bit 14:Selection of non-cyclical communication 0 = DPT 1 = DPV1
 Bit 15: Deactivation of the consistency check of the PROFIdrive message frame configuration
 Configuration of bits 5 - 10, which is new for SW 6.3 and higher, allows adaptation of certain control or status bits that are not standardized in the PROFIdrive profile. The bits may have a different significance and effect in the default setting of third-party drives.

13080	DRIVE_TYPE_DP	EXP	G2
-	PROFIBUS/PROFINET drive type	BYTE	PowerOn
-			
-	31	0, 0, 0, 0, 0, 0, 0...	0

Description: MD is relevant to PROFIdrive drives at the PROFIBUS/PROFINET:

Drive type:

- 0: No drive or drive type unknown (default), software-internally treated as:
- 1: FDD drive (SRM: Synchronous rotary drive)

- 2: MSD drive (ARM: Asynchronous rotary drive)
 3: Linear drive
 4: Analog drive (no automatic entry)

Note:

In general, the drive type is entered automatically with Siemens drives as soon as the drives start operating.

With non-Siemens drives (at least with linear drives) the value must be entered manually if automatic drive recognition is not possible.

13100	DRIVE_DIAGNOSIS	EXP, N05	IAD,Kap.3
-	Diagnostics drive link	DWORD	PowerOn
-			
-	9	0, 0, 0, 0, 0, 0, 0, 0...	-

Description:

13110	PROFIBUS_TRACE_ADDRESS	EXP	-
-	PROFIBUS/PROFINET trace of I/O slots	DWORD	NEW CONF
-			
-	14	0, 0, 0, 0, 0, 0, 0, 0...	-

Description: For PROFIBUS/PROFINET only:

Logical I/O address that is to be recorded.

13111	PROFIBUS_TRACE_TYPE	EXP	-
-	PROFIBUS/PROFINET trace settings	DWORD	NEW CONF
-			
-	-	0	0

Description: For PROFIBUS/PROFINET only:

- 0: Recording to the part program memory /_N_MPFI_DIR/_N_SIEMDPTRC_MPFI
 1: Recording to mass storage /user/sinumerik/data/temp/siemdptrc.trc
 2: Recording to the part program memory with runtime measurement
 3: Recording of cyclic PN-NCULINK communication

13112	PROFIBUS_TRACE_FILE_SIZE	EXP	-
-	Maximum trace file size in kbytes	DWORD	NEW CONF
-			
-	-	40	-

Description: For PROFIBUS/PROFINET only:

- 0: Trace without file size limitation
 >0: Trace with file size limitation

13113	PROFIBUS_TRACE_START	EXP	-
-	Activation of PROFIBUS/PROFINET trace	DWORD	Immediately
-			
-	-	0	0

Description: For PROFIBUS/PROFINET only:

- 0: Trace off
 1: Trace on

MD13112 \$MN_PROFIBUS_TRACE_FILE_SIZE > 0: Trace is automatically disabled when the file size is reached.

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13114	PROFIBUS_TRACE_START_EVENT	EXP	-			
-	Trigger conditions for PROFIBUS/PROFINET trace	DWORD	NEW CONF			
-						
-	14	0, 0, 0, 0, 0, 0, 0, 0...	0x00000000	0x111fffff	2/2	M

Description: For PROFIBUS/PROFINET only:
The trigger frequency is configured bit-by-bit
Bits 0-15: 0x0001-0xffff: bit mask
Bits 16-23: 0x01-0x14: process data number (a maximum of 20 words are permissible)
Bits 24-27: 0x01: status change 0->1
 0x00: status change 1->0
Bits 28-31: 0x10: send slot
 0x00: receive slot
When MD13113=1 and MD13114=0x0 Recording starts immediately
When MD13113=1 and MD13114=0x1 Recording starts on control power on
When MD13113=1 and MD13114=0x2 Recording starts on loss of the sign of life

13120	CONTROL_UNIT_LOGIC_ADDRESS	N04, N10	-			
-	Logical address of SINAMICS CU	DWORD	PowerOn			
-						
840dsl-71	9	6500, 0, 0, 0, 0, 0, 0, 0...	0	16383	7/2	M
840dsl-72	13	6500, 0, 0, 0, 0, 0, 0, 0...	0	16383	7/2	M
840dsl-73	15	6500, 0, 0, 0, 0, 0, 0, 0...	0	16383	7/2	M

Description: For PROFIBUS/PROFINET, SINAMICS:
Logical I/O address of a SINAMICS-CU (Control Unit) on the PROFIBUS/PROFINET.
The cyclic DP communication with SINAMICS-CU is activated by taking over the associated slot address from the STEP7 project. The onboard I/Os cannot be accessed until after configuration.

13140	PROFIBUS_ALARM_ACCESS	N04, N10	-			
-	Alarm response of PROFIBUS/PROFINET drives on power up	DWORD	Immediately			
-						
-	-	1	0	2	2/7	M

Description: For PROFIBUS/PROFINET only:
Specifies the time of activation for evaluation/transmission of PROFIBUS/PROFINET node alarms or warnings (fine diagnostics messages) on the NCK.
Affects drive alarms or warnings 380500, 380501 (or alarms 200000ff etc. created from these in the HMI) as well as drive safety alarms 27900.
Meaning of the MD values:
0 = alarms/warnings are evaluated immediately
1 = alarms/warnings are not evaluated
2 = alarms are evaluated only after power up, i.e. as soon as HMI has set value 2 active again (NCK automatically resets the MD value to 1 at every power up; HMI must

explicitely articulate its readiness for message processing by setting value 2)

Note: the MD restricts the range or effectiveness of MD13150 \$MN_SINAMICS_ALARM_MASK

Default: the display default behavior of the mentioned drive alarms changes with the introduction of this MD. Now the alarms are not transported and displayed by default.

The previous default behavior can be restored with MD13140 \$MN_PROFIBUS_ALARM_ACCESS=0.

13150	SINAMICS_ALARM_MASK	N04, N05	-
-	Activate fault and warning buffer output for Sinamics	DWORD	Immediately
-			
-	-	0x0909	-

Description: For PROFIBUS/PROFINET only, especially SINAMICS:

Relevant to SINAMICS diagnostics:

Note: the effect of this MD may be hidden independently of the value of \$MN_PROFIBUS_ALARM_ACCESS.

Mask for displaying the SINAMICS DOS fault and warning buffers

Bit set:Alarms in this DO group are output

Bit not set:Alarms in this DO group are not output

Bit Hex. Meaning

value

=====

=====

0: 0x1 Output faults of the Control Units

1: 0x2 Reserved

2: 0x4 Output faults of the Drive Controls

3: 0x8 Output faults of the Line Modules

4: 0x10 Output faults of the Terminal Boards

5: 0x20 Output faults of the Terminal Modules

8: 0x100 Output warnings of the Control Units

9: 0x200 Output warnings of the Communication Objects

10: 0x400 Output warnings of the Drive Controls

11: 0x800 Output warnings of the Line Modules

12: 0x1000 Output warnings of the Terminal Boards

13: 0x2000 Output warnings of the Terminal Modules

13200	MEAS_PROBE_LOW_ACTIVE	N10, N09	M5
-	Polarity reversal of sensor	BOOLEAN	PowerOn
-			
-	2	FALSE, FALSE	-

Description: This MD defines the electrical polarity of each connected sensor.

Value 0:

(Default setting)

Non-deflected state 0 V

Deflected state 24 V

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Value 1:

Non-deflected state	24 V
Deflected state	0 V

The programmed edges of the sensor are independent of the electrical polarity, and are to be regarded as purely mechanical. The programming of a positive edge always means the transition from the non-deflected into the deflected state. The programming of a negative edge always means the transition from the deflected into the non-deflected state.

13210	MEAS_TYPE	N10, N09	M5			
-	Meas. type with decentralized drives	BYTE	PowerOn			
-						
-	-	0	0	1	7/2	M

Description: For PROFIdrive only:

This MD sets the measuring function of decentralized drives.

The MD currently only functions for PROFIdrive drives.

MEAS_TYPE = 0 defines:

A probe is used that is connected centrally to the NC.

However, as the encoders only provide actual position values in cycles, the actual measuring position is found by interpolation.

MEAS_TYPE = 1 defines:

The probe must be wired decentralized to ALL drives.

The measuring functionality of the drive is then used, saving the actual encoder values in the hardware at the time of the measuring edge.

This method is more accurate than that with MEAS_TYPE = 0, but it requires a more complex wiring and drives that support this measuring functionality (e.g. 611U).

13211	MEAS_CENTRAL_SOURCE	N10, N09	-			
-	Data source central measurement with PROFIBUS/PROFINET drives	BYTE	PowerOn			
-						
-	-	3	1	3	7/2	M

Description: For PROFIBUS/PROFINET only:

This MD is used to set the method used to obtain the time stamps for central measurement with PROFIdrive drives.

The following applies if MEAS_CENTRAL_SOURCE = 1:

NRK accesses are used to access the onboard measuring registers.

For this purpose, the appropriate hardware which allows this must be available, e.g. 840Di with MCI extension board.

The following applies if MEAS_CENTRAL_SOURCE = 2:

The SINAMICS DO1 telegram is used (telegram type 391), variant "Cyclic measurement" without handshake.

For this purpose, an integrated SINAMICS must be available, e.g. NCU 710. (Not available until supported by SINAMICS).

The following applies if MEAS_CENTRAL_SOURCE = 3:

The SINAMICS DO1 telegram is used (telegram type 391), in the variant with handshake. This procedure is

fault-tolerant, however, allows a measuring edge only every 4 PROFIBUS/PROFINET

cycles, i.e. it is considerably slower.

For this purpose, an integrated SINAMICS must be available, e.g. NCU 710. This MD is only relevant, if MD13210 \$MN_MEAS_TYPE == 0.

13220	MEAS_PROBE_DELAY_TIME	N10, N09	FBA/IAD
s	Delay time between probe deflection and recognition	DOUBLE	PowerOn
-			
-	2	0.0, 0.0	0
			0.1
			7/2
			M

Description: For probes with e.g. radio transmission, the probe deflection can be detected in the NC only with delay.

With this MD, the transmission link delay between the probe deflection and its detection is set in the control.

The measured value is corrected internally by the control by the distance that corresponds to the traversing motion during this time before measuring (modeling). It is practicable to set values only up to a maximum of 15 position controller cycles.

Anyhow, the modeling could not work with the expected accuracy with values greater than that. In this case, the input value is therefore limited internally by the software to 15 position controller cycles (without any further feedback).

13230	MEAS_PROBE_SOURCE	N10, N09	-
-	Probe simulation	BYTE	PowerOn
-			
-	-	0	0
			9
			7/2
			M

Description: Simulation of the probe only works when all axes are simulated.

Value = 0: the probe is triggered on the programmed end position.

Value = 1-8: the probe is triggered via digital output with the number=value.

Value = 9: reserved

13231	MEAS_PROBE_OFFSET	N10, N09	-
mm/inch, degrees	Probe offset	DOUBLE	Immediately
-			
-	-	0.1	-
			-
			7/7
			M

Description: The switching position of the probe is offset by the value.

The offset is only active with the simulated probes and MD 13230=0.

13300	PROFISAFE_IN_FILTER	N01, N10, -	-
-	Useful F data filter IN	DWORD	PowerOn
-			
840dsl-71	16	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-
			-
			7/2
			M
840dsl-72	48	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-
			-
			7/2
			M
840dsl-73	48	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-
			-
			7/2
			M

1.3 NC machine data

Description: Filter between F user data and \$INSE variables

Machine data \$MN_PROFISAFE_IN_FILTER defines which F user data bits of the PROFIsafe module are accepted from the F user data interface of the PROFIsafe module into the NCK for further processing.

The filtered F user data bits are compressed internally in the NCK to form a contiguous bit field.

Machine data \$MN_PROFISAFE_IN_ASSIGN then also defines the \$INSE variables to which the filtered F user data bits are transferred.

Example:

Note:

Only 16 bits are shown for the sake of simplicity.

Parameterization:

```
$MN_PROFISAFE_IN_FILTER = 1010100101000100
$MN_PROFISAFE_IN_ASSIGN = 011006
n = 16      11      6      1
|x|x|x|x|x|1|1|1|0|0|1|x|x|x|x|x|
$INSE[n], x = irrelevant
|0|0|0|0|0|0|0|0|0|0|1|1|1|0|0|1|
NCK-internal image of F user data
|1|0|1|0|1|0|0|1|0|1|0|0|0|1|0|0|
$MN_PROFISAFE_IN_FILTER
|1|0|1|0|1|0|0|0|0|0|0|0|0|1|0|0|
Exemplary value present at F user data interface of the PROFIsafe module
```

13301	PROFISAFE_OUT_FILTER		N01, N10, -	-		
-	Useful F data filter OUT		DWORD	PowerOn		
-						
840dsl-71	16	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-	-	7/2	M
840dsl-72	48	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-	-	7/2	M
840dsl-73	48	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-	-	7/2	M

Description: Filter between \$OUTSE variables and F user data

Machine data \$MN_PROFISAFE_OUT_ASSIGN defines which \$OUTSE[n] variables are transferred to the F user data bits of the PROFIsafe module.

Machine data \$MN_PROFISAFE_OUT_FILTER defines the F user data bit to which the relevant \$OUTSE[n] variable is transferred.

Example: Note: Only 16 bits are shown for the sake of simplicity.

Parameterization:

```
$MN_PROFISAFE_OUT_FILTER = 1010100101000100
$MN_PROFISAFE_OUT_ASSIGN = 011006
n = 16      11      6      1
|x|x|x|x|x|1|1|1|1|1|x|x|x|x|x|
Exemplary value present in the $OUTSE variables, x = irrelevant
|0|0|0|0|0|0|0|0|0|0|1|1|1|1|1|1|
NCK-internal image of F user data
|1|0|1|0|1|0|0|1|0|1|0|0|0|1|0|0|
```

```
$MN_PROFISAFE_OUT_FILTER
|1|0|1|0|1|0|0|1|0|1|0|0|0|1|0|0|
F user data of the PROFIsafe module
```

13302	PROFISAFE_IN_ENABLE_MASK			N01, N10, -	-	
-	Enable mask for connections to PROFIsafe input modules.			DWORD	PowerOn	
-						
840dsl-71	1	0x0	0x0, 0x0	0x0000FFFF	7/2	M
840dsl-72	2	0x0, 0x0	0x0, 0x0	0xFFFFFFFF, 0x0000FFFF	7/2	M
840dsl-73	2	0x0, 0x0	0x0, 0x0	0xFFFFFFFF, 0x0000FFFF	7/2	M

Description: The enable mask is used to enable the machine data blocks for the connections to PROFIsafe input modules.

A machine data block comprises the following data:

- \$MN_PROFISAFE_IN_ADDRESS [n]
- \$MN_PROFISAFE_IN_ASSIGN [n]
- \$MN_PROFISAFE_IN_FILTER [n]
- \$MN_PROFISAFE_IN_SUBS [n]

Bit n = 0

The machine data block [n] is checked for consistency but not activated.

The PROFIsafe connection [n] or the slot [n] is not active.

Bit n = 1

The machine data block [n] is active.

The PROFIsafe connection [n] or the slot [n] is active.

13303	PROFISAFE_OUT_ENABLE_MASK			N01, N10, -	-	
-	Enable mask for connections to PROFIsafe output modules.			DWORD	PowerOn	
-						
840dsl-71	1	0x0	0x0, 0x0	0x0000FFFF	7/2	M
840dsl-72	2	0x0, 0x0	0x0, 0x0	0xFFFFFFFF, 0x0000FFFF	7/2	M
840dsl-73	2	0x0, 0x0	0x0, 0x0	0xFFFFFFFF, 0x0000FFFF	7/2	M

Description: The enable mask is used to enable the machine data blocks for the connections to PROFIsafe output modules.

A machine data blocks comprises the following data:

- \$MN_PROFISAFE_OUT_ADDRESS [n]
- \$MN_PROFISAFE_OUT_ASSIGN [n]
- \$MN_PROFISAFE_OUT_FILTER [n]

Bit n = 0

The machine data block [n] is checked for consistency but not activated.

The PROFIsafe connection [n] or the slot [n] is not active.

Bit n = 1

The machine data block [n] is active.

The PROFIsafe connection [n] or the slot [n] is active.

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13304	PROFISAFE_IN_SUBS_ENAB_MASK			N01, N10, -	-	
-	Activation of substitute value output for PROFIsafe input modules			DWORD	PowerOn	
-						
840dsl-71	1	0x0	0x0, 0x0	0x0000FFFF	7/2	M
840dsl-72	2	0x0, 0x0	0x0, 0x0	0xFFFFFFFF, 0x0000FFFF	7/2	M
840dsl-73	2	0x0, 0x0	0x0, 0x0	0xFFFFFFFF, 0x0000FFFF	7/2	M

Description: The enable mask is used to enable substitute value output for connections to PROFIsafe input modules.

Bit n = 0

The PROFIsafe input module's process data is transferred to the SPL input data for the connection parameterized in machine data block [n].

The PROFIsafe connection [n] or the slot [n] is active.

Bit n = 1

The substitute values from \$MN_PROFISAFE_IN_SUBS are transferred to the SPL input data for the connection parameterized in machine data block [n].

The PROFIsafe connection [n] or the slot [n] is passive.

13305	PROFISAFE_IN_SUBS			N01, N10, -	-	
-	Substitute values for passive connections to PROFIsafe input modules			DWORD	PowerOn	
-						
840dsl-71	16	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	-	-	7/2	M
840dsl-72	48	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	-	-	7/2	M
840dsl-73	48	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	-	-	7/2	M

Description: For passive connections to PROFIsafe input modules, the substitute values parameterized in the machine data are transferred to the SPL inputs (\$A_INSE) parameterized via \$MN_PROFISAFE_IN_ASSIGN[n].

If the SPL inputs parameterized with \$MN_PROFISAFE_IN_ASSIGN[n] overlap the SPL inputs of an active slot, the control will modify the passive slot's substitute values in order to prevent duplicate assignment of the SPL inputs.

Here, the states of the signals from the active slots have priority.

13308	PROFISAFE_IN_NAME			N01, N10, -	-	
-	Name of the PROFIsafe IN connection			STRING	PowerOn	
-						
840dsl-71	16	...	-	-	7/2	M
840dsl-72	48	...	-	-	7/2	M
840dsl-73	48	...	-	-	7/2	M

Description: A name can be assigned to each PROFIsafe IN connection.

If a name has been assigned, this will be displayed in the alarm text instead of the PROFIsafe address.

13309	PROFISAFE_OUT_NAME			N01, N10, -	-	
-	Name of the PROFIsafe OUT connection			STRING	PowerOn	
-						
840dsl-71	16	...	-	-	7/2	M
840dsl-72	48	...	-	-	7/2	M
840dsl-73	48	...	-	-	7/2	M

Description: A name can be assigned to each PROFIsafe OUT connection.
If a name has been assigned, this will be displayed in the alarm text instead of the PROFIsafe address.

13310	SAFE_SPL_START_TIMEOUT			N01, N06, -	FBSI	
s	Delay in display of alarm 27097			DOUBLE	PowerOn	
-						
-	-	20.	1.	60.	7/2	M

Description: After powerup of the control, alarm 27097 is displayed after the time if the SPL start is not carried out.

13312	SAFE_SPL_USER_DATA			N01, -	FBSI	
-	User data			DWORD	PowerOn	
SFCO						
-	4	0x0, 0x0, 0x0, 0x0	-	-	7/2	M

Description: User data for storing user-specific information. These data are monitored for changes by the data cross-check between NCK and PLC. Changes to these data are detected when included in the checksums, and reported by alarm 27071. The data must agree with the corresponding PLC data (DB18 DBD256,260,264,268). Deviations between NCK and PLC trigger the programmed stop (Stop D or Stop E) and are displayed via alarm 27090.

13316	SAFE_GLOB_CFG_CHANGE_DATE			N01, N05, -	FBSI	
-	Date/time of last change of SI-NCK MD			STRING	PowerOn	
-						
-	7		-	-	ReadOnly	M

Description: Display data for safety functions:
Date and time of the last configuration change to safety-related NCK machine data.
Changes to the machine data included in the calculation of the checksums SAFE_GLOB_ACT_CHECKSUM are recorded.

13317	SAFE_GLOB_PREV_CONFIG			EXP, N01, N05, -	FBSI	
-	Data of previous safety configuration			DWORD	PowerOn	
-						
-	11	0, 0, 0, 0, 0, 0, 0, 0...	-	-	ReadOnly	M

Description: Intermediate buffer for storing previous safety configuration data
Index 0: Status flag for change history
Index 1: Previous value of option data
Index 2: Previous value of set checksum SAFE_GLOB_DES_CHECKSUM[0]
Index 3: Last value of option data before standard data were loaded
Index 4: Last value of set checksum SAFE_GLOB_DES_CHECKSUM[0] before standard data were loaded.

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Index 5: Previous value of set checksum SAFE_GLOB DES_CHECKSUM[1]
 Index 6: Last value of set checksum SAFE_GLOB DES_CHECKSUM[1] before standard data were loaded
 Index 7: Previous value of set checksum SAFE_GLOB DES_CHECKSUM[2]
 Index 8: Last value of set checksum SAFE_GLOB DES_CHECKSUM[2] before standard data were loaded
 Index 9: Previous value of set checksum SAFE_GLOB DES_CHECKSUM[3]
 Index 10: Last value of set checksum SAFE_GLOB DES_CHECKSUM[3] before standard data were loaded

13318	SAFE_GLOB_ACT_CHECKSUM	N01, N05, -	FBSI
-	Actual checksum NCK	DWORD	PowerOn
-			
-	4	0, 0, 0, 0	-

Description: In this data, the actual checksum calculated after POWER ON or on RESET overwrites the current values of the safety-relevant machine data.

Assignment of the field indices:

Index 0: General safety parameterization, parameterization of the SPL-I/O link
 Index 1: SPL user data
 Index 2: Enable for I/O link (PROFIsafe and F_SEND/F_RECV)
 Index 3: PROFIsafe parameter from the S7 configuration

13319	SAFE_GLOB DES_CHECKSUM	N01, N05, -	FBSI
-	Desired (expected) checksum	DWORD	PowerOn
-			
-	4	0, 0, 0, 0	-

Description: In this data, the set checksum stored at the time of the last machine acceptance overwrites the current values of the safety relevant machine data.

Assignment of the field indices:

Index 0: General safety parameterization, parameterization of the SPL-I/O link
 Index 1: SPL user data
 Index 2: Enable for I/O link (PROFIsafe and F_SEND/F_RECV)
 Index 3: PROFIsafe parameter from the S7 configuration

13320	SAFE_SRDP_IPO_TIME_RATIO	N01, N10, -	FBSI
-	Factor F_DP communication cycle	DWORD	PowerOn
SFCO			
-	-	10	1

Description: Ratio between interpolator cycle and F_DP cycle, in which the F_DP communication is performed. In the resulting time interval the NCK triggers OB40 on the PLC in order to perform the F_DP communication.

The value for the communication cycle resulting from this MD and the set IPO cycle must not exceed 250ms.

13322	INFO_SAFE_SRDP_CYCLE_TIME	N01, N10, N05, -	FBSI
s	Maximum F_DP communication cycle	DOUBLE	PowerOn
-			
-	-	0.0	-

Description: Displays the maximum time grid, in which the OB40 for F_DP communication is initiated.
The value is obtained from the interpolation cycle and MD \$MN_SAFE_SRDP_IPO_TIME_RATIO.
If the set communication cycle in cyclic operation is exceeded, then this is also displayed here.
In the case of a parameterization error (communication cycle exceeds the maximum value of 250.0 ms), then the maximum value that can be set is displayed. This is only a display data. The value cannot be changed.

13330	SAFE_SDPM_ENABLE_MASK	N01, N10, -	FBSI
-	Enable screen F_SENDDP communication relationships	DWORD	PowerOn
-			
-	-	0x0	0x0

Description: Enable screen for the individual F_SENDDP communication relationships

13331	SAFE_SDPM_ID	N01, N10, -	FBSI
-	ID for F_SENDDP communication relationship	DWORD	PowerOn
-			
-	12	0, 0, 0, 0, 0, 0, 0...	-32768

Description: Any network unique value as ID for F_SENDDP communication relationship.
SIMATIC module parameter: DP_DP_ID

13332	SAFE_SDPM_NAME	N01, N10, -	FBSI
-	Name of SPL connection	STRING	PowerOn
-			
-	12	...	-

Description: A name can be assigned to each SPL connection.
If a name was assigned, this name will be displayed in the alarm text instead of DP_DP_ID.

13333	SAFE_SDPM_CONNECTION_NR	N01, N10, -	FBSI
-	Number of SPL connection	BYTE	PowerOn
-			
-	12	0, 0, 0, 0, 0, 0, 0...	0

Description: This machine data is used to set the number of the SPL connection that is parameterized with this data record.
The number of the SPL connection is at the same time also the index for access to the system variables of the user interface of this SPL connection.
This applies to the following system variables:

- \$A_FSDP_ERR_REAC
- \$A_FSDP_ERROR
- \$A_FSDP_SUBS_ON
- \$A_FSDP_DIAG

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Example: \$MN_SAFE_SD_P_CONNECTION_NR[2] = 3 means that the control and status information of the SPL connection that is parameterized via data record 2 can be found in the system variables with field index 3.

13334	SAFE_SD _P _LADDR	N01, N10, -	FBSI
-	Basic address of the input/output data range F_SENDDP	DWORD	PowerOn
-			
-	12	288, 288, 288, 288, 288, 288, 288, 288...	288 32767 7/2 M

Description: The start address of the input and output data range - parameterized in SIMATIC STEP 7 - through which F_SENDDP of this communication relationship communicates.

SIMATIC module parameter: LADDR

13335	SAFE_SD _P _TIMEOUT	N01, N10, -	FBSI
s	Monitoring time F_SENDDP	DOUBLE	PowerOn
-			
-	12	0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5...	0.0 60.0 7/2 M

Description: The monitoring time is the time in which F_SENDDP must have sent a new F telegram to F_RECVDP or in which F_RECVDP must have acknowledged a new F telegram. When the monitoring time is exceeded, F_RECVDP outputs replacement values to the SPL.

SIMATIC module parameter: TIMEOUT

13336	SAFE_SD _P _ASSIGN	N01, N10, -	FBSI
-	Output assignment.\$A_OUTSE to F_SENDDP user data	DWORD	PowerOn
-			
840dsl-71	12	0, 0, 0, 0, 0, 0, 0, 0...	0 64064 7/2 M
840dsl-72	12	0, 0, 0, 0, 0, 0, 0, 0...	0 192192 7/2 M
840dsl-73	12	0, 0, 0, 0, 0, 0, 0, 0...	0 192192 7/2 M

Description: The SPL signals \$A_OUTSE to be transmitted can only be selected area by area.

Format: 00 aaa bbb (decimal) with

aaa = area limit 1, SPL signal \$A_OUTSE[aaa]

bbb = area limit 2, SPL signal \$A_OUTSE[bbb]

Example: \$MN_SAFE_SD_P_ASSIGN[0] = 001 004 or alternatively 004 001

The SPL signals \$A_OUTSE[1] to \$A_OUTSE[4] are transmitted to the F_SENDDP user data selected via MD SAFE_SD_P_FILTER[0].

13337	SAFE_SD _P _FILTER	N01, N10, -	FBSI
-	F user data filter between \$A_OUTSE and F_SENDDP	DWORD	PowerOn
-			
-	12	0xFFFF, 0xFFFF, 0xFFFF, 0xFFFF, 0xFFFF...	0x0 0xFFFF 7/2 M

Description: The SPL signals selected via MD \$MN_SAFE_SD_P_ASSIGN are transmitted to the F_SENDDP user data signals in the order of the FILTER bits set to 1. The lowest-value SPL signal to the bit position of the F_SENDDP user data of the lowest-value filter bit set to 1, etc. for all SPL signals selected.

Bit x = 1: an SPL signal is transmitted to bit position x of the F_SENDDP user data.

Bit x = 0: no SPL signal is transmitted to bit position x of the F_SENDDP user data.

13338	SAFE_SD_P_ERR_REAC	N01, N10, -	FBSI			
-	Fault reaction	DWORD	PowerOn			
-						
-	12	0, 0, 0, 0, 0, 0, 0, 0...	0	3	7/2	M

Description: In the case of a communication error the fault reaction defined here is triggered. This value is valid as long as no other value is specified from the SPL via system variable \$A_FSDP_ERR_REAC.

Meaning of the values:

- 0 = alarm 27350 + stop D/E
- 1 = alarm 27350
- 2 = alarm 27351 (displayed only; self-extinguishing)
- 3 = no system reaction

13340	SAFE_RDP_ENABLE_MASK	N01, N10, -	FBSI			
-	Enable screen F_RECVDP communication relationships	DWORD	PowerOn			
-						
-	-	0x0	0x0	0xFFFF	7/2	M

Description: Enable screen for the individual F_RECVDP communication relationships

13341	SAFE_RDP_ID	N01, N10, -	FBSI			
-	ID for F_RECVDP communication relationships	DWORD	PowerOn			
-						
-	12	0, 0, 0, 0, 0, 0, 0, 0...	-32768	32767	7/2	M

Description: Any network unique value as ID for F_RECVDP communication relationships.

SIMATIC module parameter: DP_DP_ID

13342	SAFE_RDP_NAME	N01, N10, -	FBSI			
-	Name of SPL connection	STRING	PowerOn			
-						
-	12	...	-	-	7/2	M

Description: A name can be assigned to each SPL connection.

If a name was assigned, this name will be displayed in the alarm text instead of DP_DP_ID.

13343	SAFE_RDP_CONNECTION_NR	N01, N10, -	FBSI			
-	Assignment SPL connection to system variables	BYTE	PowerOn			
-						
-	12	0, 0, 0, 0, 0, 0, 0, 0...	0	3	7/2	M

Description: This machine data is used to set the number of the SPL connection that is parameterized with this data record.

The number of the SPL connection is at the same time also the index for access to the system variables of the user interface of this SPL connection.

This applies to the following system variables:

- \$A_FRDP_SUBS
- \$A_FRDP_ERR_REAC
- \$A_FRDP_ERROR
- \$A_FRDP_SUBS_ON
- \$A_FRDP_ACK_REQ

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- \$A_FRDP_DIAG
- \$A_FRDP_SEDMODE

Example: \$MN_SAFE_RDP_CONNECTION_NR[2] = 3 means that the control and status information of the SPL connection that is parameterized via data record 2 can be found in the system variables with field index 3.

13344	SAFE_RDP_LADDR	N01, N10, -	FBSI			
-	Basic address of the input/output data range F_RECVDP	DWORD	PowerOn			
-						
-	12	288, 288, 288, 288, 288, 288, 288, 288...	288	32767	7/2	M

Description: The start address of the input and output data range - parameterized in SIMATIC STEP 7 - through which F_RECVDP of this communication relationship communicates.
 SIMATIC module parameter: LADDR

13345	SAFE_RDP_TIMEOUT	N01, N10, -	FBSI			
s	Monitoring time F_RECVDP	DOUBLE	PowerOn			
-						
-	12	0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5...	0.0	60.0	7/2	M

Description: The monitoring time is the time in which F_SENDDP must have sent a new F telegram to F_RECVDP or in which F_RECVDP must have acknowledged a new F telegram. When the monitoring time is exceeded, F_RECVDP outputs replacement values to the SPL.

SIMATIC module parameter: TIMEOUT

13346	SAFE_RDP_ASSIGN	N01, N10, -	FBSI			
-	Input assignment. F_RECVDP user data to \$A_INSE	DWORD	PowerOn			
-						
840dsl-71	12	0, 0, 0, 0, 0, 0, 0, 0...	0	64064	7/2	M
840dsl-72	12	0, 0, 0, 0, 0, 0, 0, 0...	0	192192	7/2	M
840dsl-73	12	0, 0, 0, 0, 0, 0, 0, 0...	0	192192	7/2	M

Description: The SPL signals \$A_INSE to be supplied can only be selected area by area.

Format: 00 aaa bbb (decimal) with

aaa = area limit 1, SPL signal \$A_INSE[aaa]

bbb = area limit 2, SPL signal \$A_INSE[bbb]

Example: \$MN_SAFE_RDP_ASSIGN[0] = 001 004 or alternatively 004 001

The SPL signals \$A_INSE[1] to \$A_INSE[4] are transmitted to the F_RECVDP user data selected via MD SAFE_RDP_FILTER[0].

13347	SAFE_RDP_FILTER	N01, N10, -	FBSI			
-	F user data filter between F_RECVDP and \$A_INSE	DWORD	PowerOn			
-						
-	12	0xFFFF, 0xFFFF, 0xFFFF, 0xFFFF, 0xFFFF...	0x0	0xFFFF	7/2	M

Description: The F_RECVDP user data signals the filter bits of which are set to 1 are transmitted to the SPL signals via MD \$MN_SAFE_RDP_ASSIGN. The lowest-value F_RECVDP user data signal to the lowest-value selected SPL signal etc. for all F_RECVDP user data selected.

Bit x = 1: the F_RECVDP user data signal of bit position x is transmitted as SPL signal.

Bit x = 0: the F_RECVDP user data signal of bit position x is not transmitted as SPL signal.

13348	SAFE_RDP_ERR_REAC		N01, N10, -	FBSI
-	Fault reaction		DWORD	PowerOn
-				
-	12	0, 0, 0, 0, 0, 0, 0, 0...	0	3

Description: In the case of a communication error, the fault reaction defined here is triggered. This value is valid as long as no other value is specified from the SPL via system variable \$A_FRDP_ERR_REAC.

Meaning of the values:

- 0 = alarm 27350 + stop D/E
- 1 = alarm 27350
- 2 = alarm 27351 (displayed only; self-clearing)
- 3 = no system reaction

13349	SAFE_RDP_SUBS		N01, N10, -	FBSI
-	Replacement values in case of error		DWORD	PowerOn
-				
-	12	0, 0, 0, 0, 0, 0, 0, 0...	0	0xFFFF

Description: In the case of a communication error, the replacement values defined here are activated in the system variables \$A_INSE assigned to this SPL connection. This value is valid as long as no other value is specified from the SPL via system variable \$A_FRDP_SUBS.

14504	MAXNUM_USER_DATA_INT		N03	P3
-	Number of user data (INT)		DWORD	PowerOn
-				
-	-	0	0	256

Description: Number of NC/PLC user data of type INT

14506	MAXNUM_USER_DATA_HEX		N03	P3
-	Number of user data (HEX)		DWORD	PowerOn
-				
-	-	0	0	256

Description: Number of NC/PLC user data (HEX)

14508	MAXNUM_USER_DATA_FLOAT		N03	P3
-	Number of user data (FLOAT)		DWORD	PowerOn
-				
-	-	0	0	32

Description: Number of NC/PLC user data of type FLOAT

14510	USER_DATA_INT		N03	P3
-	User data (INT)		DWORD	PowerOn
-				
-	256	0, 0, 0, 0, 0, 0, 0, 0...	-32768	32767

Description: User data is stored in the NCK-PLC interface, and can be read by the PLC user from the DB20 during the runup.

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14512	USER_DATA_HEX	N03	P3			
-	User data (HEX)	DWORD	PowerOn			
-						
-	256	0, 0, 0, 0, 0, 0, 0, 0...	0	0x0FF	7/2	M

Description: User data is stored in the NCK-PLC interface and can be read by the PLC user from the DB20 during the PLC runup.

14514	USER_DATA_FLOAT	N03	P3			
-	User data (FLOAT)	DOUBLE	PowerOn			
-						
-	32	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-3.40e38	3.40e38	7/2	M

Description: User data is stored in the NCK-PLC interface, and can be read by the PLC user from the DB20 during the runup.

14516	USER_DATA_PLA_ALARM	N03	A2,P3			
-	User data (HEX)	BYTE	PowerOn			
-						
-	248	0, 0, 0, 0, 0, 0, 0...	-	-	0/0	M

Description: User data is stored in the NCK-PLC interface and can be evaluated by the PLC basic system (currently for software PLC 2xx).

15700	LANG_SUB_NAME	N01	K1		
-	Name for substitution subroutine	STRING	PowerOn		
-					
-	-	-	-	7/2	M

Description: Name of the user program called on the basis of a substitution configured by MD30465 \$MA_AXIS_LANG_SUB_MASK.

The user program is called with the path configured by MD15702 \$MN_LANG_SUB_PATH.

15702	LANG_SUB_PATH	N01	K1			
-	Call path for substitution subroutine	BYTE	PowerOn			
-						
-	-	0	0	2	7/2	M

Description: Path with which the user program set by MD15700 \$MN_LANG_SUB_NAME is called on the basis of a substitution configured by MD30465 \$MA_AXIS_LANG_SUB_MASK:

- 0: /_N_CMA_DIR (default)
- 1: /_N_CUS_DIR
- 2: /_N_CST_DIR

15710	TCA_CYCLE_NAME	N09	K1,FBW		
-	Program name for replacement of the TCA command	STRING	PowerOn		
-					
-	-	-	-	7/2	M

Description: Program name for the replacement program when calling the TCA command.

If the TCA command is programmed in a part program block, then the subprogram defined in \$MN_TCA_CYCLE_NAME is called at the end of the block. The programmed tool can be requested in the replacement program via the system variables \$C_TS_PROG / \$C_TS, the Duplo number via \$C_DUPLO_PROG / \$C_DUPLO and the toolholder/spindle number via \$C_THNO_PROG / \$C_THNO. The system variable \$C_TCA returns the value TRUE in the replacement program. Since the replacement takes place at the end of the block, the system variable \$P_SUB_STAT in the replacement program provides the value 2

If \$MN_TCA_CYCLE_NAME contains an empty string, the replacement is deactivated (default).

16800	ROOT_KIN_ELEM_NAME	EXP, N01	K1			
-	Name of the root chain element	STRING	Reset			
-						
-	-	ROOT	-	-	7/2	M

Description: Specifies the name of the chain element, which, for a machine description using kinematic chains, is the only one that extends from the zero point of the global coordinate system (root chain element).

17200	GMMC_INFO_NO_UNIT	EXP	K1			
-	Global HMI information (without physical unit)	DOUBLE	PowerOn			
-						
-	16	3., 4., 3., 1., 0., 0., 0., 0....	-	-	0/7	M

Description: The HMI stores the global display machine data

- \$MM_DISPLAY_RESOLUTION
- \$MM_DISPLAY_RESOLUTION_INCH
- \$MM_SPIND_DISPLAY_RESOLUTION
- \$MM_MA_COORDINATE_SYSTEM

in the NCK machine data from MD17200 \$MN_GMMC_INFO_NO_UNIT[0] to MD17200 \$MN_GMMC_INFO_NO_UNIT[3]. This enables these display machine data to be accessed from the NCK.

17201	GMMC_INFO_NO_UNIT_STATUS	EXP	K1			
-	Global HMI status info (without physical unit)	BYTE	PowerOn			
-						
-	16	1, 1, 1, 1, 0, 0, 0, 0...	-	-	0/7	M

Description: Value 0: input not assigned

Value 1: input assigned

17400	OEM_GLOBAL_INFO	A01, A11	-			
-	OEM version information	STRING	PowerOn			
-						
-	5		-	-	7/2	M

Description: A version information freely available to the user

(is indicated in the version screen)

Note: MD17400 \$MN_OEM_GLOBAL_INFO[0] is used with functions such as logbook, licensing, etc. to store the machine identity.

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17500	MAXNUM_REPLACEMENT_TOOLS	N09	FBW			
-	Maximal number of replacement tools.	DWORD	PowerOn			
-						
-	-	0	0	32	7/2	M

Description: Only relevant if the tool management function is active.
 Only relevant if the tool management (TMMA) function or the tool monitoring function (TMMO) is active.
 0: The number of replacement tools is not monitored.
 1: Exactly one replacement tool may be assigned to an identifier.
 The data does not influence the memory requirement. It is solely for monitoring purposes.
Related to:
 MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK,
 MD20310 \$MC_TOOL_MANAGEMENT_MASK

17510	TOOL_UNLOAD_MASK	N09	FBW			
-	Behavior of tool data when unloading	DWORD	PowerOn			
-						
-	-	0	0	0xF	7/2	M

Description: When unloading a tool, certain tool data can be set to store fixed values.
 Bit no. Bit value HEX Meaning
 0 0 Tool status 'active' remains unchanged.
 1 0x1 Tool status 'active' is deleted (\$TC_TP8, Bit 0).
 1 0 Tool status 'was in use' remains unchanged.
 1 0x2 Tool status 'was in use' is deleted (\$TC_TP8, Bit 7).
 2 0 Tool parameter \$TC_TP10 remains unchanged.
 1 0x4 Tool parameter \$TC_TP10 is set to zero. That is, the tool replacement change strategy is reset.
 3 0 Tool parameter \$TC_TP11 remains unchanged.
 1 0x8 Tool parameter \$TC_TP11 is set to zero. That is, the assignment to the tool subgroup is resolved.

17515	TOOL_RESETMON_MASK	N09	-			
-	Tool data behavior with RESETMON	DWORD	PowerOn			
-						
-	-	0x14	0	0x49F	7/2	M

Description: The 5th parameter of the RESETMON command defines which tool status is to be reset. If the 5th parameter is omitted, it is replaced by the value in this MD. With the PI service "_N_TRESMON", work is always done with this value. In that case, the bits are always assigned as the bits in the tool status \$TC_TP8 [x].
 Bit no.: 0 Bit value: 0 hex value: -
 Meaning: Tool status "active" remains unchanged
 Bit no.: 0 Bit value: 1 hex value: 'H1'
 Meaning: Tool status "active" is deleted
 Bit no.: 1 Bit value: 0 hex value: -
 Meaning: Tool status "released" remains unchanged
 Bit no.: 1 Bit value: 1 hex value: 'H2'
 Meaning: Tool status "released" is set

Bit no.: 2 Bit value: 0 hex value: -
 Meaning: Tool status "locked" remains unchanged
 Bit no.: 2 Bit value: 1 hex value: 'H4'
 Meaning: Tool status "locked" is deleted, if this is permitted by the monitoring data and the 4th parameter is set correspondingly.
 Bit no.: 3 Bit value: 0 hex value: -
 Meaning: Tool status "measure" remains unchanged
 Bit no.: 3 Bit value: 1 hex value: 'H8'
 Meaning: Tool status "measure" is set.
 Bit no.: 4 Bit value: 0 hex value: -
 Meaning: Tool status "prewarning limit" remains unchanged
 Bit no.: 4 Bit value: 1 hex value: 'H10'
 Meaning: Tool status "prewarning limit" is deleted, if this is permitted by the monitoring data and the 4th parameter is set.
 Bit no.: 5 Not permitted (tool status "tool is being changed")
 Bit no.: 6 Not permitted (tool status "tool is fixed-location-coded")
 Bit no.: 7 Bit value: 0 hex value: -
 Meaning: Tool status "was in use" remains unchanged
 Bit no.: 7 Bit value: 1 hex value: 'H80'
 Meaning: Tool status "was in use" is deleted
 Bit no.: 8 Bit value: 0 Not permitted (tool status "is in retract")
 Bit no.: 9 Bit value: 0 hex value: -
 Meaning: Tool status "locked is ignored" remains unchanged
 Bit no.: 9 Bit value: 1 hex value: 'H200'
 Meaning: Tool status "locked is ignored" is deleted
 Bit no.: 10 Bit value: 0 hex value: -
 Meaning: Tool status "to unload" remains unchanged
 Bit no.: 10 Bit value: 1 hex value: 'H400'
 Meaning: Tool status "to unload" is deleted
 Bit no.: 11 Not permitted (tool status "to load")
 Bit no.: 12 Bit value: 0 Not permitted (tool status "master tool")
 Bit no.: 13 Not permitted (reserved)
 The default setting corresponds to the previous behavior.
 Impermissible bits are filtered and not displayed in the limit mask.
 Bits not defined here are ignored when writing the machine data.

17520	TOOL_DEFAULT_DATA_MASK	N09	FBW			
-	Create new tool: default settings	DWORD	PowerOn			
-						
-	-	0	0	0x1F	7/2	M

Description: When defining a tool for the first time (bits 0, 1, 2) or the magazine locations (bit 3) for the first time, certain data of the tool can be set to fixed default values. Bit 4 can couple the magazine location status 'Overlapping allowed' ('H2000') to the value of the magazine location status 'disabled' ('H1'). This can prevent simple applications from dealing with data which do not necessarily have to be assigned individual values.

Bit no.: 0 Bit value: 0 Hex value: -
 Meaning: Default value of tool status (\$TC_TP8), bit1=0 ='not released'
 Bit no.: 0 Bit value: 1 Hex value: 'H1'
 Meaning: Default value of tool status (\$TC_TP8), bit1=1 ='released'

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Bit no.: 1 Bit value: 0 Hex value: -
 Meaning: Default value of tool status (\$TC_TP8), bit6=0 ='not fixed-location-coded'
 Bit no.: 1 Bit value: 1 Hex value: 'H2'
 Meaning: Default value of tool status (\$TC_TP8), bit6=1 ='fixed-location-coded'
 Bit no.: 2 Bit value: 0 Hex value: -
 Meaning: The tool is only accepted in the tool group when the explicit write command is used for the tool name. Only then can it be loaded via programming.
 Bit no.: 2 Bit value: 1 Hex value: 'H4'
 Meaning: The tool is automatically accepted in the tool group corresponding to the tool name when it is defined for the first time. The tool can then be changed using the default name ("t" = t-No.).
 The term 'tool name' (\$TC_TP2) can be hidden from the user. (This only makes sense if you do not use replacement tools or if the tool name is not written explicitly, as this may give rise to data consistency problems.)
 Bit no.: 3 Bit value: 0 Only with TMMG: Default value of location type (\$TC_TP7)=9999=not defined
 Bit no.: 3 Bit value: 1 Hex value: 'H8'
 Meaning: Only with TMMG: Default value of location type (\$TC_TP7) = 1 and consequently the default value of magazine location type (\$TC_MPP2)=1. This means that all magazine locations can accept all tools.
 Bit no.: 4 Bit value: 0 Hex value: -
 Meaning: Only with TMMG + active consider adjacent location: With SET/RESET of the magazine location status 'disabled', the magazine location status 'Overlapping allowed' remains unchanged.
 Bit no.: 4 Bit value: 1 Hex value: 'H10'
 Meaning: Only with TMMG + active consider adjacent location: With SET/RESET of the magazine location status 'disabled', the magazine location status 'Overlapping allowed' is automatically SET/RESET.

17530	TOOL_DATA_CHANGE_COUNTER	EXP, N01	FBW
-	Mark tool data change for HMI	DWORD	PowerOn
-			
-	-	0x1F	0

Description: HMI display support. This data enables individual data to be explicitly taken into account or not taken into account in the OPI variables (block C/S) tool-Counter, toolCounterC, toolCounterM.

Bit no.: 0 Bit value: 0 Hex value: -
 Meaning: Changes to the values of the tool status (\$TC_TP8) are not taken into account in toolCounterC

Bit no.: 0 Bit value: 1 Hex value: 'H1'
 Meaning: Changes to the values of the tool status (\$TC_TP8) are taken into account in toolCounterC

Bit no.: 1 Bit value: 0 Hex value: -
 Meaning: Changes to the values of the remaining number of tools (\$TC_MOP4) are not taken into account in toolCounterC

Bit no.: 1 Bit value: 1 Hex value: 'H2'
 Meaning: Changes to the values of the remaining number of tools (\$TC_MOP4) are taken into account in toolCounterC

Bit no.: 2 Bit value: 0 Hex value: -
 Meaning: Changes to the values of the tool data are not taken into account in the tool data update service

Bit no.: 2 Bit value: 1 Hex value: 'H4'
 Meaning: Changes to the values of the tool data are taken into account in the tool data update service

Bit no.: 3 Bit value: 0 Hex value: -
 Meaning: Changes to the values of the magazine data are not taken into account in the tool data update service

Bit no.: 3 Bit value: 1 Hex value: 'H8'
 Meaning: Changes to the values of the magazine data are taken into account in the tool data update service.

Bit no.: 4 Bit value: 0 Hex value: -
 Meaning: Changes to the values of the ISO tool offset data are not taken into account in the tool data update service

Bit no.: 4 Bit value: 1 Hex value: 'H10' Meaning: Changes to the values of the ISO tool offset data are taken into account in the tool data update service

The statements "Changes to the values of the tool status" and "Changes to the values of the remaining number of tools" refer not only to value changes effected by internal processes in the NC but also to value changes produced by writing the corresponding system variables.

17540	TOOLTYPES_ALLOWED	N09	-			
-	Permitted tool types	DWORD	PowerOn			
-						
-	-	0x3FF	0	0x3FF	7/2	M

Description: Definition of the tool types permitted in NCK (see \$TC_DP1) with the tool offset selection. That is, tools of any type may be loaded in the NCK; but only the tools types defined here may be defined in the offset defining tool. A bit value = 1 means that the named tool type range is permitted for the offset selection. A bit value = 0 means that the named tool type range is rejected with an offset-capable alarm in the case of an attempted offset selection of a cutting edge of this type. The special value = 0, 9999 for the tool type means "undefined". Tool offsets with this tool type value generally cannot be selected.

Bit no.: 0 value 0x1 means: Tool types 1 to 99 permitted
 Bit no.: 1 value 0x2 means: Tool types 100 to 199 permitted (milling tools)
 Bit no.: 2 value 0x4 means: Tool types 200 to 299 permitted (drilling tools)
 Bit no.: 3 value 0x8 means: Tool types 300 to 399 permitted
 Bit no.: 4 value 0x10 means: Tool types 400 to 499 permitted (grinding tools)
 Bit no.: 5 value 0x20 means: Tool types 500 to 599 permitted (turning tools)
 Bit no.: 6 value 0x40 means: Tool types 600 to 699 permitted
 Bit no.: 7 value 0x80 means: Tool types 700 to 799 permitted
 Bit no.: 8 value 0x100 means: Tool types 800 to 899 permitted
 Bit no.: 9 value 0x200 means: Tool types 900 to 999 permitted

Related to:

MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

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17600	DEPTH_OF_LOGFILE_OPT	EXP, N01	-
-	Depth of log memory optimization in REORG	DWORD	Reset
-			
-	-	5	0 300 3/3 M

Description: The depth of memory optimization in the REORG log file
 (=search depth to determine if a parameter to be written is already included in the REORG log file).
 The value of the machine data can be increased if alarm 15110 occurs during program execution and if this alarm is to be avoided.
 (Alternatively, the size of the REORG log file can be increased with MD28000 \$MC_MM_REORG_LOG_FILE_MEM, provided that the operator has the access rights required. This procedure should generally be preferred.)

Value

0 = No optimization,

That is each write operation creates an input into the REORG log file. Writing a variable value is therefore very time-efficient, but requires more memory.

0 < n <= Maximum value

When a new variable value is written, the n previously entered write operations (but maximally up to the previous indicatable block) are checked to determine if the parameter now to be written has already been written in the past. If this is the case, a new entry is not made in the REORG log file.

If this is not the case, an entry is made. A variable value can therefore be written in a very memory-efficient way, but requires more time.

Example:

MD17600 \$MN_DEPTH_OF_LOGFILE_OPT is assumed to be 5 and the following would be a typical program sequence:

```
x10      ; Executable NC block
r1=1    ; The first write command since x10
        ; -> Save old value in log file. 1st entry
r2=1    ; Determine that r2 is not yet included
        ; -> Save old value in log file. 2nd entry
r3=1    ; Determine that r3 is not yet included
        ; -> Save old value in log file. 3rd entry
r4=1    ; Determine that r4 is not yet included
        ; -> Save old value in log file. 4th entry
r5=1    ; Determine that r5 is not yet included
        ; -> Save old value in log file. 5th entry
r6=1    ; Determine that r6 is not yet included
        ; -> Save old value in log file. 6th entry
r2=1    ; Determine that r2 is already included
        ; (5th oldest entry) -> no renewed saving
r3=1    ; Determine that r3 is already included
        ; (4th oldest entry) -> no renewed saving
r1=2    ; As MD17600 $MN_DEPTH_OF_LOGFILE_OPT = 5 it is not detected that
        ; r1 is already included
        ; (6th oldest entry) -> save old value in log file.
        ; 7th entry
x20      ; Executable NC block
```

```

r1=3      ; The first write command since x20
          ; -> Save old value in log file. 1st entry
r1=4      ; Determine that r1 is already included
          ; (Only one entry) -> no renewed saving
The setting of the MD is particularly useful if a small number of various
parameters
are written frequently (e.g. in a loop) and if alarm 15110 occurs for this
reason.

```

17610	DEPTH_OF_LOGFILE_OPT_PF	EXP, N01	-
-	Depth of the PowerFail log memory optimization	DWORD	Reset
-			
-	3	10, 0, 0	0 300 1/1 M

Description: Depth of the memory optimization in the PowerFail log file (=search depth, to find out whether a parameter to be written is already included in the PowerFail log file).

It is possible to increase the value of the machine data if alarm 15120 occurs during program processing and if you wish to avoid it. (Alternatively, you can increase the size of the PowerFail log file itself by means of MD18232 \$MN_MM_ACTFILESYS_LOG_FILE_MEM, if you have the necessary access right and if the required memory is available.

Value

0 = same effect as value 1.

Writing of a variable value is therefore very time-efficient at the cost of the required memory.

0 < n <= Maximum value

= Writing of a new variable value leads, prior to saving of the new variable value in the PowerFail log file, to the last n write operations which have been being checked to see whether the new parameter to be written has already been written once. If yes, the new value is not entered again in the PowerFail log file, but the old value is overwritten with the new one. If no, the new value is entered.

At the cost of the required time, writing of a variable value can therefore be designed very memory-efficiently.

Changing of the data can shorten/increase the time requirement of the present application.

Changing of the data can fill the available log buffers faster/more slowly. Frequent occurring of alarm 15120 -> Increase values for index=0,1,2.

The value indicating the index to be changed can be deducted from the parameter of alarm 15120:

if it is the value for MD18232 \$MN_MM_ACTFILESYS_LOG_FILE_MEM[0], then increase the value for index 0;

or increase MD18232 \$MN_MM_ACTFILESYS_LOG_FILE_MEM[0] itself.

Index Meaning

0 Search depth in preprocessing buffer

1 Search depth in buffer for data changes within the range of tool change

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2 Search depth in buffer for data changes of main processing (especially synchronized actions)

17900	VDI_FUNCTION_MASK	EXP, N09	H1			
-	Setting to VDI signals	DWORD	PowerOn			
-						
-	-	0x0	0	0x1	7/2	M

Description: Settings for VDI signals:

Bit 0 == 0:

The VDI signals motion command + / motion command - are already issued if there is a travel request (default).

Bit 0 == 1:

The VDI signals motion command + / motion command - are issued only if the axis actually moves.

18000	VDI_UPDATE_IN_ONE_IPO_CYCLE	EXP, N01	P3			
-	PLC interface update	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	0/0	M

Description: 1: Complete reading/writing of the VDI interface in one IPO cycle

0: Complete reading/writing of the VDI interface in two IPO cycles

18030	HW_SERIAL_NUMBER	N05	-		
-	Hardware series number	STRING	PowerOn		
-					
-	1	-	-	ReadOnly	M

Description: During power on of the control, a unique hardware serial number is stored in this MD:

- For Powerline series modules this is the serial number of the NCU module
- For Solutionline series modules this is the serial number of the CF card, or the unique number of the MCI module in the case of PC-based systems

This data cannot be written.

18040	VERSION_INFO	N05	IAD			
-	Version	STRING	PowerOn			
-						
840dsl-71	4	840DSL-71	-	-	ReadOnly	M
840dsl-72	4	840DSL-72	-	-	ReadOnly	M
840dsl-73	4	840DSL-73	-	-	ReadOnly	M

Description: Version identifiers of the system software

18042	CC_VERSION_INFO	N05	IAD			
-	Compile cycle version	STRING	PowerOn			
-						
-	10	...	-	-	7/2	M

Description: Version identifiers of the compile cycles

18050	INFO_FREE_MEM_DYNAMIC	N01, N02, N05	S7			
-	Display data of free dynamic memory	DWORD	PowerOn			
-						
-	-	1048576	-	-	ReadOnly	M

Description: The data is used for

- a) the manufacturer's presetting of the memory size [bytes] available to the user for each channel after cold restart.
- b) Displaying the available dynamic memory [bytes]

The data cannot be written.

The contents of the data state how much unbuffered memory is available per channel for increasing the unbuffered user data storage area via MD.

One should check whether the available memory is sufficient before increasing, for example, the number of LUDs, number of functional parameters, or the size of the IPO buffer.

If necessary, proceed step by step:

- increase by 1, note (old) value
- NCK startup (= 'warm start' or NCK reset), read off new value
- memory requirement = new value - old value

On the first NCK startup or cold restart of the control (=deletion of user data), MD18210 \$MN_MM_USER_MEM_DYNAMIC is set by the NCK software so that at least the preset value results for MD18050 \$MN_INFO_FREE_MEM_DYNAMIC.

That is, the value is automatically increased if the initial value of MD18210 \$MN_MM_USER_MEM_DYNAMIC is too low.

The following also applies to multichannel systems:

- The preset value applies to each possible channel. That is, if there are ten possible channels, MD18210 \$MN_MM_USER_MEM_DYNAMIC is set by the NCK SW so that at least the 'preset value* ten' results for MD18050 \$MN_INFO_FREE_MEM_DYNAMIC.
- On activation of a channel, MD18210 \$MN_MM_USER_MEM_DYNAMIC is increased if necessary so that the memory free at the time of activation continues to be free (provided that the memory structure permits this) after the channel has become active.
- The activation of the maximum possible number of axes is ensured by increasing the data MD18210 \$MN_MM_USER_MEM_DYNAMIC if necessary so that memory free at the time of activation continues to be free (provided that the memory structure permits this) after the axis has become active.

'If necessary' in the previous sentences means that the adjustment is automatic if the channel/axis could not be activated with the current values of MD18210 \$MN_MM_USER_MEM_DYNAMIC/\$MN_INFO_FREE_MEM_DYNAMIC.

18060	INFO_FREE_MEM_STATIC	N01, N02, N05	S7			
-	Display data of free static memory	DWORD	PowerOn			
-						
-	-	2097152	-	-	ReadOnly	M

Description: The following applies to powerline control models:

Output of the buffered memory available in the passive file system [bytes].

The data cannot be written.

The preset value states the minimum number of bytes available to the user when the NCK starts up with a cold restart.

The contents of the data state how much battery-backed memory is available for the passive file system at the time of startup.

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After a non-buffered startup, the maximum memory available in the file system can be read.

If MDs that affect the requirement for buffered memory (e.g.

`MM_NUM_GUD_VALUES_MEM`, `MD38000 $MA_MM_ENC_COMP_MAX_POINTS`) are changed then this changes the amount of memory available for the passive file system, as the amount of memory allocated to the passive file system consists of `MD18230 $MN_MM_USER_MEM_BUFFERED` minus all other buffered user data.

(See also the document on `MD18350 $MN_MM_USER_FILE_MEM_MINIMUM`)

At the first NCK startup or cold restart of the control (=deletion of user data) `MD18230 $MN_MM_USER_MEM_BUFFERED` is set by the NCK software so that at least the default value results for `MD18060 $MN_INFO_FREE_MEM_STATIC`.

That is `MD18230 $MN_MM_USER_MEM_BUFFERED` is automatically increased if its initial value is too low.

The following applies to solution line control models:

The data reserves the available memory for the data that are not the passive file system.

(`MD18350 $MN_MM_USER_FILE_MEM_MINIMUM[0]` dimensions the passive file system.)

Machine data for setting the active file system (tools, GUDs, ...) can be increased until this memory has all been allocated.

18070	INFO_FREE_MEM_DPR		EXP, N01, N02, N05	S7		
-	Display data of free memory in DUAL PORT RAM		DWORD	PowerOn		
-						
-	-	0	-	-	ReadOnly	M

Description: Output of the available memory in the Dual Port RAM (Bytes).

The data cannot be written.

18072	INFO_FREE_MEM_CC_MD		EXP, N01, N05	-		
-	Display of free memory in CC-MD memory		DWORD	PowerOn		
-						
-	-	0	-	-	ReadOnly	M

Description: Output of the available memory for compile cycle MDs (bytes).

The data cannot be written.

18074	MM_TOOL_MANAGEMENT_TRACE_SZ		N02, N09	/FBW/, "Description of Functions, Tool Management"		
-	Max. size of the tool management diagnostic ring buffers		DWORD	PowerOn		
-						
-	2	25, 25	4	500	7/2	M

Description: The number of entries in the tool management diagnostic ring buffers.

Index 0 = IPO trace buffer size.

Index 1 = Prep trace buffer size.

There are separate IPO trace buffers in each channel, and a Prep trace buffer in channel 1 only.

The buffers are allocated only if bit 0 (0x0001) is ON at warm start, in both `MD18080 $MN_MM_TOOL_MANAGEMENT_MASK` and per-channel `MD20310 $MC_TOOL_MANAGEMENT_MASK`.

Trace data is written to the buffers when bit 13 (0x2000) is ON in per-channel `MD20310 $MC_TOOL_MANAGEMENT_MASK`.

18075	MM_NUM_TOOLHOLDERS	N02, N09	/FBW/, "Description of Functions, Tool Management"			
-	Max. number of tool holders per TOA	DWORD	PowerOn			
-	-	16	1			
		128	7/2	M		

Description: Max. number of definable tool holders per TO range.

The address extension e of commands Te=t, Me=6 (*) is the number of the tool holder.

t=T number/tool name - depending on the function activated in the NCK.

(*) if: MD22550 \$MC_TOOL_CHANGE_MODE=1 and MD22560 \$MC_TOOL_CHANGE_M_CODE=6 applies

Normally the tool holder of milling machines is a spindle.

Also see MD20090 \$MC_SPIND_DEF_MASTER_SPIND.

For turning machines the tool holder normally is not a spindle axis.

Also see MD20124 \$MC_TOOL_MANAGEMENT_TOOLHOLDER.

In this case it should reasonably apply that MD18075 \$MN_MM_NUM_TOOLHOLDERS is larger or equal to MD20090 \$MC_SPIND_DEF_MASTER_SPIND/MD20124 \$MC_TOOL_MANAGEMENT_TOOLHOLDER.

If bit 0 = 1 in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK and MD20310 \$MC_TOOL_MANAGEMENT_MASK is set (=magazine management (TOOLMAN)) it will apply for reasonable values that MD18075 \$MN_MM_NUM_TOOLHOLDERS is smaller or equal to MD18076 \$MN_MM_NUM_LOCS_WITH_DISTANCE.

A maximum of MD18075 \$MN_MM_NUM_TOOLHOLDERS intermediate memory locations of the type spindle (\$TC_MPP1[9998,x]=2) can then be defined.

Example: TOOLMAN inactive

MD20090 \$MC_SPIND_DEF_MASTER_SPIND shall be =3, MD18075 \$MN_MM_NUM_TOOLHOLDERS shall be =3.

Then T1=t, T2=t, T3=t, T=t can be programmed.

Example: TOOLMAN active, milling machine with Me=6 as tool change command MD18075 \$MN_MM_NUM_TOOLHOLDERS shall be = 14, MD18076 \$MN_MM_NUM_LOCS_WITH_DISTANCE=20,

10 channels shall be active, all channels have TOOLMAN active and have the same tool and magazine data (=one TO range for all channels). MD20090 \$MC_SPIND_DEF_MASTER_SPIND=1,.....10 for the channels.

Then up to 14 locations of the kind 'tool holder'/'spindle' can be defined in the intermediate magazine memory.

Additional 6 grippers or others can be defined.

These 20 locations max. can be linked to magazines.

In the channels T1=t, T14=t and Tt, or M1=6,....M14=6 and M6 can be programmed.

The PLC version used can limit the maximum number of tool holders.

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18076	MM_NUM_LOCS_WITH_DISTANCE	N02, N09	/FBW/, "Description of Functions, Tool Management"
-	Max. number of magazine locations per TOA with remote connection	DWORD	PowerOn
-			
-	-	32	1

Description: This machine data is reasonable, if the magazine management function, TOOLMAN, is active

- See MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, MD20310 \$MC_TOOL_MANAGEMENT_MASK; for each bit 0 = 1.

Max. number of magazine locations (spindles, load locations,...) per TOA, that can have a remote connection to a magazine, defined by \$TC_MDPx[n,m].

Example: TOOLMAN shall be active: MD18076 \$MN_MM_NUM_LOCS_WITH_DISTANCE shall be = 5 and MD18077 \$MN_MM_NUM_DIST_REL_PER_MAGLOC = 2.

Two TO units shall be defined with three tool holders/spindles and two load locations each.

Furthermore, two grippers each shall be defined in each TO unit.

This means that a total of 14 locations shall be defined in the intermediate memory magazine/load magazine for the distances and assignments.

4 magazines shall be defined for TO unit 1, 6 magazines for TO unit 2.

With the value set to MD18076 \$MN_MM_NUM_LOCS_WITH_DISTANCE = 5 each tool holder and each load location of the two TO units with up to two magazines (MD18077 \$MN_MM_NUM_DIST_REL_PER_MAGLOC = 2) per remote relationship can be connected; (see \$TC_MDP1 and \$TC_MDP2) and for each tool holder max. two more grippers (MD18077 \$MN_MM_NUM_DIST_REL_PER_MAGLOC = 2) can be assigned; (see \$TC_MLSR). One tool holder / one spindle location can subsequently have two tables - one distance table for magazines and one assignment table for grippers and similar locations.

18077	MM_NUM_DIST_REL_PER_MAGLOC	N02, N09	/FBW/, "Description of Functions, Tool Management"
-	Max. no. of magazines in the distance table of a magazine loc.	DWORD	PowerOn
-			
-	-	32	0

Description: This machine data will only be active, if the magazine management, TOOLMAN function is active.

- See MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, MD20310 \$MC_TOOL_MANAGEMENT_MASK.

Two sizes are defined with this magazine data:

- 1.) Max. number of magazines in the distance table of a magazine location (spindle, load location, ...)
- 2.) Max. number of locations (gripper, ...) in the connection table of a spindle/tool holder location.

Example: MD18077 \$MN_MM_NUM_DIST_REL_PER_MAGLOC shall be = 3.

Two TO units shall be defined with two tool holder/spindles each and one load location each.

Furthermore four grippers shall be defined in each TO unit.

4 magazines shall be defined for TO unit 1; 6 magazines shall be defined for TO unit 2.

Then, each tool holder can define max. three distances for the magazines (see \$TC_MDP2)

and additionally a max. of three relationships to the grippers (\$TC_MLSR).

18078	MM_MAX_NUM_OF_HIERARCHIES	N02, N09	/FBW/, "Description of Functions, Tool Management"			
-	The maximum number of hierarchies for magazine location types	DWORD	PowerOn			
-						
-	-	8	0	32	7/2	M

Description: The machine data only has effect if the function 'tool magazine management', TMMG, is activated - see MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, MD20310 \$MC_TOOL_MANAGEMENT_MASK.
The maximum number of hierarchies for magazine location types.
In variable \$TC_MPTh[n,m], the allowed range of n is from 0 to (\$MN_MM_MAX_NUM_OF_HIERARCHIES - 1).
(The maximum of index m is given by MD18079 \$MN_MM_MAX_HIERARCHY_ENTRIES.)
Value = 0 means that the function 'magazine location type hierchies' is not available.

18079	MM_MAX_HIERARCHY_ENTRIES	N02, N09	/FBW/, "Description of Functions, Tool Management"			
-	The max. number of entries in a mag. location type hierarchy.	DWORD	PowerOn			
-						
-	-	8	1	32	7/2	M

Description: The machine data is only effective if the function 'tool magazine management', TMMG, is activated - see MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, MD20310 \$MC_TOOL_MANAGEMENT_MASK - and if MD18078 \$MN_MM_MAX_NUM_OF_HIERARCHIES is greater than zero.
The maximum number of entries in a magazine location type hierarchy.
The permissible range of the index m of system parameter \$TC_MPTh[n,m] is from 0 to 'MD18079 \$MN_MM_MAX_HIERARCHY_ENTRIES - 1'.
(The maximum of index n is given by MD18078 \$MN_MM_MAX_NUM_OF_HIERARCHIES.)

18080	MM_TOOL_MANAGEMENT_MASK	N02, N09	K1,W1			
-	Step-by-step memory reservation for tool management (SRAM)	DWORD	PowerOn			
-						
-	-	0x0	0	0xFFFF	7/1	M

Description: Activating the TM memory with "0" means:
The set TM data does not take up any memory space, TM is not available.
Bit 0=1: Memory for TM-specific data is provided, the MDs which reserve memory space have to be set accordingly (MD18086 \$MN_MM_NUM_MAGAZINE_LOCATION, MD18084 \$MN_MM_NUM_MAGAZINE)
Bit 1=1: Memory for monitoring data (WZMO) is provided
Bit 2=1: Memory for user data (CC data) is provided
Bit 3=1: Memory to consider adjacent location is provided
Bit 4=1: Memory and function enable for PI service _N_TSEARC = "Complex search for tools in magazines" is provided.
Bit 5=1: Wear monitoring active

1.3 NC machine data

Bit 6=1: Wear grouping available
 Bit 7=1: Reserve memory for adapters for magazine locations
 Bit 8=1: Memory for application and/or setup offsets
 Bit 9=1: Tools associated with a revolver no longer leave their revolver location on tool change (display).
 Bit 10=1: The multitool function is available
 (other MDs can be used to modify the configuration).
 Bit 10=0: The multitool function is not available
 (the functional scope configured with other MDs is ineffective).
 This broken down approach to memory reservation means that memory usage can be optimized in line with the functions used.
Example:
 Default memory reservation for TM:
 MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK = 3 (bit 0 + 1=1) means that TM and tool monitoring data are provided
 MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK = 1 means tool management without tool monitoring function data

18082	MM_NUM_TOOL	N02, N09	FBW,S7			
-	Number of tools the NCK can manage (SRAM)	DWORD	PowerOn			
-						
-	-	30	0	1500	7/2	M

Description: The NC cannot manage more tools than the number entered in the MD. A tool has at least one cutting edge.
 Buffered user memory is used.
 The maximum possible number of tools is equal to the number of cutting edges.
 The MD must also be set when TOOLMAN is not used.
 The buffered data are lost when the machine data is changed.
Related to:
 MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

18084	MM_NUM_MAGAZINE	N02, N09	FBW			
-	Number of magazines the NCK can manage (SRAM)	DWORD	PowerOn			
-						
-	-	3	0	32	7/2	M

Description: Tool management (TOOLMAN and TMMG) - only when MD TOOLMAN and option TOOLMAN are set:
 Number of magazines which the NCK can manage (active and background magazines).
 This MD reserves the buffered memory for the magazines.
 Important: One loading and one buffer magazine are set up in the tool management for each TOA unit. These magazines have to be taken into account here.
 Value = 0 - The tool management cannot be activated because no data can be created.
Related to:
 MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK
 MD20310 \$MC_TOOL_MANAGEMENT_MASK

18086	MM_NUM_MAGAZINE_LOCATION	N02, N09	FBW			
-	Number of magazine locations the NCK can manage (SRAM)	DWORD	PowerOn			
-						
-	-	30	0	600	7/2	M

Description: TMMG - only when MD TOOLMAN and TOOLMAN option are set:
 Number of magazine locations which the NCK can manage.
 This machine data reserves the buffered memory for the magazine locations.
 Important: The number of all buffers and loading points also has to be included in the calculation here.
 Value = 0: Tool management cannot be activated because no data can be created.
Related to:
 MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK
 MD20310 \$MC_TOOL_MANAGEMENT_MASK

18088	MM_NUM_TOOL_CARRIER	N02, N09	W1			
-	Maximum number of definable tool holders	DWORD	PowerOn			
-						
-	-	0	0	600	7/2	M

Description: Maximum number of definable toolholders for orientable tools in the TO area.
 The value is divided by the number of active TO units. The integer result states how many toolholders can be defined for each TO unit. The data for defining a toolholder are set with the system variables \$TC_CARR1, ... \$TC_CARR14.
 The data are stored in battery-backed memory.
Application example(s):
 -

18090	MM_NUM_CC_MAGAZINE_PARAM	N02, N09	FBW			
-	Number of OEM magazine data (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Number of magazine data (of type Integer) which are available to the user or the compile cycle.
 This machine data increases the buffered memory requirement by sizeof(int)*max. number of magazines.
Related to:
 MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK
 MD18084 \$MN_MM_NUM_MAGAZINE

18091	MM_TYPE_CC_MAGAZINE_PARAM	N02, N09	-			
-	Type of OEM magazine data (SRAM)	DWORD	PowerOn			
-						
-	10	3, 3, 3, 3, 3, 3, 3, 3...	1	6	2/2	M

Description: Work may only be done with the default setting.
 Individual types can be assigned to the parameters in this way. Array index n can take values from 0 to that of MD18090 \$MN_MM_NUM_CC_MAGAZINE_PARAM.

1.3 NC machine data

The possible values of the MD = 1, 2, 3, 4, 5 and 6 stand for the NC language types: BOOL, CHAR, INT, REAL, STRING and AXIS. The type FRAME cannot be defined here. The type STRING can have a max. length of 31 characters. Example:

MD18090 \$MN_MM_NUM_CC_MAGAZINE_PARAM=1

MD18091 \$MN_MM_TYPE_CC_MAGAZINE_PARAM=5

Parameter \$TC_MAPC1 = "UserMagazine" can then be programmed.

Buffered work memory is used. A value change may but need not necessarily lead to a reconfiguration of the buffered memory.

Related to:

MD18090 \$MN_MM_NUM_CC_MAGAZINE_PARAM

MD18084 \$MN_MM_NUM_MAGAZINE

18092	MM_NUM_CC_MAGLOC_PARAM	N02, N09	FBW			
-	Number of OEM magazine location data	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Number of magazine location data parameters (of type Integer) which are available to the user or the compile cycle.

This machine data increases the buffered memory requirement by sizeof(int)*max. number of magazines.

Related to:

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK

MD18086 \$MN_MM_NUM_MAGAZINE_LOCATION

18093	MM_TYPE_CC_MAGLOC_PARAM	N02, N09	-			
-	Type of OEM magazine location data (SRAM)	DWORD	PowerOn			
-						
-	10	3, 3, 3, 3, 3, 3, 3...	1	6	2/2	M

Description: Work may only be done with the default setting.

Individual types can be assigned to the parameters in this way. The array index n can accept values from 0 to the value of MD18090
\$MN_MM_NUM_CC_MAGAZINE_PARAM.

The possible values of the MD = 1, 2, 3, 4 and 6 represent the NC language types

1 BOOL,

2 CHAR,

3 INT,

4 REAL and

6 AXIS

The type STRING is explicitly not possible here. The value 5 is treated like 2. The type FRAME cannot be defined here.

Example:

MD18090 \$MN_MM_NUM_CC_MAGAZINE_PARAM=1

MD18091 \$MN_MM_TYPE_CC_MAGAZINE_PARAM=2

"UserMagazineLocation" can then be programmed for the parameter \$TC_MPPC1.

Buffered working memory is used. A value change can - but need not - lead to reconfiguration of the buffered memory.

Related to:

MD18092 \$MN_MM_NUM_CC_MAGLOG_PARAM

18094	MM_NUM_CC_TDA_PARAM	N02, N09	H2			
-	Number of OEM tool data (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Number of tool-specific data (of type Integer) which can be created per tool, and which are available to the user or the compile cycle.

This machine data increases the buffered memory requirement by sizeof(double)*max. number of tools.

Related to:

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK

MD18082 \$MN_MM_NUM_TOOL

18095	MM_TYPE_CC_TDA_PARAM	N02, N09	-			
-	Type of OEM tool data (SRAM)	DWORD	PowerOn			
-						
-	10	4, 4, 4, 4, 4, 4, 4...	1	6	2/2	M

Description: Work may only be done with the default setting.

Individual types can be assigned to the parameters in this way. The array index n can accept values from 0 to the value of MD18094 \$MN_MM_NUM_CC_TDA_PARAM.

The possible values of the MD = 1, 2, 3, 4, 5 and 6 represent the NC language types

- 1 BOOL,
- 2 CHAR,
- 3 INT,
- 4 REAL,
- 5 STRING and
- 6 AXIS.

The type FRAME cannot be defined here. The type STRING can be up to 31 characters long.

Example:

MD18094 \$MN_MM_NUM_CC_TDA_PARAM=1

MD18095 \$MN_MM_TYPE_CC_TDA_PARAM=5

"UserCuttingEdge" can then be programmed for parameter \$TC_TPC1.

Buffered working memory is used. A value change can - but need not - lead to reconfiguration of the buffered memory.

Related to:

MD18094 \$MN_MM_NUM_CC_TDA_PARAM

MD18082 \$MN_MM_NUM_TOOL

18096	MM_NUM_CC_TOA_PARAM	N02, N09	G2			
-	Number of data per tool edge for compile cycles (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Number of TOA data (of type Real) which can be created per tool, and which are available to the user or the compile cycle.

This MD increases the buffered memory requirement by sizeof(double)*max. number of cutting edges.

1.3 NC machine data

Related to:

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK
 MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

18097	MM_TYPE_CC_TOA_PARAM	N02, N09	-			
-	Type of OEM data per cutting edge (SRAM)	DWORD	PowerOn			
-						
-	10	4, 4, 4, 4, 4, 4, 4...	1	6	2/2	M

Description: Work may only be done with the default setting.

Individual types can be assigned to the parameters in this way. The array index n can accept values from 0 to the value of MD18096
 \$MN_MM_NUM_CC_TOA_PARAM.

The possible values of the MD = 1, 2, 3, 4 and 6 represent the NC language types

- 1 BOOL,
- 2 CHAR,
- 3 INT,
- 4 REAL and
- 6 AXIS.

The type STRING is explicitly not possible here. The value 5 is treated like value 2).

The type FRAME cannot be defined here.

Example:

```
MD18096 $MN_MM_NUM_CC_TOA_PARAM=1
MD18097 $MN_MM_TYPE_CC_TOA_PARAM=2
"A" can then be programmed for parameter $TC_DPC1.
```

Buffered working memory is used. A value change can - but need not - lead to reconfiguration of the buffered memory.

Related to:

MD18096 \$MN_MM_NUM_CC_TOA_PARAM
 MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

18098	MM_NUM_CC_MON_PARAM	N02, N09	FBW			
-	Number of monitoring data per tool for compile cycles	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Number of monitoring data (of type Integer) which can be created per tool, and which are available to the user or the compile cycle.

This MD increases the buffered memory requirement by sizeof(int)*max. number of cutting edges.

Related to:

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK
 MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

18099	MM_TYPE_CC_MON_PARAM	N02, N09	FBW			
-	Type of OEM monitor data (SRAM)	DWORD	PowerOn			
-						
-	10	3, 3, 3, 3, 3, 3, 3...	1	6	2/2	M

Description: Work may only be done with the default setting.

Individual types can be assigned to the parameters in this way. The array index n can accept values from 0 to the value of MD18098
\$MN_MM_NUM_CC_MON_PARAM.

Possible values of the MD = 1, 2, 3, 4 and 6 represent the NC language types

- 1 BOOL,
- 2 CHAR,
- 3 INT,
- 4 REAL and
- 6 AXIS.

The FRAME type cannot be defined here.

(The type STRING is explicitly not possible here. The value 5 is treated like value 2.)

Example:

MD18098 \$MN_MM_NUM_CC_MON_PARAM=1

MD18099 \$MN_MM_TYPE_CC_MON_PARAM=2

"UserCuttingEdge" can then be programmed for the parameter \$TC_MOPC1.

Buffered working memory is used. A value change can - but need not - lead to reconfiguration of the buffered memory.

Related to:

MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

MD18098 \$MN_MM_NUM_CC_MON_PARAM

18100	MM_NUM_CUTTING_EDGES_IN_TOA	N02, N09	W1			
-	Tool offsets in the TO range (SRAM)	DWORD	PowerOn			
-						
-	-	30	0	1500	7/2	M

Description: Defines the number of tool cutting edges in a TO area. This machine data reserves approximately 250 bytes of battery-backed memory per TOA block for each tool cutting edge, irrespective of the tool type.

Tools with cutting edges of type 400-499 (= grinding tools) also occupy the location of a cutting edge.

Example:

Defining 10 grinding tools each of which has one cutting edge. Then at least:

MD18082 \$MN_MM_NUM_TOOL = 10

MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA = 20 must apply.

See also MD18082 \$MN_MM_NUM_TOOL

Buffered user memory is used.

Special cases:

The battery-backed data are lost if this machine data is altered.

1.3 NC machine data

18102	MM_TYPE_OF_CUTTING_EDGE	N02, N09	W1
-	Type of D No. programming (SRAM)	DWORD	PowerOn
-			
-	-	0	0

Description: This MD activates the 'flat D number management'.

The type of D programming can be determined by individual values:

- direct or
- indirect programming.

The default value is zero. This means that the NCK manages the T and D numbers.

The NCK only accepts a value > 0 if bit 0 is not set in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK. That means the tool management function cannot be active at the same time.

Value: Meaning

0: No 'flat D number management' active

1: D numbers are programmed directly and absolutely

Values 2, 3 have not yet been released

18104	MM_NUM_TOOL_ADAPTER	N02, N09	W1
-	Tool adapters in TO area (SRAM)	DWORD	PowerOn
-			
-	-	-1	-1

Description: Number of tool adapters in the TO area.

The function can only be used if there are magazine locations in the NCK.

The tool management function must be active.

Bit 7 (=0x80) also has to be set in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK for the setting to become active.

Adapter data blocks and the cutting edge-specific basic/adapter dimensions are mutually exclusive. This means that if adapter data are defined, then the parameters \$TC_DP21, \$TC_DP22, \$TC_DP23 and their values are generally not available in the NCK.

-1:

An adapter is automatically assigned to each magazine location.

This means that internally the same number of adapters are provided as magazine locations are provided by MD18086 \$MN_MM_NUM_MAGAZINE_LOCATION.

0:

No adapter data definitions possible. The cutting edge-specific parameters \$TC_DP21, \$TC_DP22, \$TC_DP23 are available provided that adapters are used outside the active TMMG.

> 0:

-

See the machine data:

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK,

MD20310 \$MC_TOOL_MANAGEMENT_MASK,

MD18084 \$MN_MM_NUM_MAGAZINE,

MD18086 \$MN_MM_NUM_MAGAZINE_LOCATION

18105	MM_MAX_CUTTING_EDGE_NO	N02, N09	W1			
-	maximum value of D number	DWORD	PowerOn			
-						
-	-	9	1	32000	7/2	M

Description: Maximum value of the D number.

This does not affect the maximum number of D numbers per cutting edge.

The monitoring of the D number assignment associated with this value is only active when the D numbers are redefined. This means that existing data blocks are not subsequently checked if the MD is changed.

The following settings are advantageous:

MD18105 \$MN_MM_MAX_CUTTING_EDGE_NO is equal to

MD18106 \$MN_MM_MAX_CUTTING_EDGE_PER_TOOL.

If MD18105 \$MN_MM_MAX_CUTTING_EDGE_NO is selected > MD18106

\$MN_MM_MAX_CUTTING_EDGE_PER_TOOL, then the difference between offset number D and cutting-edge number CE should be known.

See also language commands CHKDNO, CHKDM, GETDNO, SETDNO, DZERO.

The machine data is not evaluated with the function "flat D number", and therefore has no significance there.

The MD can affect the memory requirement:

If the relation between the two, above-mentioned MDs changes from "less than or equal to" to "greater than" or vice versa, then this affects the non-buffered memory requirement.

Related to:

MD18106 \$MN_MM_MAX_CUTTING_EDGE_PER_TOOL

18106	MM_MAX_CUTTING_EDGE_PERTOOL	N02, N09	W1			
-	maximum number of D numbers per tool	DWORD	PowerOn			
-						
-	-	9	1	12	7/2	M

Description: Maximum number of cutting edges (D offsets) per tool (per T number).

This enables more safety to be achieved in the data definition. The value can be set to 1 if only tools with one cutting edge are used. This prevents more than one cutting edge being assigned to a tool in the data definition.

The following settings are advantageous: MD18105 \$MN_MM_MAX_CUTTING_EDGE_NO is equal to MD18106 \$MN_MM_MAX_CUTTING_EDGE_PER_TOOL. If MD18105

\$MN_MM_MAX_CUTTING_EDGE_NO is selected > MD18106

\$MN_MM_MAX_CUTTING_EDGE_PER_TOOL, then the difference between offset number D and cutting-edge number CE should be known.

See also language commands CHKDNO, CHKDM, GETDNO, SETDNO, DZERO.

The machine data is not evaluated with the function "flat D number", and therefore has no significance there.

The data can affect the memory requirement.

The MD can affect the memory requirement.

If the relation between the two, above-mentioned MDs changes from "less than or equal to" to "greater than" or vice versa, then this affects the non-buffered memory requirement.

Related to:

MD19105 \$MN_MM_MAX_CUTTING_EDGE_NO

1.3 NC machine data

18108	MM_NUM_SUMCORR	N02, N09	W1			
-	Resulting offsets in TO area (SRAM)	DWORD	PowerOn			
-						
-	-	-1	-1	9000	7/2	M

Description: Total number of resulting offsets in the NCK.

The value = -1 means that the number of resulting offsets is equal to the number of cutting edges multiplied by the number of resulting offsets per cutting edge.

A value > 0 and < "number of cutting edges multiplied by the number of resulting offsets per cutting edge" means that a maximum "number of resulting offsets per cutting edge" can be defined per cutting edge but do not have to be. This means that buffered memory can be used economically. Only those cutting edges for which explicit data have been defined have a resulting offset data block.

Buffered memory is reserved. The memory requirement for a resulting offset doubles if "setup offset active" has also been configured, see MD18112 \$MN_MM_KIND_OF_SUMCORR.

See also:

MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA,

MD18110 \$MN_MM_MAX_SUMCORR_PER_CUTTEDGE

18110	MM_MAX_SUMCORR_PER_CUTTEDGE	N02, N09	S7			
-	Max. number of additive offsets per edge (SRAM)	DWORD	PowerOn			
-						
-	-	1	1	6	7/2	M

Description: Maximum number of resulting offsets per cutting edge.

If MD18108 \$MN_MM_NUM_SUMCORR > 0 then:

The data is not memory defining, but is only used for monitoring.

If MD18108 \$MN_MM_NUM_SUMCORR = -1 then:

The data is memory defining.

See also

MD18108 \$MN_MM_NUM_SUMCORR,

MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA.

18112	MM_KIND_OF_SUMCORR	N02, N09	W1			
-	Properties of resulting offsets in TO area (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	0x1F	7/2	M

Description: Properties of the resulting offsets in NCK.

Bit 0=0 "Resulting offsets fine" are backed up when the tool data are backed up.

Bit 0=1 "Resulting offsets fine" are backed up when the tool data are backed up.

Bit 1=0 Set-up offsets are backed up when the tool data are backed up.

Bit 1=1 Set-up offsets are not backed up when the tool data are backed up.

Bit 2=0 If work is done with the function tool management (TOOLMAN) and/or tool monitoring (TMMO), existing "resulting offsets fine/setup offsets" are not affected when the tool status is set to "active".

Bit 2 =1 Existing resulting offsets are set to zero when the tool status is set to "active".

Bit 3=0 If work is done with the function "TOOLMAN" +"adapter", the "resulting offsets fine"/setup offsets are transformed.

Bit 3=1 No transformation of the "resulting offsets fine"/setup offsets

Bit 4=0 No set-up offset data blocks

Bit 4=1 Set-up offset data blocks are additionally created. Whereby the resulting offset is composed of the sum of the set-up offset + "resulting offset fine"

Changing the status of bits 0, 1, 2, 3 does not change the memory structure.

Changing the status of bit 4 triggers restructuring of the buffered memory after the next PowerOn.

See also

MD18100 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA

MD18108 \$MN_MM_NUM_SUMCORR

MD18110 \$MN_MM_MAX_SUMCORR_PER_CUTTEDGE

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK,

MD20310 \$MC_TOOL_MANAGEMENT_MASK,

MD18086 \$MN_MM_NUM_MAGAZINE_LOCATION,

MD18104 \$MN_MM_NUM_TOOL_ADAPTER

18114	MM_ENABLE_TOOL_ORIENT	N02, N09	W1, F2
-	Assign tool cutting edge orientation	DWORD	PowerOn
-			
-	-	0	0
		3	7/2
			M

Description: The function allows an orientation deviating from the default value to be assigned to each tool cutting edge.

Value = 0:

The tool orientation function is inactive.

Value = 1:

The system parameter \$TC_DPV[n, m] is assigned to each tool cutting edge D=m of the tool T=n, with the aid of which one of 6 possible tool orientations in positive or negative coordinate direction can be defined.

Value = 2:

Not only the system parameter \$TC_DPV[n, m] but also the additional three system parameters \$TC_DPV3[n, m], \$TC_DPV4[n, m] and \$TC_DPV5[n, m] are assigned to each tool cutting edge D=m of the tool T=n, with the aid of which any spatial tool orientation can be defined

T, D are the NC addresses T and D with which the tool change or the tool selection and the offset selection are programmed.

Value = 3:

Not only the system parameters \$TC_DPV[n, m] and \$TC_DPV3 - \$TC_DPV5 but also the additional three system parameters \$TC_DPVN3[n, m], \$TC_DPVN4[n, m] and \$TC_DPVN5[n, m] are assigned to each tool cutting edge D=m of the tool T=n, with the aid of which a vector (normal vector) can be defined that is preferably perpendicular to the tool orientation. The normal vector may be modified so that it lies in the plane formed by the orientation and the programmed normal vector but perpendicular to the orientation

The orientation and the possibly modified normal vector together define a complete orientation coordinate system. The machine data affects the requirement for battery-backed memory.

1.3 NC machine data

18116	MM_NUM_TOOL_ENV	N02, N09	W1			
-	Number of tool environments in the TO area (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	600	7/2	M

Description: Total number of tool environments in the NCK.
Battery-backed memory is reserved.

18118	MM_NUM_GUD_MODULES	N02	S7			
-	Number of GUD files in active file system (SRAM)	DWORD	PowerOn			
-						
-	-	7	1	9	7/2	M

Description: A GUD block corresponds to a file in which user-defined data can be stored. 9 GUD blocks are available of which 3 are already assigned to specific users/applications.

UGUD_DEF_USER (block for user)

SGUD_DEF_USER (block for SIEMENS)

MGUD_DEF_USER (block for machine manufacturer)

Special cases:

The number of GUD modules is determined by the GUD module with the highest number entered.

Example:

If the following GUD modules are defined,

UGUD

MGUD

GUD5

GUD8

then the machine data must be set to a value of 8, signifying a memory requirement of 8 x 120 bytes = 960 bytes.

It is therefore advisable to select the "lowest" possible GUD module. If GUD modules UGUD and MGUD have not been assigned elsewhere, then they may be used for this purpose.

Related to:

MD18150 \$MN_MM_GUD_VALUES_MEM

(Memory space for user variables)

18120	MM_NUM_GUD_NAMES_NCK	N02	S7			
-	Number of global user variable names (SRAM)	DWORD	PowerOn			
-						
-	-	60	60	32000	7/2	M

Description: Defines the number of user variables for NCK global user data (GUD). Approximately 80 bytes of memory per variable are reserved in the SRAM for the names of the variables. The additional memory required for the value of the variable depends on the data type of the variable. The number of available NCK global user data is exhausted on reaching the limit value set in MD18120 \$MN_MM_NUM_GUD_NAMES_NCK or MD18150 \$MN_MM_GUD_VALUES_MEM (memory space for user variables).

Buffered user memory is used.

Special cases:

The battery-backed data are lost if this machine data is altered.

Related to:

MD18150 \$MN_MM_GUD_VALUES_MEM
(Memory space for user variables)

18130	MM_NUM_GUD_NAMES_CHAN	N02	S7			
-	Number of channel-specific user variable names (SRAM)	DWORD	PowerOn			
-						
-	-	450	450	32000	7/2	M

Description: Defines the number of user variable names for channel-specific global user data (GUD). Approximately 80 bytes of memory are reserved in the SRAM for each variable name. The additional memory required for the value of the variable is equal to the size of the data type of the variable multiplied by the number of channels. This means that each channel has its own memory available for the variable values. The number of available channel-specific global user data is exhausted on reaching the limit value set in MD18130 \$MN_MM_NUM_GUD_NAMES_CHAN or MD18150 \$MN_MM_GUD_VALUES_MEM (memory space for user variables).

The name created with the DEF statement is valid for all channels.

The memory requirement for the variable value is equal to the size of the data type multiplied by the number of channels.

Buffered user memory is used.

Special cases:

The battery-backed data are lost if this machine data is altered.

Related to:

MD18150 \$MN_MM_GUD_VALUES_MEM
(Memory space for user variables)

18150	MM_GUD_VALUES_MEM	N02	A2			
-	Memory location for global user variable values (SRAM)	DWORD	PowerOn			
-						
-	-	196	136	32000	7/2	M

Description: The specified value reserves memory space for the variable values of the global user data (GUD). The dimensioning of the memory depends to a large extent on the data types used for the variables.

Overview of the memory requirements of the data types:

Data type	Memory requirement
REAL	8 bytes
INT	4 bytes
BOOL	1 byte
CHAR	1 byte
STRING	1 byte per character, 100 characters permitted per string
AXIS	4 bytes
FRAME	up to 1KB depending on control model

The total memory required by a channel or axis-specific global user variable is the memory requirement of the variables multiplied by the number of channels or axes. The number of global user variables available is given when the limit defined in MD18120 \$MN_MM_NUM_GUD_NAMES_NCK, MD18130 \$MN_MM_NUM_GUD_NAMES_CHAN, MD18140 \$MN_MM_NUM_GUD_NAMES_AXIS or MD18150 \$MN_MM_GUD_VALUES_MEM is reached.

Buffered user memory is used.

1.3 NC machine data

Special cases:

The buffered data are lost if this machine data is altered!

Related to:

MD18118 \$MN_MM_NUM_GUD_MODULES

(Number of GUD blocks)

MD18120 \$MN_MM_NUM_GUD_NAMES_NCK

(Number of global user variables)

MD18130 \$MN_MM_NUM_GUD_NAMES_CHAN

(Number of channel-specific user variables)

18160	MM_NUM_USER_MACROS	N02	S7			
-	Number of macros (DRAM)	DWORD	PowerOn			
-						
-	-	82	82	32000	7/2	M

Description: Defines the number of macros that can be stored in the files _N_SMAC_DEF, _N_MMAC_DEF und _N_UMAC_DEF. Each of these files which is opened occupies at least one kbyte memory space for the file code in the part program memory. Another kbyte of memory is reserved for the file when the one kbyte file code limit is exceeded.

The dynamic user memory is used. For the stated number of macros, approximately 375 bytes are reserved per macro for management tasks.

18170	MM_NUM_MAX_FUNC NAMES	N02	V2,A2			
-	Number of miscellaneous functions (cycles, DRAM)	DWORD	PowerOn			
-						
-	-	410	410	32000	7/2	M

Description: The data limits the maximum number of special functions over and above the predefined functions (such as sine, cosine, etc.) which can be used in

- cycle programs
- compile cycle software.

The function names are entered in the global NCK dictionary and must not conflict with the names that already exist.

The SIEMENS cycle package contains special functions that are taken into account by the default setting of the MD.

The data are stored in unbuffered memory. Approximately 150 bytes are required for each special function for management purposes.

Related to:

MD18180 \$MN_MM_NUM_MAX_FUNC_PARAM (Number. of additional parameters)

18180	MM_NUM_MAX_FUNC_PARAM	N02	V2			
-	Number of additional parameters for cycles according to MD 18170	DWORD	PowerOn			
-						
-	-	6750	6750	32000	7/2	M

Description: Defines the maximum number of parameters required for the special functions in

- cycle programs
- compile cycle software.

50 parameters are required for the special functions of the SIEMENS cycle package, software version 1.

The data are stored in unbuffered memory. 72 bytes of memory are reserved for each parameter.

Related to:

MD18170 \$MN_MM_NUM_MAX_FUNC_NAMES
(Number of special functions)

18190	MM_NUM_PROTECT_AREA_NCK	N12, N02, N06, N09	A3			
-	Number of files for machine-related protection zones (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	10	7/2	M

Description: This machine data defines how many blocks are created for the protection zones available in the NCK.

Buffered memory is used.

Special cases:

The battery-backed data are lost if this machine data is altered.

References:

/FB/, A3, "Axis Monitoring, Protection Zones"

18200	MM_NUM_CCS_MAGAZINE_PARAM	N02, N09	FBW			
-	Number of Siemens OEM magazine data (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 0=1 ('H1') and bit 2=1 ('H4'), is set for TMMG (and option is set):

User or OEM data in the tool management (TMMG).

Number of Siemens OEM magazine data (standard format IN_Int).

See also: MD18090 \$MN_MM_NUM_CC_MAGAZINE_PARAM, MD18084 \$MN_MM_NUM_MAGAZINE
Buffered user memory is used

18201	MM_TYPE_CCS_MAGAZINE_PARAM	N02, N09	FBW			
-	Type of Siemens OEM magazine data (SRAM)	DWORD	PowerOn			
-						
-	10	3, 3, 3, 3, 3, 3, 3, 3...	1	6	2/2	M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 0=1 ('H1') and bit 2=1 ('H4'), is set for TMMG (and option is set):

User or OEM data in the tool management.

Type of magazine-specific Siemens user data configured by MD18200
\$MN_MM_NUM_CCS_MAGAZINE_PARAM.

Each parameter can be assigned its own type. The permissible types are:

Type Value of the machine data

(See types

of the NC language)

BOOL 1

CHAR 2

INT 3

REAL 4

STRING 5 (permits identifier up to 31 characters
long)

1.3 NC machine data

AXIS 6
 FRAME not defined
 See also: MD18200 \$MN_MM_NUM_CCS_MAGAZINE_PARAM, MD18084 \$MN_MM_NUM_MAGAZINE
 Buffered user memory is used

18202	MM_NUM_CCS_MAGLOC_PARAM	N02, N09	FBW
-	No. of Siemens OEM magazine location data (SRAM)	DWORD	PowerOn
-			
-	-	0 0 10	2/2 M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 0=1 ('H1') and bit 2=1 ('H4'), is set for TMMG (and option is set):
 User or OEM data in the tool management.
 Number of Siemens OEM magazine location data (standard format IN_Int).
 See also: MD18092 \$MN_MM_NUM_CC_MAGLOC_PARAM, MD18086
 \$MN_MM_NUM_MAGAZINE_LOCATION
 Buffered user memory is used

18203	MM_TYPE_CCS_MAGLOC_PARAM	N02, N09	FBW
-	Type of Siemens OEM magazine location data (SRAM)	DWORD	PowerOn
-			
-	10	3, 3, 3, 3, 3, 3, 3... 1 6	2/2 M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 0=1 ('H1') and bit 2=1 ('H4'), is set for TMMG (and option is set)
 User or OEM data in the tool management.
 Type of magazine-specific Siemens user data configured by MD18202
 \$MN_MM_NUM_CCS_MAGLOC_PARAM.
 Each parameter can be assigned its own type. The permissible types are:
 Type Value of the machine data
 (See types of the NC language)

BOOL	1
CHAR	2
INT	3
REAL	4
•	(STRING is explicitly impossible here; value 5 is treated like value 2)
AXIS	6
FRAME	not defined

See also: MD18202 \$MN_MM_NUM_CCS_MAGLOC_PARAM, MM_NUM_MAGLOC
 Buffered user memory is used

18204	MM_NUM_CCS_TDA_PARAM	N02, N09	FBW
-	Number of Siemens OEM tool data (SRAM)	DWORD	PowerOn
-			
-	-	0 0 10	2/2 M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 2=1 ('H4'), is set:
 User or OEM data of the tools.
 Number of Siemens OEM TDA (=tool-specific) data (standard format Int).
 See also: MD18094 \$MN_MM_NUM_CC_TDA_PARAM, MD18082 \$MN_MM_NUM_TOOL
 Buffered user memory is used

18205	MM_TYPE_CCS_TDA_PARAM	N02, N09	FBW			
-	Type of Siemens OEM tool data (SRAM)	DWORD	PowerOn			
-						
-	10	4, 4, 4, 4, 4, 4, 4...	1	6	2/2	M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 2=1 ('H4'), is set:
User or OEM data in the tool management.

Type of tool-specific Siemens user data configured by MD18204
\$MN_MM_NUM_CCS_TDA_PARAM.

Each parameter can be assigned its own type. The permissible types are
Type Value of the machine data

(See types of the NC language)

BOOL	1
CHAR	2
INT	3
REAL	4
STRING long)	5 (permits identifiers up to 31 characters
AXIS	6
FRAME	not defined

See also: MD18204 \$MN_MM_NUM_CCS_TDA_PARAM, MD18082 \$MN_MM_NUM_TOOL
Buffered user memory is used

18206	MM_NUM_CCS_TOA_PARAM	N02, N09	FBW			
-	No. of Siemens OEM data per cutting edge (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	10	2/2	M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 2=1 ('H4'), is set:
User or OEM data of the tools.

Number of Siemens OEM TOA data (standard format IN_Real).

See also: MD18096 \$MN_MM_NUM_CC_TOA_PARAM, MD18100
\$MN_MM_NUM_CUTTING_EDGES_IN_TOA Buffered user memory is used

18207	MM_TYPE_CCS_TOA_PARAM	N02, N09	FBW			
-	Type of Siemens OEM data per cutting edge (SRAM)	DWORD	PowerOn			
-						
-	10	4, 4, 4, 4, 4, 4, 4...	1	6	2/2	M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 2=1 ('H4'), is set:
User or OEM data in the tool management.

Type of cutting-edge-specific Siemens user data configured by MD18206
\$MN_MM_NUM_CCS_TOA_PARAM.

Each parameter can be assigned its own type. The permissible types are
Type Value of the machine data

(See types of the NC language)

BOOL	1
CHAR	2
INT	3
REAL	4

1.3 NC machine data

- (STRING is explicitly impossible here; value 5 is treated like value 2)

AXIS	6
FRAME	not defined

 See also: MD18206 \$MN_MM_NUM_CCS_TOA_PARAM, MD18100
 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA
 Buffered user memory is used

18208	MM_NUM_CCS_MON_PARAM	N02, N09	FBW
-	No. of Siemens OEM monitor data (SRAM)	DWORD	PowerOn
-			
-	-	0 0 10	2/2 M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 0 = 1 or bit 1 = 1 and bit 2=1 ('H4'), is set:
 User or OEM data in the tool management.
 Number of Siemens OEM monitoring data; standard format IN_Int).
 See also: MD18098 \$MN_MM_NUM_CC_MON_PARAM, MD18100
 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA
 Buffered user memory is used

18209	MM_TYPE_CCS_MON_PARAM	N02, N09	FBW
-	Type of Siemens OEM monitor data (SRAM)	DWORD	PowerOn
-			
-	10	3, 3, 3, 3, 3, 3, 3... 1 6	2/2 M

Description: Only when MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, bit 0 = 1 or bit 1 = 1 and bit 2=1 ('H4'), is set:
 User or OEM data in the tool management.
 Type of monitoring-specific Siemens user data configured by MD18208
 \$MN_MM_NUM_CCS_MON_PARAM.
 Each parameter can be assigned its own type. The permissible types are
 Type Value of the machine data
 (See types of the NC language)

- | | |
|---|-------------|
| ----- | |
| BOOL | 1 |
| CHAR | 2 |
| INT | 3 |
| REAL | 4 |
| • (STRING is explicitly impossible here; value 5 is treated like value 2) | |
| AXIS | 6 |
| FRAME | not defined |
- See also: MD18208 \$MN_MM_NUM_CCS_MON_PARAM, MD18100
 \$MN_MM_NUM_CUTTING_EDGES_IN_TOA
 Buffered user memory is used

18210	MM_USER_MEM_DYNAMIC		EXP, N02	S7		
-	User memory in DRAM [KB]		DWORD	PowerOn		
-						
-	-	9000	0	131072	7/2	M

Description: The DRAM in the NC is used jointly by the system and the user.

MD18210 \$MN_MM_USER_MEM_DYNAMIC defines the size of the DRAM available to the user. The input limits depend upon the hardware and software configurations of the CNC.

There are various types of user data in this memory area, for example.

- Local user data
- IPO block buffers
- User macros
- Diagnostics functions such as trace recording of times,.....
- Tool management trace
- Communication with 1-n HMIs; Value of n: See MD10134 \$MN_MM_NUM_MMC_UNITS.
- Reorg Log file (required for internal purposes of the NC program sequence)
- ...

Each additionally active channel occupies a substantial amount of memory here.

Each activated axis requires part of this memory.

Exactly how much that is depends largely on the control model and the software version.

The settable values depend on the hardware and software configurations.

The value of NCK is automatically set after unbuffered startup of the NCK or deletion of the memory. The value is then such that the free memory defined in MD18050 \$MN_INFO_FREE_MEM_DYNAMIC is available to the user.

(See the description of MD18050 \$MN_INFO_FREE_MEM_DYNAMIC).

If the value is set too high (in the sense that the memory required is more than that available on the memory module), the NCK responds at the next NCK reset/power on by automatically reducing the machine data value to the maximum possible value that the hardware permits.

Message alarm 6030 advises of this process. This corresponds to a legal response of the NCK and is not an incorrect response.

The essential significance of the machine data is not to release the entire memory to the user because the memory is shared between the system and the user. A part of the physically existing memory is reserved for future developments of the NCK.

The maximum amount of memory available on the hardware can be found by selecting a value for the data that is so large that, after the subsequent restart, message alarm 6030 indicates the maximum available memory. Applications that use the maximum available memory will in all probability have memory problems with a software conversion to a newer NCK version.

Upper and lower limits are not necessary. The software rejects values outside the permissible range and then automatically sets suitable values.

(See also message alarm 6030.)

The data in the dynamic memory are not battery-backed.

Note:

During power on, the system software compares the sum of all requests for dynamic memory with the value in MD18210 \$MN_MM_USER_MEM_DYNAMIC. Alarm 6000

1.3 NC machine data

"Memory allocated with standard machine data" is output if the memory required exceeds the memory capacity set with the MD. Alarm 6030 "User memory limit has been adapted" is output if the control detects during the power on that the memory capacity required by MD18210 \$MN_MM_USER_MEM_DYNAMIC is larger than the physical memory.

Related to:

The available dynamic memory can be taken from MD18050
\$MN_INFO_FREE_MEM_DYNAMIC (display data of the free dynamic memory).

18220	MM_USER_MEM_DPR	EXP, N02	-
-	User memory in DUAL PORT RAM (DPR)	DWORD	PowerOn
-			
-	- 0 - - 0/0 M		

Description: The functionality is not available in previous software versions.

18230	MM_USER_MEM_BUFFERED	N02	S7
-	User memory in SRAM	DWORD	PowerOn
-			
-	- 0 0 22200 7/1 M		

Description: Battery-backed user memory (in kbyte).

Various types of user data are stored in this memory area.

For example:

- NC part programs
 - R variables
 - Global user data (GUD)
 - Definitions of the protection zones
 - Correction tables EEC, CEC, QEC
 - Tool / magazine data
- ...

This data is retained after control power off.

(Provided the data backup (battery,...) is in good working order and the Init switch is correctly set on the control).

This means that they are available unchanged after restart.

In the case of control models without a backup battery (e.g. 802S,...) there is, as a rule, an option of , specifically backing up the data by operation, so that they are available again after the next power on process.

The settable values depend on the hardware and software configurations.

The set values are designed for the minimum memory configuration of the particular control model.

256, 512 and 2000, 4000KB of battery-backed memory are available on the hardware.

Approximately 30KB of this physically present memory is used for internal purposes. This means that approximately 226, 482, 1970, 3970KB of user memory can be set.

After all the NCK functions have taken 'their' memory corresponding to the relevant machine data values, the rest of the memory is added to the part program memory. As a rule, the user will thus have more part program memory available than that guaranteed in the sales brochure. This 'more' may however vary from version to version.

If there are various memory configuration options for a control model then the data may have to be increased correspondingly when using the larger memory variants.

In this respect, see the meaning of MD18060 \$MN_INFO_FREE_MEM_STATIC
Special cases:

The battery-backed data are lost if this machine data is altered.

18231	MM_USER_MEM_BUFFERED_TYPEOF	N02	-			
-	Technology for data buffering	DWORD	PowerOn			
-						
-	3	1, 1, 1	0	1	ReadOnly	M

Description: Type of technology used for data buffering
Value = 0 SRAM memory only
Value = 1 SRAM and flash/disk memory
If the value = 1 then see also MD18232 \$MN_MM_ACTFILESYS_LOG_FILE_MEM
Index 0 = Reserved
Index 1 = Definition for the buffered data of the active file system (incl. machine data).
Index 2 = Definition for the buffered data of the passive file system (part programs, cycles etc.)
This value must be consistent with the value of MD11292 \$MN_DRAM_FILESYST_CONFIG.
A value of 0 means that \$MN_DRAM_FILESYST_CONFIG must not have the 'H22' bits set.
A value of 1 means that \$MN_DRAM_FILESYST_CONFIG must have the 'H22' bits set.

18232	MM_ACTFILESYS_LOG_FILE_MEM	N02	-			
-	System: logfile size in SRAM [KB]	DWORD	PowerOn			
-						
-	3	200, 50, 30	0	32000	2/2	M

Description: Buffered log file for buffered data of the active file system (in kbytes)
Systems with slow data buffer media store changed buffered data in the internal system SRAM. When the buffer is full, all data of the active file system are made persistent. The buffer backs up the data persistence of the last persistence operation until the next power fail. After a power fail (power failure or power OFF), data that had not yet been made persistent at the time of the power fail can be restored from this buffer.
The log file serves to minimize or totally avoid data loss in the event of power fail.
1000 entries require approximately 70 kB.
A value greater than 0 is only practicable if MD18231 \$MN_MM_USER_MEM_BUFFERED_TYPEOF[1] = 1.
A value equal to 0 means that the buffered data are not voltage loss safe if MD18231 \$MN_MM_USER_MEM_BUFFERED_TYPEOF[1] = 1 (typical for SINUMERIK solution line)
Example:
With MD18232 \$MN_MM_ACTFILESYS_LOG_FILE_MEM[2] = 0, data changes from synchronized actions can be excluded from the power fail data backup.
An improved time response of the synchronized actions would be advantageous. This should only be set if the buffered data that are changed by the synchronized action are not safety-relevant.

1.3 NC machine data

Index Meaning

- 0 Preprocessing buffer
- 1 Buffer for data changes within the range of the tool change
- 2 Buffer for data changes of the main processing (especially synchronized actions)

See also MD17610 \$MN_DEPTH_OF_LOGFILE_OPT_PF, which can be used to optimize the behavior.

18233	IS_CONTINOUS_DATA_SAVE_ON	EXP, N02	-
-	System: Automatic saving of persistent data	BOOLEAN	PowerOn
-			
-	3	TRUE, TRUE, TRUE	-

Description: The machine data is relevant only if MD18231 \$MN_MM_USER_MEM_BUFFERED_TYPEOF = 1.

The default value should be changed only if the system is operated in an environment,

Value = 0 : Continuous saving of persistent data on disk/flash/etc. is deactivated.

The dynamic response of the software on systems of the SolutionLine range can thus be improved.

Value = 1 : Continuous automatic saving of persistent data on disk/flash/etc. is active.

Index 0 = Reserved

Index 1 = Definition for the buffered data of the active file system (incl. machine data).

Index 2 = Definition for the buffered data of the passive file system (part programs, cycles,).

The default value should be changed only for diagnostic purposes or for optimizing the dynamic response.

The default value should be changed only if the system is operated in an environment,

where no spontaneous shutdown of the system / spontaneous power failure occurs.

Otherwise, persistent data can be lost.

18234	MM_MEMORY_CONFIG_MASK	EXP, N02	-
-	Setting of backup of persistent data of the current file system	DWORD	PowerOn
-			
-	-	0x00	0x00

Description: Bit 0 is defined for \$MN_USER_MEM_BUFFERED_TYPEOF[1]=1. If the buffer size defined by \$MM_ACTFILESYS_LOG_FILE_MEM contains many data in the respective buffer, they are made persistent by the NCK software as follows:

Value = 0: synchronous data backup

Value = 1: asynchronous data backup

Asynchronous means not synchronized with the NCK sequence. Synchronous means that the preprocessing task in NCK is stopped for the time required for making the data persistent. Which setting is preferable depends on the hardware used and/or on the actual NCK application.

18235	MM_INCOA_MEM_SIZE	EXP	-			
-	Size of the DRAM memory for INCOA applications [Kbyte]	DWORD	PowerOn			
-						
-	-	20480	0	25600	7/2	M

Description: On cold restart of the control system, the default value of MD18235 \$MN_MM_INCOA_MEM_SIZE specifies the DRAM memory range that is available for INCOA applications in total. This MD can only be read. With the diagnostics function "Read current actual value" the memory space actually occupied by the INCOA applications can be determined.

18237	MM_CYC_DATA_MEM_SIZE	EXP, N02	-			
-	Cycle/display setting data in SRAM [kB]	DWORD	PowerOn			
-						
-	-	0	0	96	ReadOnly	M

Description: Size of the buffered memory for 'Setting data for cycles and display' [kB]

18240	MM_LUD_HASH_TABLE_SIZE	EXP, N02	S7			
-	Hash table size for LUD (DRAM)	DWORD	PowerOn			
-						
-	-	37	11	107	0/0	M

Description: Defines the size of the hash table for local user data (LUD). The value entered must be a primary number. The setting allows the optimization of

- the interpreter execution time (low value = longer execution time) and
- memory requirements (low value = less memory).

A larger table requires a smaller number of decoding operations for internally decoding the variables and consequently a shorter interpreter execution time. The value of this machine data affects the amount of dynamic memory required for managing the blocks for local user variables with REORG, see MD28010 \$MC_MM_NUM_REORG_LUD_MODULES (Number of blocks for local user variables with REORG (DRAM)).

Note:

This machine data is assigned internally by the control and must not be altered by the user.

18242	MM_MAX_SIZE_OF_LUD_VALUE	N02	V2			
-	Maximum memory block size for LUD/GUD values	DWORD	PowerOn			
-						
-	-	1200	1200	SLMAXVARBYTES	0/0	M

Description: Defines the net memory array size for LUD/GUD variables. Each NC program that defines at least one LUD/GUD variable or has call parameters then occupies at least one memory array of this size.

The LUD/GUD variables of a program may occupy the complete LUD/GUD value memory set for the channel. However, then there is no memory available for other programmes.

The memory for the LUD/GUD variables (that is defined for LUD by the channel-specific MD28040 \$MC_MM_LUD_VALUES_MEM and for GUD by the NCK-specific MD18150 \$MN_MM_GUD_VALUES_MEM) is divided into equally sized arrays of the size MD18242 \$MN_MM_MAX_SIZE_OF_LUD_VALUE.

1.3 NC machine data

Example:

```
MM_LUD_VALUES_MEM = 12 (kbytes gross)
MM_MAX_SIZE_OF_LUD_VALUE = 660 (bytes net)
    + 16 (bytes management data per array)
-----
676 (bytes gross)
```

One then obtains $12 \times 1024 / 676 = 18$ memory arrays each of 660 bytes.

This means that 12 NC programs can either each occupy one array or one NC program can define, for example, 18 variables of type Frame (whose size is approximately 660 bytes).

Data type	Memory requirement
REAL	8 bytes
INT	4 bytes
BOOL	1 byte
CHAR	1 byte
STRING	1 byte per character, 100 characters are possible per string
AXIS	4 bytes
FRAME	up to 1 kbyte (depending on control model)

Related to:

MD28040 \$MC_MM_LUD_VALUES_MEM
(Memory size for local user variables (DRAM))

Warning:

The battery-backed data are lost when this machine data is changed!

The size of the NC language type Frame depends on the maximum number of channel axes generated by the NCK.

There are NCK systems with a maximum number of channel axes from 4 to 20. In the case of 20 axes, the type Frame then has a size of 660 bytes.

18250	MM_CHAN_HASH_TABLE_SIZE	EXP, N02	S7			
-	Hash table size for channel-specific data (DRAM)	DWORD	PowerOn			
-						
-	-	23	3	193	0/0	M

Description: Defines the size of the hash table for channel-specific names. The value entered must be a primary number. The setting allows the optimization of

- the interpreter execution time (low value = longer execution time) and
- memory requirements (low value = less dynamic memory).

A larger table requires a smaller number of decoding operations for internally decoding the variables and consequently a shorter interpreter execution time. The value of this machine data affects the amount of dynamic memory required.

The memory required per channel in bytes is equal to the value entered multiplied by 68.

Note:

This machine data is assigned internally by the control and must not be altered by the user.

Warning:

The battery-backed data are lost if this machine data is altered!

18260	MM_NCK_HASH_TABLE_SIZE	EXP, N02	S7			
-	Hash table size for global data (DRAM)	DWORD	PowerOn			
-						
-	-	4001	537	4327	0/0	M

Description: Defines the size of the NCK-specific names. The value entered must be a primary number. The setting allows the optimization of

- the interpreter execution time (low value = longer execution time) and
- memory requirements (low value = less dynamic memory).

A larger table requires a smaller number of decoding operations for internally decoding the variables and consequently a shorter interpreter execution time. The value of this machine data affects the amount of dynamic memory required. The memory required in bytes is equal to the value entered multiplied by 68.

Note:

This machine data is assigned internally by the control and must not be altered by the user.

18270	MM_NUM_SUBDIR_PER_DIR	N02	S7			
-	Number of subdirectories (DRAM)	DWORD	PowerOn			
-						
-	-	256	-	-	ReadOnly	M

Description: Defines the maximum number of subdirectories that can be created in a directory or subdirectory of the passive file system.

This value is for information only, and cannot be changed.

See also MD18280 \$MN_MM_NUM_FILES_PER_DIR (number of files per directory) .

18280	MM_NUM_FILES_PER_DIR	N02	S7			
-	Number of files per directory (DRAM)	DWORD	PowerOn			
-						
-	-	512	-	-	ReadOnly	M

Description: Defines the maximum number of files that can be created in a directory or subdirectory of the passive file system.

This value is for information only, and cannot be changed.

See also MMD18270 \$MN_MM_NUM_SUBDIR_PER_DIR (number of subdirectories per directory) .

18290	MM_FILE_HASH_TABLE_SIZE	EXP, N02	S7			
-	Hash table size for files of a directory (SRAM)	DWORD	PowerOn			
-						
-	-	47	3	299	0/0	M

Description: Defines the size for the files of a directory. The value entered must be a primary number. The setting allows the optimization of

- the interpreter execution time (low value = longer execution time) and
- memory requirements (low value = less memory).

The value of this machine data affects the amount of static memory required for the management of directories, see MD18310 \$MN_MM_NUM_DIR_IN_FILESYSTEM (number of directories in the passive file system)

Buffered user memory is used.

1.3 NC machine data

Note:

This machine data is assigned internally by the control and must not be altered by the user.

Special cases:

The battery-backed data are lost if this machine data is altered!

18300	MM_DIR_HASH_TABLE_SIZE	EXP, N02	S7			
-	Hash table size for subdirectories (SRAM)	DWORD	PowerOn			
-						
-	-	11	3	349	0/0	M

Description: Defines the size of the subdirectories of a directory. The value entered must be a primary number. The setting allows the optimization of

- the interpreter execution time (low value = longer execution time) and
- memory requirement (low value = less memory).

The value of this machine data affects the amount of static memory required for the management of directories, see MD18310 \$MN_MM_NUM_DIR_IN_FILESYSTEM (number of directories in the passive file system).

Buffered user memory is used.

Note:

This machine data is assigned internally by the control and must not be altered by the user.

Special cases:

The battery-backed data are lost if this machine data is altered!

18310	MM_NUM_DIR_IN_FILESYSTEM	N02	S7			
-	Number of directories in passive file system (SRAM)	DWORD	PowerOn			
-						
-	-	30	30	256	7/2	M

Description: This machine data limits the number of directories in the passive file system.

It can be used to reserve memory in the SRAM for the management of the directories. The directories and subdirectories of the passive file system set up by the system are included in this machine data. The memory required for the management of the directories can be calculated as follows:

Memory required = a (440+28 (b+c)) bytes

a = Input value of MD18310 \$MN_MM_NUM_DIR_IN_FILESYSTEM
(no. of directories in passive file system)

b = Input value of MD19300 \$MN_MM_DIR_HASH_TABLE_SIZE
(HASH table size for subdirectories)

c = Input value of MD18290 \$MN_MM_FILE_HASH_TABLE_SIZE
(hash table size for the files of a directory)

Buffered user memory is used.

Special cases:

The battery-backed data are lost if this machine data is altered.

Related to:

MD18270 \$MN_MM_NUM_SUBDIR_PER_DIR
(Number of subdirectories)

18320	MM_NUM_FILES_IN_FILESYSTEM	N02	S7			
-	Number of files in passive file system (SRAM)	DWORD	PowerOn			
-						
-	-	750	64	1000	7/2	M

Description: Defines the number of files available in the part program memory. This machine data is used to reserve memory in SRAM - approximately 320 bytes per file - for managing the file memory. Each file created requires a minimum of one kbyte of memory for the file code. If the one kbyte limit for the file code is exceeded another kbyte is reserved for the file.

Buffered user memory is used.

Special cases:

The battery-backed data are lost if this machine data is altered.

Related to:

MD18280 \$MN_MM_NUM_FILES_PER_DIR
(Number of files in directories)

18321	MM_NUM_SYSTEM_FILES_IN_FS	N02	-			
-	Number of system files	DWORD	PowerOn			
-						
-	-	500	500	1000	1/1	M

Description: Number of temporary system files in the passive file system (see also MD18355 \$MN_MM_T_FILE_MEM_SIZE);
For example: Compilations of cycles (preprocessing), system traces

18342	MM_CEC_MAX_POINTS	N01, N02	K3			
-	max. number of interpolation points on sag compensation (SRAM)	DWORD	PowerOn			
-						
-	62	128, 128, 128, 128, 128, 128, 128, 128...	0	2000	7/2	M

Description: The MD defines the memory space available for the compensation tables. When MD18342 \$MN_MM_CEC_MAX_POINTS = 0, no memory is set up for the table. The sag compensation function cannot then be used.

Caution!

If MD18342 \$MN_MM_CEC_MAX_POINTS[t] is changed, when the system is powered up, the buffered NC user memory is automatically reset. This deletes all user data in the buffered user memory (e.g. drive and HMI machine data, tool offsets, part programs etc.).

Related to:

SD41300 \$SN_CEC_TABLE_ENABLE[t]

Evaluation of the sag compensation table (t) enabled.

References:

/FB/, S7, "Memory Configuration"

18350	MM_USER_FILE_MEM_MINIMUM	EXP, N02	S7			
-	Minimum size of the part program memory	DWORD	PowerOn			
-						
-	-	0	0	0	0/0	M

Description: Not relevant on SolutionLine systems.

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18352	MM_U_FILE_MEM_SIZE		EXP, N02	S7		
-	End user memory for part programs/cycles/files		DWORD	PowerOn		
-						
-	3	2560, 0, 0	0	15360, 15360, 15360	2/2	M

Description: The machine data is not available or not defined for PowerLine control models.

End user memory for files in the passive file system (in kbyte).

There are various types of user data in this memory area.

E.g.: NC part programs, cycle programs of the end user, diagnostic files,
....

The settable values depend on the hardware and software configurations.

The settable size of the part program memory is, apart from the upper limit value,

determined by the MD18230 \$MN_MM_USER_MEM_BUFFERED and can also be determined by a software option.

Index 0 = Size of the battery-backed part program / cycle program memory

Index 1 = Reserved

Index 2 = Reserved

18353	MM_M_FILE_MEM_SIZE		EXP, N02	S7		
-	Memory capacity for machine manufacturer's cycles/files		DWORD	PowerOn		
-						
-	3	512, 0, 0	0	15360, 15360, 15360	1/1	M

Description: The machine data is not available or not defined for PowerLine control models.

Memory for machine manufacturer files in the passive file system (in kbyte).

The machine manufacturer's files are in this memory area of the passive file system.

E.g.: cycle programs

The settable values depend on the hardware and software configurations.

The settable size of the memory is, apart from the upper limit value, determined by the MD18230 \$MN_MM_USER_MEM_BUFFERED.

Index 0 = Minimum size of the battery-backed (persistent) part program / cycle program memory

Index 1 = Reserved

Index 2 = Reserved

18354	MM_S_FILE_MEM_SIZE		EXP, N02	-		
-	Index 0: Memory capacity for NC manufacturer's cycles/files		DWORD	PowerOn		
-						
-	3	3072, 0, 100	0	3072, 3072, 3072	7/2	M

Description: Memory for the control manufacturer's files in the passive file system (in KB)

The control manufacturer's files are in this memory area of the passive file system, e.g.: cycle programs, system files

The settable values depend on the hardware and software configurations.

The settable size of the memory is, apart from the upper limit value, for index = 0 determined by MD18230 \$MN_MM_USER_MEM_BUFFERED.

For index 1 = Reserved.

For index 2 = limited by the size of the internally available battery-backed memory (SRAM).

Index 0 = Size of the battery-backed cycle program memory

Index 1 = Reserved

Index 2 = Size of the battery-backed memory for system files, e.g. storage location of the NRK fault file.

18355	MM_T_FILE_MEM_SIZE		EXP, N02	-		
-	Memory size for temporary files		DWORD	PowerOn		
-						
-	-	4608	4608	-	7/2	M

Description: Memory for temporary files in the passive file system (in KB), e.g. compilations of cycles (preprocessing), cycles on CF, system traces

18356	MM_E_FILE_MEM_SIZE		EXP, N02	-		
-	Memory size for the clipboard of external files		DWORD	PowerOn		
-						
-	3	128, 0, 0	0	15360, 15360, 15360	0/0	M

Description: Memory for the clipboard of external files in the passive file system (in kB)
The settable values depend on the hardware and software configuration.
The settable memory size is limited, except for the upper limit value, for index = 0 by MD18230 \$MN_MM_USER_MEM_BUFFERED.
for index = 1 reserved
for index = 2 reserved
Index 0 = size of the buffered clipboard
Index 1 = reserved
Index 2 = reserved

18360	MM_EXT_PROG_BUFFER_SIZE		N01	B1,K1		
-	FIFO buffer size for processing from external source (DRAM)		DWORD	PowerOn		
-						
-	-	50	30	1000000	7/2	M

Description: A FIFO buffer is needed on the NCK for each program level (main program or subprogram) that is processed externally (reload mode).
The size of the FIFO buffer is defined in kByte by MD18360 \$MN_MM_EXT_PROG_BUFFER_SIZE.
MD18362 \$MN_MM_EXT_PROG_NUM sets the number of FIFO buffers that are simultaneously available.
During startup, the memory size determined by multiplying MD18360 \$MN_MM_EXT_PROG_BUFFER_SIZE by MD18362 \$MN_MM_EXT_PROG_NUM is reserved in the DRAM.
If the stated value exceeds the available memory space, alarm 4077 is output when writing the machine data.
References:
/PGA/Programming Guide Advanced, Section 2

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18362	MM_EXT_PROG_NUM	N01	K1
-	Number of program levels which can be simultaneously processed	BYTE	PowerOn
-			
-	-	1	0

Description: Number of program levels that can simultaneously be in "Processing from external source" mode NCK-wide.

System resources are reserved for the HMI <-> NCK communication during "Processing from external source". Machine data defines the number of possible program levels.

The memory space is reserved during power on by MD18360
 $\$MN_MM_EXT_PROG_BUFFER_SIZE * MD18362 \$MN_MM_EXT_PROG_NUM$. If it is found during program execution that all system resources are occupied, this is reported by alarm 14600.

18370	MM_PROTOC_NUM_FILES	N02	D1,OEM
-	Max.no. of log files in passive file system	DWORD	PowerOn
-			
-	10	2, 0, 0, 0, 0, 2, 2, 2...	0

Description: Maximum number of log files in the passive file system.

18371	MM_PROTOC_NUM_ETPD_STD_LIST	N02	D1,OEM
-	Number of standard data lists ETPD.	DWORD	PowerOn
-			
-	10	25, 0, 0, 0, 0, 25, 25, 25...	0

Description: Number of standard data lists in the OPI module ETPD (user-specific)

18372	MM_PROTOC_NUM_ETPD_OEM_LIST	N02	D1,OEM
-	Number of OEM data lists ETPD.	DWORD	PowerOn
-			
-	10	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Number of OEM data lists in the OPI module ETPD (user-specific).

18373	MM_PROTOC_NUM_SERVO_DATA	N02	D1
-	Number of servo data for log	DWORD	PowerOn
-			
-	10	0, 0, 0, 0, 0, 10, 10, 10...	0

Description: Number of servo data which must be recordable at the same time (user-specific).

18374	MM_PROTOC_FILE_BUFFER_SIZE	N02	-
-	Size of log file buffer	DWORD	PowerOn
-			
-	10	8000, 8000, 8000, 8000, 8000, 8000, 8000...	5000

Description: Size of the data buffer between the IPO and preprocessing time levels of a log file [Bytes].

18375	MM_PROTOC_SESS_ENAB_USER	N02	-			
-	Users enabled for sessions	BYTE	PowerOn			
-						
-	10	0, 0, 0, 0, 0, 1, 1, 1...	0	1	1/1	M

Description: Users that are available for session management.

18390	MM_COM_COMPRESS_METHOD	EXP, N01, N02	-			
-	Supported compression methods.	DWORD	PowerOn			
-						
-	-	0x01	-	-	2/2	M

Description: Setting for the compression methods to be supported.

18391	TRACE_PATHNAME	EXP	-		
-	Path for trace generation	STRING	PowerOn		
NBUP					
-	-	-	-	1/1	M

Description: Path on which traces are saved.

The trace files are used for problem analysis by NCK development.

18392	TRACE_SAVE_OLD_FILE	EXP	-			
-	Old trace files are retained	BOOLEAN	PowerOn			
NBUP						
-	-	FALSE	-	-	1/1	M

Description: The old traces are no longer overwritten when new traces are created; instead, a version extension is added to the trace file name.

At the current time this function is executed only if files are saved on the host file system (see TRACE_PATHNAME).

The trace files are used for problem analysis by NCK development.

18400	MM_NUM_CURVE_TABS	N02, N09	M3			
-	Number of curve tables (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	INT_MAX	1/1	M

Description: Defines the maximum number of curve tables that can be stored in the SRAM of the entire system. A curve table consists of a number of curve segments.

Related to:

MD18402 \$MN_MM_NUM_CURVE_SEGMENTS

18402	MM_NUM_CURVE_SEGMENTS	N02, N09	M3,B3			
-	Number of curve segments (SRAM)	DWORD	PowerOn			
-						
-	-	0	0	INT_MAX	1/1	M

Description: Defines the maximum number of curve segments that can be stored in the SRAM of the entire system. The curve segments are a component of a curve table.

Related to:

MD18400 \$MN_MM_NUM_CURVE_TABS

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18403	MM_NUM_CURVE_SEG_LIN	N02, N09	M3
-	Number of linear curve segments (SRAM)	DWORD	PowerOn
-			
-	-	0	0

Description: Number of linear curve segments in the SRAM available throughout the NCK.

A curve table may consist of "normal" curve segments and linear segments. The number of "normal" curve segments in the SRAM is defined by MD18402

\$MN_MM_NUM_CURVE_SEGMENTS, these curve segments can accommodate polynomials.

Linear curve segments can only accommodate straight lines.

These linear curve segments are stored in battery-backed memory.

18404	MM_NUM_CURVE_POLYNOMS	N02, N09	M3,B3
-	Number of curve table polynomials (SRAM)	DWORD	PowerOn
-			
-	-	0	0

Description: Defines the maximum total number of polynomials for curve tables that can be stored in the SRAM of the entire system. The polynomials are a component of a curve segment. A maximum of 3 polynomials are required for a curve segment. As a rule, only 2 polynomials are used for each curve segment.

Related to

MD18400 \$MN_MM_NUM_CURVE_TABS

MD18402 \$MN_MM_NUM_CURVE_SEGMENTS

18406	MM_NUM_CURVE_TABS_DRAM	N02, N09	M3
-	Number of curve tables (DRAM)	DWORD	PowerOn
-			
-	-	0	0

Description: Number of curve tables in the DRAM available throughout the NCK.

The curve tables are stored either in the buffer memory or in the dynamic memory.

This MD is used to set the number of curve tables in the dynamic memory (DRAM).

18408	MM_NUM_CURVE_SEGMENTS_DRAM	N02, N09	M3
-	Number of curve segments (DRAM)	DWORD	PowerOn
-			
-	-	0	0

Description: Number of polynomial curve segments in the DRAM available throughout the NCK.

The curve segments are stored either in the buffer memory or in the dynamic memory.

This MD is used to set the number of segments in the dynamic memory (DRAM).

18409	MM_NUM_CURVE_SEG_LIN_DRAM	N02, N09	M3			
-	Number of linear curve segments (DRAM)	DWORD	PowerOn			
-						
-	-	0	0	INT_MAX	1/1	M

Description: Number of linear curve segments in the DRAM available throughout the NCK.
A curve table may consist of "normal" curve segments and linear segments. The number of "normal" curve segments in the DRAM is defined by MD18408 \$MN_MM_NUM_CURVE_SEGMENTS_DRAM, these curve segments can accommodate polynomials. Linear curve segments can only accommodate straight lines.
The curve segments are stored either in the buffer memory or in the dynamic memory. This MD defines the number of curve segments in the dynamic memory (DRAM) .

18410	MM_NUM_CURVE_POLYNOMS_DRAM	N02, N09	M3			
-	Number of curve table polynomials (DRAM)	DWORD	PowerOn			
-						
-	-	0	0	INT_MAX	1/1	M

Description: Number of polynomials for curve tables in the DRAM available throughout the NCK.
The polynomials for curve tables are stored in the buffer memory or in the dynamic memory.
This MD is used to set the number of polynomials for curve tables in the dynamic memory (DRAM) .

18450	MM_NUM_CP_MODULES	N02, N09	-			
-	Max. number of CP modules	DWORD	PowerOn			
-						
-	-	4	0	48	1/1	M

Description: Number of CP coupling modules available within the NCK
The MD defines the max. permissible number of CP couplings and reserves the required dynamic memory (DRAM) .

18452	MM_NUM_CP_MODUL_LEAD	N02, N09	-			
-	Maximum number of CP master values	DWORD	PowerOn			
-						
-	-	4	0	99	1/1	M

Description: Number of NCK-wide available CP master values.
This MD defines the max. permissible number of CP master values and reserves the required dynamic memory (DRAM) .

18500	MM_EXTCOM_TASK_STACK_SIZE	EXP, N02	S7			
-	Stack size for external communications task (DRAM)	DWORD	PowerOn			
-						
-	-	45	45	90	0/0	M

Description: Defines the size (KB) of the stack for external communication. The dynamic memory area is used.

Note:

This machine data is assigned internally by the control and must not be altered by the user.

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18502	MM_COM_TASK_STACK_SIZE	EXP, N02	-
-	Stack size in KB for communication task (DRAM)	DWORD	PowerOn
-			
-	-	30	30

Description: Size of the stacks of the communication task in kbyte.
The dynamic memory is used.

18510	MM_SERVO_TASK_STACK_SIZE	EXP, N02	S7
-	Stack size of servo task (DRAM)	DWORD	PowerOn
-			
-	-	30	30

Description: Defines the stack size for the SERVO task. The dynamic memory is used for this purpose.

Note:

This machine data is assigned internally by the control and must not be altered by the user.

18512	MM_IPO_TASK_STACK_SIZE	EXP, C02	-
-	Stack size of IPO task (DRAM)	DWORD	PowerOn
-			
-	-	45	45

Description: Size of the IPO task stack in kbyte.
The dynamic memory is used.

18600	MM_FRAME_FINE_TRANS	N02	K2,M5
-	Fine offset with FRAME (SRAM)	DWORD	PowerOn
-			
-	-	1	0

Description: 0: The fine offset cannot be entered or programmed.
Disabling fine offset saves a maximum of 10KB SRAM, (depending on MD28080 \$MC_MM_NUM_USER_FRAMES).
1: The fine offset is possible for settable frames, the basic frame and the programmable frame by operator input or via program.

18601	MM_NUM_GLOBAL_USER_FRAMES	N02	K2,M5
-	Number of global predefined user frames (SRAM).	DWORD	PowerOn
-			
-	-	0	0

Description: Number of global predefined user frames.
The value corresponds to the number of field elements for the predefined field \$P_UIFR[].
If the value of the data is greater than 0, then all settable fields are only global. The MD28080 \$MC_MM_NUM_USER_FRAMES is then ignored.

18602	MM_NUM_GLOBAL_BASE_FRAMES	N02	K2,M5			
-	Number of global base frames (SRAM).	DWORD	PowerOn			
-						
-	-	0	0	16	7/2	M

Description: Number of NCU basic frames.

The value corresponds to the number for the predefined field \$P_NCBFR[] .

18660	MM_NUM_SYNACT_GUD_REAL	N02	-			
-	Number of configurable GUD variables of type REAL	DWORD	PowerOn			
-						
-	9	0,0,0,0,0,0,0,0...	0	32767	7/2	M

Description: The MD18660 \$MN_MM_NUM_SYNACT_GUD_REAL[] can be used to extend individual GUD blocks by additional channel-specific parameter areas of type REAL. The GUD blocks are differentiated by the field index:

\$MN_MM_NUM_SYNACT_GUD_REAL[0] = <value> -> extension of the SGUD block
 \$MN_MM_NUM_SYNACT_GUD_REAL[1] = <value> -> extension of the MGUD block
 \$MN_MM_NUM_SYNACT_GUD_REAL[2] = <value> -> extension of the UGUD block
 \$MN_MM_NUM_SYNACT_GUD_REAL[3] = <value> -> extension of the GUD4 block
 \$MN_MM_NUM_SYNACT_GUD_REAL[8] = <value> -> extension of the GUD9 block

In each case, fields with the following properties are created:

Data type REAL

Field size corresponding to <value> of the relevant machine data

Predefined names:

SYG_RS[] -> Synact parameter of type REAL in the SGUD block

SYG_RM[] -> Synact parameter of type REAL in the MGUD block

SYG_RU[] -> Synact parameter of type REAL in the UGUD block

SYG_R4[] -> Synact parameter of type REAL in the GUD4 block

....

SYG_R9[] -> Synact parameter of type REAL in the GUD9 block

The parameters can be read and written both by the part program and also via synchronous actions.

18661	MM_NUM_SYNACT_GUD_INT	N02	-			
-	Number of configurable GUD variables of type integer	DWORD	PowerOn			
-						
-	9	0,0,0,0,0,0,0,0...	0	32767	7/2	M

Description: The MD18661 \$MN_MM_NUM_SYNACT_GUD_INT[] can be used to extend individual GUD blocks by additional channel-specific parameter areas of type INTEGER. The GUD blocks are differentiated by the field index:

\$MN_MM_NUM_SYNACT_GUD_INT[0] = <value> -> extension of the SGUD block
 \$MN_MM_NUM_SYNACT_GUD_INT[1] = <value> -> extension of the MGUD block
 \$MN_MM_NUM_SYNACT_GUD_INT[2] = <value> -> extension of the UGUD block
 \$MN_MM_NUM_SYNACT_GUD_INT[3] = <value> -> extension of the GUD4 block
 \$MN_MM_NUM_SYNACT_GUD_INT[8] = <value> -> extension of the GUD9 block

In each case, fields with the following properties are created:

Data type BOOL

Field size corresponding to <value> of the relevant machine data

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Predefined names:

`SYG_IS[]` -> Synact parameter of type INT in the SGUD block

`SYG_IM[]` -> Synact parameter of type INT in the MGUD block

`SYG_IU[]` -> Synact parameter of type INT in the UGUD block

`SYG_I4[]` -> Synact parameter of type INT in the GUD4 block

....

`SYG_I9[]` -> Synact parameter of type INT in the GUD9 block

The parameters can be read and written both by the part program and also via synchronous actions.

18662	MM_NUM_SYNACT_GUD_BOOL	N02	-
-	Number of configurable GUD variables of type Boolean	DWORD	PowerOn
-			
-	9	0, 0, 0, 0, 0, 0, 0, 0...	0 32767 7/2 M

Description: The MD18662 `$MN_MM_NUM_SYNACT_GUD_BOOL[]` can be used to extend individual GUD blocks by additional channel-specific parameter areas of type Boolean. The GUD blocks are differentiated by the field index:

`$MN_MM_NUM_SYNACT_GUD_BOOL[0]` = <value> -> extension of the SGUD block

`$MN_MM_NUM_SYNACT_GUD_BOOL[1]` = <value> -> extension of the MGUD block

`$MN_MM_NUM_SYNACT_GUD_BOOL[2]` = <value> -> extension of the UGUD block

`$MN_MM_NUM_SYNACT_GUD_BOOL[3]` = <value> -> extension of the GUD4 block

`$MN_MM_NUM_SYNACT_GUD_BOOL[8]` = <value> -> extension of the GUD9 block

In each case, fields with the following properties are created:

Data type BOOL

Field size corresponding to <value> of the relevant machine data

Predefined names:

`SYG_BS[]` -> Synact parameter of type Boolean in the SGUD block

`SYG_BM[]` -> Synact parameter of type Boolean in the MGUD block

`SYG_BU[]` -> Synact parameter of type Boolean in the UGUD block

`SYG_B4[]` -> Synact parameter of type Boolean in the GUD4 block

....

`SYG_B9[]` -> Synact parameter of type Boolean in the GUD9 block

The parameters can be read and written both by the part program and also via synchronous actions.

18663	MM_NUM_SYNACT_GUD_AXIS	N02	-
-	Number of configurable GUD variables of type Axis	DWORD	PowerOn
-			
-	9	0, 0, 0, 0, 0, 0, 0, 0...	0 32767 7/2 M

Description: The MD18663 `$MN_MM_NUM_SYNACT_GUD_AXIS[]` can be used to extend individual GUD blocks by additional channel-specific parameter areas of type AXIS. The GUD blocks are differentiated by the field index:

`$MN_MM_NUM_SYNACT_GUD_AXIS[0]` = <value> -> extension of the SGUD block

`$MN_MM_NUM_SYNACT_GUD_AXIS[1]` = <value> -> extension of the MGUD block

`$MN_MM_NUM_SYNACT_GUD_AXIS[2]` = <value> -> extension of the UGUD block

`$MN_MM_NUM_SYNACT_GUD_AXIS[3]` = <value> -> extension of the GUD4 block

`$MN_MM_NUM_SYNACT_GUD_AXIS[8]` = <value> -> extension of the GUD9 block

In each case, fields with the following properties are created:

Data type AXIS

Field size corresponding to <value> of the relevant machine data

Predefined names:

SYG_AS[] -> Synact parameter of type AXIS in the SGUD block

SYG_AM[] -> Synact parameter of type AXIS in the MGUD block

SYG_AU[] -> Synact parameter of type AXIS in the UGUD block

SYG_A4[] -> Synact parameter of type AXIS in the GUD4 block

....

SYG_A9[] -> Synact parameter of type AXIS in the GUD9 block

The parameters can be read and written both by the part program and also via synchronous actions.

18664	MM_NUM_SYNACT_GUD_CHAR	N02	-
-	Configurable GUD variable of type Char	DWORD	PowerOn
-			
-	9	0,0,0,0,0,0,0,0...	0 32767 7/2 M

Description: The MD18664 \$MN_MM_NUM_SYNACT_GUD_CHAR[]

can be used to extend individual GUD blocks by additional channel-specific parameter areas of type CHAR.

The GUD blocks are differentiated by the field index:

\$MN_MM_NUM_SYNACT_GUD_CHAR[0] = <value> -> extension of the SGUD block

\$MN_MM_NUM_SYNACT_GUD_CHAR[1] = <value> -> extension of the MGUD block

\$MN_MM_NUM_SYNACT_GUD_CHAR[2] = <value> -> extension of the UGUD block

\$MN_MM_NUM_SYNACT_GUD_CHAR[3] = <value> -> extension of the GUD4 block

\$MN_MM_NUM_SYNACT_GUD_CHAR[8] = <value> -> extension of the GUD9 block

In each case, fields with the following properties are created:

Data type CHAR

Field size corresponding to <value> of the relevant machine data

Predefined names:

SYG_CS[] -> Synact parameter of type CHAR in the SGUD block

SYG_CM[] -> Synact parameter of type CHAR in the MGUD block

SYG_CU[] -> Synact parameter of type CHAR in the UGUD block

SYG_C4[] -> Synact parameter of type CHAR in the GUD4 block

....

SYG_C9[] -> Synact parameter of type CHAR in the GUD9 block

The parameters can be read and written both by the part program and also via synchronous actions.

18665	MM_NUM_SYNACT_GUD_STRING	N02	-
-	Configurable GUD variable of type STRING	DWORD	PowerOn
-			
-	9	0,0,0,0,0,0,0,0...	0 25 7/2 M

Description: The MD18665 \$MN_MM_NUM_SYNACT_GUD_STRING[] can be

used to extend individual GUD blocks by additional channel-specific parameter areas of type STRING.

The GUD blocks are differentiated by the field index:

\$MN_MM_NUM_SYNACT_GUD_STRING[0] = <value> -> extension of the SGUD block

\$MN_MM_NUM_SYNACT_GUD_STRING[1] = <value> -> extension of the MGUD block

\$MN_MM_NUM_SYNACT_GUD_STRING[2] = <value> -> extension of the UGUD block

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`$MN_MM_NUM_SYNACT_GUD_STRING[3] = <value>` -> extension of the GUD4 block
`$MN_MM_NUM_SYNACT_GUD_STRING[8] = <value>` -> extension of the GUD9 block
 In each case, fields with the following properties are created:
 Data type STRING
 Field size corresponding to `<value>` of the relevant machine data
 The maximum length of a string is 31 characters.
 Predefined names:
`SYG_SS[]` -> Synact parameter of type STRING in the SGUD block
`SYG_SM[]` -> Synact parameter of type STRING in the MGUD block
`SYG_SU[]` -> Synact parameter of type STRING in the UGUD block
`SYG_S4[]` -> Synact parameter of type STRING in the GUD4 block
`....`
`SYG_S9[]` -> Synact parameter of type STRING in the GUD9 block
 The parameters can be read and written both by the part program
 and also via synchronous actions.

18700	MM_SIZEOF_LINKVAR_DATA	N02	B3
-	Size of NCU-link variable memory	DWORD	PowerOn
LINK			
-	-	0	-

Description: Number of bytes of the NCK link memory for the variables `$A_DLX`.

18710	MM_NUM_AN_TIMER	N02	-
-	Number of global time variable for synchronized actions	DWORD	PowerOn
-	-	-	-
-	-	0	0

Description: Number of global time variables for motion-synchronous actions (DRAM)

18720	MM_SERVO_FIFO_SIZE	EXP, N01	B3
-	Setpoint value for buffer size between IPO and position control	DWORD	PowerOn
-	-	-	-
-	-	2	2

Description: The machine data determines the size of the setpoint value buffer between interpolator and position control, and has a direct effect on the dynamic user memory requirement.

That is normally 2. If several NCUs are connected via NCU link for e.g. rotary indexing machines, the value should be set to 3 on all NCUs. This will balance the transmission rates of the setpoint values via the link.

In a master value application (e.g. line shaft), the value should be set to 4, but only on the NCU that generates the master value. For all the other NCUs, the preset value should be maintained at 2.

Note:

In control loops that are connected via interpolator, every increase of the value generates a further dead-time.

When the IPO cycles of the NCUs within an NCU group are set to different values, the link communication will only run in the slowest IPO cycle. The MD must be increased in the ratio of the NCU IPO cycle to the slowest IPO cycle in the NCU group, in order to achieve a synchronized output of the setpoint values on the drive interface. The formula for this is as follows:

$$\text{MM_SERVO_FIFO_SIZE} = 2 * \text{IPO cycle ratio} + 1$$

Example:

In an IPO cycle ratio of 4:1, the value on the fast NCU should be set to 9 instead of 3. On the slow NCU, the value must be set to 3.

18730	MM_MAXNUM_ALARM_ACTIONS	N02	-			
-	Length of the alarm action list	DWORD	PowerOn			
-						
-	-	500	100	2000	1/1	M

Description: Maximum number of alarm actions that are retained. This is the length of the alarm action list.

18780	MM_NCU_LINK_MASK	N01	B3			
-	Activation of NCU-link communication	DWORD	PowerOn			
-						
-	-	0	0	7	3/2	M

Description: Activating NCU link communication

Bit-coded activation data. That is the NCU link communication can be activated in various forms.

Bit-coded activation data:

Bit 0 = 0x1: Link communication is to be activated.

Bit 1 = 0x2: reserved

Bit 2 = 0x4: Extended search for link SDBs

SDBs are additionally searched for in the following directories:

-/user/sinumerik/sdb/...

-/oem/sinumerik/sdb/...

-/addon/sinumerik/sdb/...

As usual it is first searched in the user, oem, addon directories and then in the siemens directory

(See description FAST_IPO_LINK)

Irrelevant for:

Systems without link modules

Related to:

MD30560 \$MA_IS_LOCAL_LINK_AXIS,

MD12510 \$MN_NCU_LINKNO,

MD12520 \$MN_LINK_TERMINATION,

MD18782 \$MN_MM_LINK_NUM_OF_MODULES,

MD12540 \$MN_LINK_BAUDRATE_SWITCH,

MD12550 \$MN_LINK_RETRY_CTR

18781	NCU_LINK_CONNECTIONS	N01	B3			
-	Number of internal link connections	DWORD	PowerOn			
LINK						
-	-	0	0	32	3/1	M

Description: Value = 0

The software calculates the internal link connnections itself.

Value > 0

Number of internal link connnections from each NCU to each other NCU.

These link connnections do not accommodate the non-cyclic messages.

Each of these connections can transfer 240 bytes of raw data.

Non-cyclic messages occur with alarms, container switches and link variablen.

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18782	MM_LINK_NUM_OF_MODULES	N01, N02	B3			
-	Number of NCU-link modules	DWORD	PowerOn			
-						
-	-	2	2	16	3/2	M

Description: LINK_NUM_OF_MODULES defines how many link modules can participate in the link communication.

18788	MM_CC_STATION_CHAN_MASK	N01	-			
-	Channel bit mask for allocating CC stations	DWORD	PowerOn			
-						
-	3	1, 0, 0	-	-	1/1	M

Description: Machine data for channel-specific creation of special additional software stations for compile cycles.

Enter a bit mask with the bits set for the channels, in which a compile cycle shall use the relevant station.

Meaning of the individual array elements:

\$MN_MM_CC_STATION_CHAN_MASK[0] :

Creates a CC station at the end of the geometry preparation and prior to velocity planning in the preparation task. A compile cycle application can buffer the blocks there and manipulate their contents.

\$MN_MM_CC_STATION_CHAN_MASK[1] :

Creates another CC-Station that is called directly after the first CC station (see above) and permits the internal block contents independently of this manipulation.

\$MN_MM_CC_STATION_CHAN_MASK[2] :

Creates an additional CC station in the preparation task that is called directly prior to tool radius offset and allows manipulation of the internal block contents.

18790	MM_MAX_TRACE_LINK_POINTS	EXP, N02, N06	B3			
-	Trace data buffer size for NCU-Link	DWORD	PowerOn			
NBUP						
-	-	8	0	20000	2/2	M

Description: MM_MAX_TRACE_LINK_DATAPOINTS defines the size of an internal data buffer which contains the trace recordings for the NCU-link functionality.

The MD is only evaluated if bit 0 is set in MD18792

\$MN_MM_TRACE_LINK_DATA_FUNCTION.

Related to:

MD22708 \$MC_TRACE_SCOPE_MASK,
 MD22714 \$MC_MM_TRACE_DATA_FUNCTION,
 MD28180 \$MC_MM_MAX_TRACE_DATAPOINTS
 MD22700 \$MC_TRACE_STARTTRACE_EVENT,
 MD22702 \$MC_TRACE_STARTTRACE_STEP,
 MD22704 \$MC_TRACE_STOPTRACE_EVENT,
 MD22706 \$MC_TRACE_STOPTRACE_STEP,
 MD22710 \$MC_TRACE_VARIABLE_NAME,
 MD22712 \$MC_TRACE_VARIABLE_INDEX,
 MD18792 \$MN_MM_TRACE_LINK_DATA_FUNCTION

18792	MM_TRACE_LINK_DATA_FUNCTION	EXP, N02, N06	B3
-	Specifies the contents of the NCU-link files	DWORD	PowerOn
NBUP			
-	-	0	0

Description: The NCK link sends and receives 32 buffers with a length of 240 bytes in each interpolation cycle.

These buffers are saved in a FIFO (first in-first out) memory of length MD18790 \$MN_MM_MAX_TRACE_LINK_POINTS and written to a file (ncsctr01.mpf for the 1st channel) if a "trigger event" occurs (e.g. Cancel Alarm button, see MD22704 \$MC_TRACE_STOPTRACE_EVENT and MD22700 \$MC_TRACE_STARTTRACE_EVENT).

The machine data should be interpreted as a bit mask and has the following meaning:

BIT0 = 1

Enables the NCU link trace file.

The others are only evaluated if this bit is set!

MD18790 \$MN_MM_MAX_TRACE_LINK_POINTS is only evaluated with this bit.

BIT1 = 1

The stored buffer content is analyzed according to its meaning and written to the file in plain text. This means setpoint transfer can be detected, for example, from the text items "desVal", actual value transfer from the identifiers "actVal" etc.

BIT1 = 0

The buffer content is displayed in HEX and is not analyzed.

BIT2 = 1

Only buffers that contain a sporadically occurring communication message (dynamic message) between the NCUs are recorded.

These include, for example, the following events:

- Set machine data
- Set link variables
- Alarms spanning NCUs
- Axis container rotation

BIT3 = 1

Every addition and deletion of a CLEARHIMSELF alarm transferred via LINK triggers the following action:

The internal receive tree is recorded before and after the action and the most recent values can be

found again in trace.

NOTICE: Very very time-consuming; please only use in an emergency.

18794	MM_TRACE_VDI_SIGNAL	EXP, N02, N06	-
-	Trace specification of VDI signals	DWORD	PowerOn
NBUP			
-	-	0	0

Description: The NCK sends and receives PLC VDI signals. The Trace function stores the signals which have changed in each interpolation cycle in an FIFO memory (first in-first out) having a size of MM_MAX_TRACE_POINTS.

The FIFO is written to a file (for the 1st channel: ncsctr01.mpf) when a "trigger event" occurs (e.g. Cancel Alarm key, see MD22704 \$MC_TRACE_STOPTRACE_EVENT and MD22700 \$MC_TRACE_STARTTRACE_EVENT).

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The machine data should be interpreted as bit mask. The corresponding VDI signals are recorded depending on which bit is set.

Bits 1.. 6 describe which axial VDI input signals are recorded in the trace (see .. TRACE_DATA_FUNCTION).

18800	MM_EXTERN_LANGUAGE	N01, N12	K1			
-	Activation of external NC languages	DWORD	PowerOn			
-						
-	-	0x0000	0x0000	0x0001	7/2	M

Description: The corresponding NC language must be activated to execute part programs of other control manufacturers. Only one external NC language can be selected. The range of instructions which is made available in each case is to be taken from the current documentation.

Bit 0 (LSB) :

Execution of part programs ISO_2 or ISO_3.

See MD10880 \$MN_MM_EXTERN_CNC_SYSTEM for coding.

18840	MM_EPSPARAM_DIMENSION	EXP, N01, N02	ePS Dokumentation			
-	Dimension of ePS-specific variables \$EPS_*	DWORD	PowerOn			
-						
-	-	10	0	100	0/0	M

Description: Dimension of ePS-specific parameters \$EPS_R[i], \$EPS_I[i], \$EPS_B[i], \$EPS_A[i], \$EPS_C[i], #EPS_S[i]; i = 0-Value of the machine data - 1. MD data value zero indicates that the functionality is not available.

18860	MM_MAINTENANCE_MON	EXP, N01	W6			
-	Activation of maintenance data recording	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: Maintenance data is recorded when this MD has the value TRUE.

The axial MD33060 \$MA_MAINTENANCE_DATA sets which data are to be recorded. Details are to be found in the service documentation.

18864	MM_NUM_TRAFO_DATA_SETS	N02, N09	W1			
-	Maximum number of definable transformation data blocks.	DWORD	PowerOn			
-						
-	-	0	0	100	7/2	M

Description: Maximum number of definable transformation data blocks. The data for defining a transformation data block are set by the system variables \$NT_XXX. The data are stored in the buffered memory.

18866	MM_NUM_KIN_TRAFOS	N02, N09	W1			
-	Maximum number of transformation objects in NCK	DWORD	PowerOn			
-						
-	-	0	0	200	7/2	M

Description: Maximum number of transformation objects in NCK.

This machine data indicates the maximum number of transformation objects in the NCK.

If this machine data is 0, the maximum number of kinematic transformations per channel which can be created using machine data (\$MC_TRAFO_TYPE_N) remains at 20 (conventional parameter setting for kinematic transformations).

If the machine data is not equal to zero, it indicates the possible total number of all transformations in the NCK. This can be transformations parameterized conventionally as well as (alternatively or in addition) transformations parameterized using kinematic chains.

18880	MM_MAXNUM_KIN_CHAIN_ELEM	EXP, N01	-			
-	maximum number of elements in kinematic chains	DWORD	PowerOn			
-						
-	-	0	0	1000	7/2	M

Description: Maximum number of links in kinematic chains. If this MD has the value 0 (default value) then no kinematic chains at all are possible.

18890	MM_MAXNUM_3D_PROT_AREAS	EXP, N01	-			
-	Maximum number of 3D protection areas	DWORD	PowerOn			
-						
-	-	0	0	200	7/2	M

Description: Maximum number of elements in protection zones. If this MD has the value 0 (default value) then no protection zones are possible.

18891	MM_MAXNUM_3D_WPFX_PROT_ELEM	EXP, N01	-			
-	Maximum number of protection area elements for workpiece and fixture	DWORD	PowerOn			
-						
-	-	0	0	500	7/2	M

Description: Maximum number of protection area elements for the automatic generation of protection areas with the language commands WORKPIECE and FIXTURE.

18892	MM_MAXNUM_3D_PROT_AREA_ELEM	EXP, N01	-			
-	Max. number of protection zone elements	DWORD	PowerOn			
-						
-	-	0	0	1000	7/2	M

Description: Maximum number of protection zone elements. If this MD is 0 (default value), no protection zones are possible.

18893	MM_MAXNUM_3D_T_PROT_ELEM	EXP, N01	-			
-	Max. number of tool protection area elements	DWORD	PowerOn			
-						
-	-	0	0	500	7/2	M

Description: Maximum number of protection area elements for automatic creation of tool protection areas.

18894	MM_MAXNUM_3D_FACETS_INTERN	EXP, N01	-			
-	Max. number of protection zone facets for variable protection zones	DWORD	PowerOn			
-						
-	-	0	0	10000	7/2	M

Description: Maximum number of facets permitted for all internally created protection zones.

Only applies if MAXNUM_3D_PROT_AREAS is greater than zero and bit 0 in PROT_AREA_TOOL_MASK is set.

Typical values would then be 1000 for milling machines with a modeled tool, and 5000 for lathes with various tool types in a revolver.

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18895	MM_MAXNUM_3D_FACETS	EXP, N01	-			
-	Max. number of protection area facets	DWORD	PowerOn			
-						
-	-	0	0	10000	7/2	M

Description: Maximum number of facets allowed for all protection areas.

Only applies when the MAXNUM_3D_PROT_AREAS is greater than zero.

18896	MM_MAXNUM_3D_COLLISION	EXP, N01	-			
-	Max. number of the memory location for collision check	DWORD	PowerOn			
-						
-	-	0	0	MAX_SIZE_3D_S_COLL_TREE_MD	7/2	M

Description: Maximum size of a temporary memory area (in KB), which is required for the collision check of two protection zones.

If the contents of this machine data is 0, the required memory space is determined automatically from machine data MD18892

\$MN_MM_MAXNUM_3D_PROT_AREA_ELEM, MD18890 \$MN_MM_MAXNUM_3D_PROT_AREAS and MD18895 \$MN_MM_MAXNUM_3D_FACETS.

If the determined memory space is insufficient, it can be explicitly determined using this machine data.

18897	MM_MAXNUM_3D_INTERFACE_IN	EXP, N01	-			
-	Max. no. of interf. bits for pre-activation of protection zones	DWORD	PowerOn			
-						
-	-	16	0	64	7/2	M

Description: Defines how many input bits are available on the VDI interface for pre-activation of 3D protection zones.

It will influence the size of the memory space required for each NC block.

If this machine data has value n, a memory size of approximately $n * (n + 1) / 16$ bytes will be required per block.

This machine data will be evaluated and will cause reservation of memory space, only if MD18890 \$MN_MM_MAXNUM_3D_PROT_AREAS is unequal to 0.

18899	PROT_AREA_TOOL_MASK	EXP	-			
-	Controls the creation of automatically created tool protection areas	DWORD	NEW CONF			
-						
-	-	0	-	-	7/3	M

Description: Controls the way tool protection areas are automatically created with collision detection active.

If bit 0 = 1, then in MD 18894 \$MN_MM_MAXNUM_3D_FACETS_INTERN memory space must be reserved.

This machine data is bit-coded.

Bit 0 (0x1) If no other data are available, create the tool protection area from the tool data (tool length and radius).

18900	FPU_ERROR_MODE	EXP	-
-	System reaction to FPU calculation error	DWORD	PowerOn
NBUP, NDLD			
-	-	0x1	-

Description: System response to floating point unit arithmetic errors
 Bit 0 = 0: (LSB)
 The response to an FPU arithmetic error takes place during a station change by the station controller polling the FPU status word. (For CPUs without exception handling)
 Bit 0 = 1:
 There is an immediate branch into an exception when an FPU arithmetic error occurs:
 The address at which the arithmetic error occurred can be exactly localized in the alarm output

18910	FPU_CTRLWORD_INIT	EXP	-
-	Basic initialization of FPU control word	DWORD	PowerOn
NBUP, NDLD			
-	-	0x37F	-

Description: The basic initialization of the FPU control word enables the FPU mode of operation (e.g. rounding mode) to be changed.
 Significance of the bit: see manual of the FPU used.

18920	FPU_EXCEPTION_MASK	EXP	-
-	Exception mask for FPU calculation errors	DWORD	PowerOn
NBUP, NDLD			
-	-	0xD	-

Description: The exception mask for FPU calculation errors enables selection of the FPU error for which an exception was issued.
 Significance of the bits for Intel 486:
 Bit 0 (LSB):
 invalid operation
 Bit 1:
 denormalized operand: | operand | < as the smallest 2nd power
 Bit 2:
 zero divide
 Bit 3:
 overflow: result is larger than the largest displayable number
 Bit 4:
 underflow: result is smaller than the smallest displayable number
 Bit 5:
 precision: result cannot be displayed exactly (e.g. 1/3)
 Significance of the bits for Intel 960:
 Bit 12:
 integer overflow
 Bit 24:
 floating overflow
 Bit 25:
 floating underflow

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Bit 26:
invalid operation
Bit 27:
zero divide
Bit 28:
floating inexact (precision): result cannot be displayed exactly
Bit 29:
denormalized operand

18930	COREFILE_NAME	EXP	-
-	Path for core file creation	STRING	PowerOn
-			
-	-	-	7/1 M

Description: File name with path name under which a core file is created in the case of a control crash.

The core file is used for problem analysis by NCK development.

A core file will be created, if a valid file name is entered in this MD.

18950	COLLISION_CONFIG	EXP, N01	-
-	Configuration of collision avoidance.	DOUBLE	Reset
-			
-	16	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	- 0/0 M

Description: Configuration date of collision avoidance.

18960	POS_DYN_MODE	N01	K1
-	Type of positioning axis dynamic response	BYTE	Reset
-			
-	-	0	0 1 7/2 M

Description: The machine data determines the accelerations and jerks which are applied in the case of positioning axis motion.

Value 0:

The acceleration is taken from the first field entry in \$MA_MAX_AX_ACCEL (value for DYNNORM).

With G75 and active jerk limitation (SOFT), the jerk is taken from the first field entry in \$MA_MAX_AX_JERK (value for DYNNORM); without jerk limitation (BRISK) it is infinite.

The following applies for all other positioning axis movements:

If \$MA_JOG_AND_POS_JERK_ENABLE is true, the jerk is taken from \$MA_JOG_AND_POS_MAX_JERK; otherwise it is infinite (BRISK behavior).

Value 1:

The acceleration is taken from the second field entry in \$MA_MAX_AX_ACCEL (value for DYNPOS).

The jerk is taken from the second field entry in \$MA_MAX_AX_JERK (value for DYNPOS).

For BRISK behavior, enter very high values here.

19010	SYSTEM_INFO	N01	-
-	System information	BYTE	PowerOn
-			
-	4	0x6, 0x4	-

Description: System information
 Current software identifiers
 [0] : Class ID
 [1] : Subsystem ID
 Class ID:
 0 Reserved (was Powerline (810D/840D))
 1 840D sl up to SW 2.7
 2 Reserved (was 802D sl T/M)
 3 Reserved (was 802D sl N/G or C/U)
 4 Reserved (was 840Di sl)
 5 828D
 6 840D sl SW 4.4 and higher
 7 808D
 15 VNCK
 Subsystem ID:
 HMI (upper half-byte)
 0 HMI-Embedded
 1 ShopMill HMI
 2 ShopTurn HMI
 10 HMI sl
 NCK (lower half-byte)
 11 4AG
 1 6A
 2 12A
 3 31A
 10 2A
 This data cannot be written.

19100	NUM_AXES_IN_SYSTEM	N01	-
-	Additionally 1 axis/spindle	BYTE	PowerOn
-			
840dsl-71	-	3	0
840dsl-72	-	3	0
840dsl-73	-	3	0

Description: Number of available axes (IPO functionality)
 If more axes are activated by the channel-specific MD \$MC_AXCONF_MACHAX_USED than are permitted in \$ON_NUM_AXES_IN_SYSTEM and/or \$ON_NUM_ADD_AXES_IN_SYSTEM, a power-up alarm is triggered and the NC start is prevented.

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19102	NUM_ADD_AXES_IN_SYSTEM	N01	-
-	Additional 1 positioning axis/auxiliary spindle	BYTE	PowerOn
-			
840dsl-71	-	0	0
840dsl-72	-	0	31
840dsl-73	-	0	31

Description: Number of available positioning/auxiliary axes

If more axes are activated by channel-specific MD \$MC_AXCONF_MACHAX_USED than permitted in \$ON_NUM_AXES_IN_SYSTEM and/or \$ON_NUM_ADD_AXES_IN_SYSTEM, a power-up alarm is triggered and the NC start is prevented.

19110	NUM_IPO_AXES	N01	-
-	Multiple-axis interpolation (more than 4 axes)	BYTE	PowerOn
-			
840dsl-71	-	4	0
840dsl-72	-	4	31
840dsl-73	-	4	31

Description: Number of simultaneously interpolating path axes

If more interpolating axes are programmed than are permitted in \$ON_NUM_IPO_AXES, a power-up alarm is output and the corresponding block is not executed.

19120	NUM_SAFE_AXES	N01, N06	-
-	SI axis/spindle, add. 1 axis/spindle	BYTE	PowerOn
-			
-	-	1	0

Description: Number of axes in which safety functions can be activated.

19122	NUM_SPL_IO	N01, N06	-
-	SI	BYTE	PowerOn
-			
840dsl-71	-	0	0
840dsl-72	-	0	3
840dsl-73	-	0	3

Description: The number of external SPL I/Os can be selected with the value in the option data:

- = 0 : The SPL has no I/O.
- = 1 : The SPL has a maximum of 4/4 I/Os.
- = 2 : The SPL has a maximum of 64/64 I/Os.
- = 3 : The SPL has a maximum of 192/192 I/Os

19142	NUM_LEAD_LINK_AXES	N01	-
-	Number of supported lead-link axes	BYTE	PowerOn
-			
-	-	0	32

Description: Number of lead link axes supported by the software

19200	NUM_CHANNELS			N01	-	
-	Additional 1 machining channel			BYTE	PowerOn	
-						
840dsl-71	-	1	1	4	3/3	M
840dsl-72	-	1	1	10	3/3	M
840dsl-73	-	1	1	10	3/3	M

Description: Number of activatable channels

If more channels are activated by the global MD \$MN_ASSIGN_CHAN_TO_MODE_GROUP than are permitted in \$ON_NUM_CHANNELS, then a power-up alarm is triggered which prevents the NC start.

19220	NUM_MODE_GROUPS			N01	-	
-	Additional 1 operation mode modul (BAG)			BYTE	PowerOn	
-						
-	-	1	1	10	3/3	M

Description: Number of mode groups

If more mode groups are activated by the global MD \$MN_ASSIGN_CHAN_TO_MODE_GROUP than are permitted in \$ON_MODE_GROUPS, then a power-up alarm is triggered which prevents the NC start.

19250	USER_MEM_BUFFERED			N01, N02	-	
-	Add. 2 Mbyte CNC user memory			BYTE	PowerOn	
-						
-	-	0	0	6	3/3	M

Description: Option data for enabling the configuration stages of the battery-backed user memory on the NC CPU.

The following applies to Powerline systems:

Available memory = basic configuration + \$ON_USER_MEM_BUFFERED * 256KB

The following applies to Solutionline systems:

Available memory = basic configuration + \$ON_USER_MEM_BUFFERED * 2MB

\$ON_USER_MEM_BUFFERED thus always shows the part of the memory added to the basic configuration.

19270	PLC_USER_MEM_SIZE			N01, N02, N03	-	
-	Add. 128 KB PLC user memory			BYTE	PowerOn	
-						
-	-	4	1	32	3/3	M

Description: Option data for enabling the configuration stages of the STEP 7 user memory on the PLC:

1 32kB128kB

2 64kB256kB

3 96kB (GA) 384kB

4 128kB512kB (GA)

.

.

32 1024kB4096kB

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19280	PLC_C_USER_MEM_SIZE	N01, N02, N03	-
-	Additional 64 KB for PLC C programming	BYTE	PowerOn
-			
-	- 0 0 14 3/3 M		

Description: Option data for enabling the memory configuration stages for C programming on the PLC. (Incrementation: 64KB)

0 = No memory
 1 = 64KB
 ..
 14 = 896KB

19300	COMP_MASK	N01	-
-	Compensation options	BYTE	PowerOn
-			
-	- 0 0x0 0x7F 3/3 M		

Description: Reserved TEMP Temperature compensation axial
Reserved: EEC Leadscrew error compensation
 Bit 2 CEC Sag compensation
 Reserved QEC Quadrant error compensation with neural network
 Reserved EGA Electronic counterweight
 Bit 5 BiEEC Bidirectional leadscrew error compensation

19308	SINAMICS_FUNCTION_MASK	N01	-
-	Drive options	DWORD	PowerOn
-			
-	- 0 - - 3/3 M		

Description: Option data for enabling SINAMICS drive functions:
 Bit 0 (LSB): Enable "'Advanced Position Control' (APC)" (drive parameter r108 bit 7)

19310	AXIS_FUNCTION_MASK	N01, N09	-
-	Axial options	DWORD	PowerOn
-			
-	- 0 0x0 0x7FFFFFFF 3/3 M		

Description: Option data for enabling axial functions:
 Bit 0 (LSB): Enable "Gantry axes" (\$MA_GANTRY_AXIS_TYPE)
 Bit 1: Enable "Force Control" (\$MA_FOC_ACTIVATION_MODE)
 Bit 2: Enable "Position switching signals" (\$MN_SW_CAM_ASSIGN_TAB)
 -----: Reserved "Prog. acceleration" not an option since 10/2000
 Bit 4: Enable "Master-Slave" (\$MA_MS_ASSIGN_MASTER_SPEED_CMD
 \$MA_MS_ASSIGN_MASTER_TORQUE_CTR)
 Bit 5: Enable "Digital setpoint exchange"
 The listed machine data are reset during power on and
 alarm 8040 is output if the corresponding bit of the option data
 is not set.

19320	TECHNO_FUNCTION_MASK	N01, N09	-			
-	Technological options	DWORD	PowerOn			
-						
-	-	0	0x0	0x7FFFFFFF	3/3	M

Description: Option data for enabling technology-related functions

-----:(LSB) : Reserved "Caliper function" (\$MC_MULTFEED_ASSIGN_FASTIN) not an option since 10/2000

Bit 1: Enable "Adaptive Control (evaluation of internal drive variables)"

Bit 2: Enable "SINUMERIK HMI OA copy licence WinCC flexible CE" (OP)

Bit 3: Enable "Oscillation functions" (\$SA_OSCILL_IS_ACTIVE)

Bit 4: Enable "Tool management" (\$MC_TOOL_MANAGEMENT_MASK)

Bit 5: Enable "Nibbling/punching" (\$MC_PUNCHNIB_ACTIVATION)

Bit 6: Enable "Contour tunnel monitoring" (\$MC_CONTOUR_TUNNEL_TOL)

-----: Reserved "F word interpolation" (FLIN/FCUB/FPO) not an option since 10/2000

-----: Reserved "Continuous Dressing" (FTOCON/FTOCOF) not an option since 10/2000

Bit 9: Enable "Tangential control" (TANON/TANGOF)

Bit 10: Enable "Synchronous spindle/Multi-edge turning" (COUPON/COUPOF)

Bit 11: Enable "Path velocity-dependent analog value output (\$AC_VACTB/\$AC_VACTW)"

-----: Reserved "Position offset as output of a synchronized action (2D)" (\$AA_OFF), not an option since 10/2000

-----: Reserved "Free contour input with stock removal against the contour" (ShopMill)

Bit 14: Enable "Measuring level 2" (MEASA, MEAWA, 1)

-----: Enable "Tool measuring (ShopMill)" not an option since 07/2004

Bit 16: Enable "Contour pocket cycle with automatic residual material removal (ShopMill)"

Bit 17: Enable "Simultaneous recording (Realtime simulation of the current machining) (ShopMill/ShopTurn)" or "Simulation milling (HMI Embedded)"

Bit 18: Enable "Extended stop and retract" (\$MA_ESRREACTION)

Bit 19: Enable "Electronic gear (EGDEF)"

-----: Reserved "Teleservice HT6"

Bit 21: Enable "Fast retraction from the contour (LIFTFAST)"

Bit 22: Free

Bit 23: Enable "Work plan programming with ShopMill/ShopTurn"

Bit 24: Enable "Drive-autonomous generator operation" (\$MA_ESRREACTION)

Bit 25: Enable "Tool monitoring without active tool management" (\$MC_TOOL_MANAGEMENT_MASK)

Bit 26: Enable "Multiple clamping (ShopMill)"

Bit 27: Enable "NCU-link with various IPO and position-control cycles (see description of FAST_IPO_LINK and \$MN_MM_NCU_LINK_MASK)

Bit 28: Enable "Display volume model (ShopTurn)"

Bit 29: Enable "Online override in tool direction" (\$AA_TOFF[])

Bit 30: Enable "Milling machining package (package/only place holder for collective option)"

Bit 31: Reserved "

1.3 NC machine data

19321	TECHNO_FUNCTION_MASK_1	N01, N09	-
-	Technological options	DWORD	PowerOn
-			
-	-	0x00003040	0x00003040 0x7FFFFFFF 3/3 M

Description: Option data for enabling functions relating to technologies.

- Bit 0:(LSB) :Enable "Measuring cycles (MEACALC)"
- Bit 1:Enable "Contour handwheel"
- Bit 2:Enable "Generic coupling 'CP-BASIC'"
- Bit 3:Enable "Generic coupling 'CP-COMFORT'"
- Bit 4:Enable "Generic coupling 'CP-EXPERT'"
- Bit 5:Enable "Generic coupling 'CP-STATIC'"
- Bit 6:Enable "Replacement tools for TM"
- Bit 7:Enable "TM with multiple magazines"
- Bit 8: Enable "Monitoring for max. tool speed / acceleration"
- Bit 9: Enable "Advanced Surface"
- Bit 10: Enable "Machining package milling 3 axes (pkg/only placeholder for group option)"
- Bit 11: Enable "Machining package milling 5 axes (pkg/only placeholder for group option)"
- Bit 12: Enable "Siemens Cycles Base Technology"
- Bit 13: Enable "Siemens Cycles Advanced Technology"
- Bit 31:Reserved ""

19330	IPO_FUNCTION_MASK	N01, N09	-
-	Interpolation	DWORD	PowerOn
-			
-	-	0	0x0 0x7FFFFFFF 1/1 M

Description: Option data for enabling interpolation-related functions

- (LSB) :Reserved "REPOS per program (REPOSx without REPOSA)" not an option since 10/2000
- Bit 1: Enable "Spline interpolation (xSPLINE)"
- Bit 2:Enable "Compressor 5-axis machining (COMPON/COMPCAD/COMPCURV) (solution line: incl. xSPLINE; as from NCK75 only xSPLINE because COMPx is GA)"
- Bit 3: Enable "Polynomial interpolation (POLY)"
- Bit 4: Enable "3D tool offset (CUT3Dx)"
- Bit 5: Enable "Master value coupling and curve table interpolation (LEADON, CTAB)"
- : Reserved "Command axes and spindles"
- Bit 7: Enable "Involute interpolation"
- Bit 8: Enable "Compressor 3-axis machining (COMPON/COMPCAD/COMPCURV) (solution line: incl. xSPLINE); as from NCK75 only xSPLINE because COMPx is GA)"
- Bit 31: Reserved ""

19334	SYSTEM_FUNCTION_MASK	N01, N09	-			
-	System options	DWORD	PowerOn			
-						
-	-	0	0x0	0x7FFFFFFF	3/3	M

Description: -----: (LSB) : Reserved "FlashFileSystem (FFS)" is not an option but standard.
-----: Reserved "Execute from external (was 802D system)"
-----: Reserved "Color display (was 802D system)"
-----: Reserved "was 802D system"
-----: Reserved "Cycles in DRAM"
-----: Reserved "Modem (was 802D system)"
Bit 6: Enable "Machine maintenance data (MachineMaintenance)"
-----: Reserved "Direct keys/handwheel connection on MCP with PROFIBUS DP" (only PLC)
Bit 8: Enable "Cycle protection"
...
Bit 28: Reserved
Bit 29: Reserved
Bit 30: Reserved
Bit 31: Reserved

19340	PROG_MASK	N01	-			
-	Program options	BYTE	PowerOn			
-						
-	-	0	0x0	0x7F	3/3	M

Description: Option data for enabling functions relating to program execution
Bit 0 (LSB): Reserved, was "Program preprocessing"
Bit 1: Enable "Technology cycles" and "Synchronized actions stage 2"
Bit 2: Enable "Cross-mode actions (ASUB and SYNACT)"

19400	FFW_MODE_MASK	N01, N09	-			
-	Feedforward control	BYTE	PowerOn			
-						
-	-	0	0x0	0x7F	3/3	M

Description: Reserved

19410	TRAFO_TYPE_MASK	N01, N02, N09	-			
-	Transformation options	DWORD	PowerOn			
-						
-	-	0	0x0	0x7FFFFFFF	3/3	M

Description: Enables the transformations
An alarm is output if an attempt is made to activate a transformation whose associated option bit is not set.
Unbuffered memory is required.
Setting one of the option bits increases the memory requirement.
Meaning of the set bits in \$ON_TRAFO_TYPE_MASK:
Bit 0 (LBS): TRAFO5 (5-axis transformation) permitted
Bit 1 : TRANSMIT/TRACYL (Transmit/cylinder surface curves transformation) permitted

1.3 NC machine data

Bit 2	: Reserved					
Bit 3	: TRAANG	(Inclined axis transformation) permitted				
Bit 4	: TRAOEM	(OEM transformations) permitted				
Bit 5	: TRACON	(Concatenated transformations) permitted				
Bit 6	: TRAF07	(7-axis transformation) permitted				
Bit 7	: TRANSMIT/TRACYL	(Transmit/transformation of cylinder peripheral curves, without real Y axis) permitted				

As at 10/11/94: Centerless grinding transformation is not an option

19610	TECHNO_EXTENSION_MASK	N01	-			
-	Technological extensions	DWORD	PowerOn			
-						
-	9	0, 0, 0, 0, 0, 0, 0...	0x0	0x7FFFFFFF	3/3	M

Description: Option data for activating technology functions that have been brought in for the first time as reloadable compile cycles.
\$ON_TECHNO_EXTENSION_MASK[0]
Bit 0: = 0 Only those ELF files can be loaded which are licensed by a bit in ON_TECHNO_EXTENSION_MASK[1].
1 All ELF files can be loaded
Bit 16-32: reserved for use by OEM customers
\$ON_TECHNO_EXTENSION_MASK[1]
(ELF files marketed by Siemens)

19700	ELEC_TRANSFER	N01	-			
-	Electronic transfer	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	3/3	M

Description: Option data for enabling "electronic transfer" functionality
The 'individual options' required for this functionality are set,
+ One additional positioning axis
+ Gantry
+ Synchronized actions level 2
+ Position switching signals/cams
+ Polynomial interpolation
+ Master value coupling
+ Cross-mode actions (ASUB and SYNACT)
+ PROFIBUS
and the function normally present as a basic function
- Spindle (assignments are not possible in \$MA_SPIND_ASSIGN_TO_MACHAX)
- Tool offsets (G40/G41/G42 are not possible)
is disabled.

19701	ELEC_TRANSFER_CP	N01	-			
-	Electronic transfer (CP)	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	3/3	M

Description: Option data for enabling "electronic transfer with CP" functionality
The 'individual options' required for this functionality are set,
+ One additional positioning axis

- + Gantry
- + Synchronized actions level 2
- + Position switching signals/cams
- + Polynomial interpolation
- + Generic coupling CP-Comfort
- + Cross-mode actions (ASUB and SYNACT)
- + PROFIBUS

and the function normally present as a basic function

- Spindle (assignments are not possible in \$MA_SPIND_ASSIGN_TO_MACHAX)
- Tool offsets (G40/G41/G42 are not possible)

is disabled.

19709	PLASTIC	N01	-			
-	Plastic package IME	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	3/3	M

Description: Option data for enabling the "SINUMERIK plastic package" functionality
The 'individual options' required for this functionality are set:

- + 3 additional axes
- + Travel to fixed stop
- + Gantry
- + Synchronized actions level2
- + Master-slave for drives
- + Position switching signals/cams
- + Polynomial interpolation
- + Handling transformation package

and the functions normally present as basic functions

- Spindle (assignments are not possible in \$MA_SPIND_ASSIGN_TO_MACHAX)
- Tool offsets (G40/G41/G42 are not possible)

are disabled.

19710	HANDLING	N01	-			
-	Handling package	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	3/3	M

Description: Option data for enabling "handling" functionality

The 'individual options' required for this functionality are set,

- + 3 additional positioning axis
- + 3 additional channels
- + Synchronized actions level 2
- + Handling transformation package
- + Cross-mode actions (ASUB and SYNACT)

and the function normally present as a basic function

- Spindle (assignments are not possible in \$MA_SPIND_ASSIGN_TO_MACHAX)
- Tool offsets (G40/G41/G42 are not possible)

is disabled.

1.3 NC machine data

19730	HMI_FUNCTION_MASK	N01, N09	-
-	Operating options	DWORD	PowerOn
-			
-	2	0x804, 0x0	0x804, 0x0 0x7FFFFFFF, 0x7FFFFFFF

Description: Option data for enabling HMI functions:
 Bit 0 (LSB): Enable "Additional languages" MD19730[0].0
 -----: Reserved "External HMI"
 MD19730[0].1
 Bit 2: Enable "Network drive management" MD19730[0].2
 Bit 3: Enable "Multi-channel step sequence programming" MD19730[0].3
 Bit 4: Enable "Manual machine" MD19730[0].4
 Bit 5: Enable "Add. 256 MB HMI user memory on NCU CF card" MD19730[0].5
 Bit 6: Enable "Simulation milling (2D dynamic, 3D static)"
 MD19730[0].6
 -----: Reserved "Measuring cycles" MD19730[0].7
 Bit 8: Enable "SINUMERIK HMI copy license OA" MD19730[0].8
 Bit 9: Reserved "was Ethernet 802Dsl pro" MD19730[0].9
 Bit 10: Enable "ShopTurn/Mill HMI for 840Di sl incl. HMI Advanced"
 MD19730[0].10
 Bit 11: Enable "Advanced operator functions" MD19730[0].11
 Bit 12: Enable "ShopMill/ShopTurn StepGuide" MD19730[0].12
 Bit 13: Enable "Measure kinematics" MD19730[0].13
 Bit 14: Enable "Trace (real-time simulation of curr. machining) MigA; for ShopMill" MD19730[0].14
 Bit 15: Enable "Trace (real-time simulation of curr. machining) MigA; for ShopTurn" MD19730[0].15
 Bit 16: Enable "3D simulation 1 (finished part)" MD19730[0].16
 Bit 17: Enable "3D simulation 2 (finished part and working area)"
 MD19730[0].17
 Bit 18: Enable "Manual machine plus" MD19730[0].18
 Bit 19: Enable "SINUMERIK HMI sl copy license OA programming" MD19730[0].19
 -----: Reserved AP61 "SINUMERIK HMI sl copy license OA project"
 MD19730[0].20
 -----: Reserved AP62 "SINUMERIK HMI sl copy license OA upgrade programming" MD19730[0].21
 -----: Reserved AP63 "SINUMERIK HMI sl copy license OA upgrade configuration" MD19730[0].22
 Bit 23: Enable "SINUMERIK HMI sl Runtime OA Easy Screen" MD19730[0].23
 Bit 24: Enable "Operation without SINUMERIK OP" MD19730[0].24
 -----: Reserved "Ladder Editor for SoftPLC" for Tiger GA MD19730[0].25
 Bit 26: Enable "CCG Compiler (cam loop)" MD19730[0].26
 Bit 27: Enable "CCG-SINUMERIK Operate Runtime OA Solution Partner" OD19730
 \$MC_HMI_FUNCTION_MASK[0].27
 Bit 28: Enable "SINUMERIK HMI sl Runtime OA .net"
 Bit 29: Enable "Access MyMachine /OPC UA" OD19730\$MC_HMI_FUNCTION_MASK[0].29
 Bit 30: Enable "SINUMERIK Operate /NCU"
 OD19730 \$MC_HMI_FUNCTION_MASK[0].30 ADD ON
 Bit 0: Enable "MC information system RCS host"
 MD19730[1].0

Bit 1: Enable "MC information system RCS @event" MD19730[1].1
 Bit 2: Enable "MC information system TPM machine" MD19730[1].2
 Bit 3: Enable "MC information system TDI IFC (interface client)"
 MD19730[1].3
 Bit 4: Enable "MC information system TDI overview" MD19730[1].4
 Bit 5: Enable "MC information system TDI tool hanling" MD19730[1].5
 Bit 6: Enable "MC information system TDI PLANNING"MD19730[1].6
 Bit 7: Enable "MC information system TDI machine" MD19730[1].7
 Bit 8: Enable "MC information system TDI tool plan generation"MD19730[1].8
 Bit 9: Enable "MC information system DNC machine" MD19730[1].9
 Bit 10 Enable "MC information system DNC IFC (interface client)"
 MD19730[1].10
 Bit 11: Enable "MC information system MDI machine" MD19730[1].11
 Bit 12: Enable "MC information system MDI IFC (interface client)"
 MD19730[1].12
 Bit 13: Enable "MC information system PMT IFC (interface client)"
 "MD19730[1].13
 Bit 14: Enable "MC information system PDA IFC (interface client)"
 MD19730[1].14
 Bit 15: Enable "MC information system TPM IFC (interface client)"
 MD19730[1].15
 Bit 16: Enable "TRANSLINE 2000 HMI PRO sl" MD19730[1].16
 Bit 17: Enable "MC information system ADDM agent" MD19730[1].17
 Bit 18: Enable "MC information system RPC SINUMERIK"MD19730[1].18
 Bit 19: Enable "MC information system TDI statistic MD19730[1].19
 Bit 20: Enable "MC information system TDI ident connection" MD19730[1].20
 Bit 21: Enable "Electronic key system (EKS)" MD19730[1].21
 -----: Reserved MD19730[1].22
 Bit 23: Enable "Integrated spindle monitor (S-Monitor)" MD19730[1].23

19830	COLLISION_MASK	N01	-			
-	Functional scope of collision avoidance	DWORD	PowerOn			
-						
-	-	0x0	0x0	0x5	3/3	M

Description: Functional scope of collision avoidance
 Bit 0 (LSB): collision avoidance (machine, tool)
 Bit 1: Reserved
 Bit 2: Expansion, collision avoidance (simultaneous recording)

1.3.2 Channel-specific machine data

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

20000	CHAN_NAME		C01, C10	B3,K1		
-	Channel name		STRING	PowerOn		
-						
-	-	CHAN1, CHAN2, CHAN3, CHAN4...	-	-	7/2	M

Description: The channel name can be defined in this MD. The channel name is only used for the display on the HMI.

20050	AXCONF_GEOAX_ASSIGN_TAB		C01, C10	TE7,TE8,M1,R2,K1,K2		
-	Assignment of geometry axis to channel axis		BYTE	PowerOn		
-						
-	3	1, 2, 3, 0, 0, 0, 0, 0 0, 0, 0, 0...	0	20	7/2	M

Description: This MD is used to specify which channel axis the geometry axis is assigned to. Each geometry axis must be assigned to a specific channel. If a geometry axis is not assigned to a channel axis, then this geometry axis is not available, and cannot be programmed (with the name defined under MD20060 \$MC_AXCONF_GEOAX_NAME_TAB).

For example: Turning machine without transformation:

MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[0] = 1 ; 1st geometry axis = 1st channel axis

MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[1] = 0 ; 2nd geometry axis not defined

MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[2] = 2 ; 3rd geometry axis = 2nd channel axis

The assignment made here is valid if no transformation is active. With active transformation n, the transformation-specific assignment table MD24...

\$MC_TRAFO_GEOAX_ASSIGN_TAB_... becomes active.

20060	AXCONF_GEOAX_NAME_TAB		C01, C11, C10	F2,V2,M1,K2		
-	Geometry axis name in channel		STRING	PowerOn		
-						
-	3	X, Y, Z, X, Y, Z...	-	-	7/2	M

Description: This MD is used to enter the names of the geometry axes separately for each channel. Geometry axes can be programmed in the part program using the names specified here.

Special cases:

- The geometry axis name entered must not conflict with the designations and assignments of the machine and channel axis names.

- The machine axis names entered must not be the same as the names entered for Euler angles (MD10620 \$MN_EULER_ANGLE_NAME_TAB), names specified for directional vectors (MD10640 \$MN_DIR_VECTOR_NAME_TAB), names given to intermediate point coordinates in the case of CIP (MD10660 \$MN_INTERMEDIATE_POINT_NAME_TAB) or the names of interpolation parameters (MD10650 \$MN_IPO_PARAM_NAME_TAB).
- The geometry axis name entered must not include any of the following reserved address letters:

- D Tool offset (D function)	- E Reserved
- F Feedrate (F function)	- G Preparatory function
- H Auxiliary function (H function)	- L Subroutine call
- M Miscellaneous function (M function)	- N Subblock
- P Subroutine number of passes	- R Arithmetic parameters
- S Spindle speed (S function)	- T Tool (T function)
- The name must not include any keywords (e.g. DEF, SPOS etc.) or pre-defined identifiers (e.g. ASPLINE, SOFT).
- The use of an axis identifier consisting of a valid address letter (A, B, C, I, J, K, Q, U, V, W, X, Y, Z) followed by an optional numerical extension (1-99) gives slightly better block cycle times than a general identifier.
- Identical names may be given to geometry axes assigned to different channels.

Related to:

MD10000 \$MN_AXCONF_MACHAX_NAME_TAB
(machine axis name [axis no.])

MD20080 \$MC_AXCONF_CHANAX_NAME_TAB
(channel axis name in the channel [channel axis no.])

20070	AXCONF_MACHAX_USED	C01, C10	TE3,B3,K5,M1,K1,K2,P3 pl,P3 sl,S1
-	Machine axis number valid in channel	BYTE	PowerOn
-			
-	20	1, 2, 3, 0, 0	0 31 7/2 M

Description: This MD is used to specify the machine axis which the channel axis/special axis is assigned to. Each channel axis has to be assigned to a specific channel. A machine axis that has not been assigned to a channel is inactive, i.e. the axis control is not computed, the axis is not shown on the screen, and it cannot be programmed in any channel.

From software version 5, a machine axis need not be assigned to a channel axis for reasons of uniform configuration. The MD for the machine axis is set to 0 in this case. At the same time, MD11640 \$MN_ENABLE_CHAN_AX_GAP must be set to 1 (channel axis gaps are permitted).

From software version 5, the machine data MD20070 \$MC_AXCONF_MACHAX_USED does not directly refer to the machine axes created with MD10000 \$MN_AXCONF_MACHAX_NAME_TAB, but to the logical machine axis map which is defined with MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB.

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB refers:

- directly to a local machine axis on the NCU,
- to a machine axis of another NCU in the NCU grouping or
- indirectly to an axis container with local or remote machine axes.

1.3 NC machine data

If the default values AX1, AX2, ..., AX31 are entered with MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB, then the NCK behaves in the same way as up to software version 4, this means that machine data MD20070 \$MC_AXCONF_MACHAX_USED refers to the corresponding local machine axis.

Special cases:

- Each geometry axis must be assigned to a channel axis and a machine axis so that it can be programmed.
- If a machine axis is assigned to several channels by means of MD20070 \$MC_AXCONF_MACHAX_USED, then the number of the channel from which the axis is to be programmed must be entered in MD30550 \$MA_AXCONF_ASSIGN_MASTER_CHAN.
- Up to software version 4, the list of entries must not contain any gaps (as from software version 5 - see above). In contrast, the assignment of the machine axes used may contain gaps.

For example:

Permissible:

AXCONF_MACHAX_USED [0] = 3; 3rd MA is the 1st axis in the channel
AXCONF_MACHAX_USED [1] = 1; 1st MA is the 2nd axis in the channel

AXCONF_MACHAX_USED [2] = 5; 5th MA is the 3rd axis in the channel

AXCONF_MACHAX_USED [3] = 0

Error for software version 4, permissible for version 5:

AXCONF_MACHAX_USED [0] = 1; 1st MA is the 1st axis in the channel

AXCONF_MACHAX_USED [1] = 2; 2nd MA is the 2nd axis in the channel

AXCONF_MACHAX_USED [2] = 0; gap in the list ...

AXCONF_MACHAX_USED [3] = 3; ... of the channel axes

Axis identifiers must be defined in the corresponding list places of AXCONF_CHANAX_NAME_TAB for the axes activated in the channel.

Related to:

MD30550 \$MA_AXCONF_ASSIGN_MASTER_CHAN

(Initial setting of the channel for axis change)

MD20080 \$MC_AXCONF_CHANAX_NAME_TAB

(Channel axis name in the channel [channel axis number])

MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB

MD11640 \$MN_ENABLE_CHAN_AX_GAP

Reference:

Description of Functions B3.

20080	AXCONF_CHANAX_NAME_TAB		C01, C11, C10	F2,V2,M1,K2,V1		
-	Channel axis name in channel		STRING	PowerOn		
-						
-	20	"X", "Y", "Z", "A", "B", "C", "U", "V", "X11", "Y11"...	-	-	7/2	M

Description:

This MD is used to set the name of the channel axis/special axis. The first three channel axes are normally occupied by the three assigned geometry axes (see also MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB). The remaining channel axes are also designated as special axes. The channel axis/special axis is always displayed on the screen in the Work (workpiece coordinate system) with the name set in this MD.

Special cases:

- The specified channel axis name/special axis name must not conflict with the designation and assignment of the machine and geometry axis names.

- The specified channel axis name must not be the same as the names entered for Euler angles (Eulerwinkel(MD10620 \$MN_EULER_ANGLE_NAME_TAB) , names specified for directional vectors (MD10640 \$MN_DIR_VECTOR_NAME_TAB) , names given to intermediate point coordinates in the case of CIP (MD10660 \$MN_INTERMEDIATE_POINT_NAME_TAB) or the names of interpolation parameters (MD10650 \$MN_IPO_PARAM_NAME_TAB) .
- The channel axis name entered must not include any of the following reserved address letters:

- D Tool offset (D function)	- E Reserved
- F Feedrate (F function)	- G Preparatory function
- H Auxiliary function (H function)	- L Subroutine call
- M Miscellaneous function (M function)	- N Subblock
- P Subroutine number of passes	- R Arithmetic parameters
- S Spindle speed (S function)	- T Tool (T function)
- The name must not include any keywords (e.g. DEF, SPOS etc.) or pre-defined identifiers (e.g. ASPLINE, SOFT).
- The use of an axis identifier consisting of a valid address letter (A, B, C, I, J, K, Q, U, V, W, X, Y, Z) followed by an optional numerical extension (1-99) gives slightly better block cycle times than a general identifier.
- No special names need be entered in this MD for channel axes to which geometry axes are assigned (normally the first three channel axes).

Axis identifiers that are not allowed are rejected with an alarm during runup.

20082	AXCONF_CHANAX_DEFAULT_NAME	C01, C11, C10	-				
-	Default axis name for axis variables in the channel	STRING	PowerOn				
-							
-	-	...	-	-	7/2	M	

Description: Variables or parameters of type Axis which have not been initialized are initialized with a default axis identifier. The identifier can be configured via the machine data MD20082 \$MC_AXCONF_CHANAX_DEFAULT_NAME. If this machine data is set with an empty string, the 1st geometry axis is used, as previously. MD20082 \$MC_AXCONF_CHANAX_DEFAULT_NAME can be set by default with all available, valid axis identifiers. The value of this machine data should generally always correspond to a value of \$MD20060 \$MC_AXCONF_GEOAX_NAME_TAB, MD20080 \$MC_AXCONF_CHANAX_NAME_TAB or MD10000 \$MN_AXCONF_MACHAX_NAME_TAB. If an invalid axis name is entered as a value or if this name has been changed, for example, in MD20080 \$MC_AXCONF_CHANAX_NAME_TAB but not in MD20082 \$MC_AXCONF_CHANAX_DEFAULT_NAME, then this is indicated with alarm 4041 channel %1 block %2 axis identifier %3 is invalid". Only valid axis identifiers, empty string and "NO_AXIS" may be entered in MD20082 \$MC_AXCONF_CHANAX_DEFAULT_NAME. "NO_AXIS" is used to indicate a non-initialized axis variable, empty string means previous behavior, i.e. each variable is initialized with the 1st geometry axis.

20090	SPIND_DEF_MASTER_SPIND	C01, C03	H2,K1,K2,P3 pl,P3 sl,S1,W1				
-	Initial setting of master spindle in channel	BYTE	PowerOn				
-							
-	-	1, 1, 1, 1, 1, 1, 1...	1	20	7/2	M	

Description: Definition of the default setting for the master spindle (in the channel). The number of the spindle is entered.

1.3 NC machine data

A number of functions are linked to the master spindle, which are not possible with any other spindle.

Note:

The language command SETMS(n) can declare the spindle number as the master spindle.

The spindle defined in this MD is declared once again as the master spindle with SETMS.

The spindle defined in this MD is also declared as the master spindle at program end and program cancelation.

20092	SPIND_ASSIGN_TAB_ENABLE	C01, C03, C10	S1
-	Enable/disable the spindle converter.	BYTE	Reset
-			
-	- 0, 0, 0, 0, 0, 0, 0...	0 1	7/7 M

Description: Value 0:

The spindle converter function is deactivated. The contents of SD42800 \$SC_SPIND_ASSIGN_TAB[...] are not evaluated.

Value 1:

The spindle converter is activated. Conversion from logical to physical spindle takes place. For more information, see SD42800 \$SC_SPIND_ASSIGN_TAB.

Note:

The spindle converter is deactivated after "Delete SRAM" (service switch in position "1").

Related to:

SD42800 \$SC_SPIND_ASSIGN_TAB

20094	SPIND_RIGID_TAPPING_M_NR	C01, C03, C10	H2,K1,S1
-	M function for switching into controlled axis mode	DWORD	PowerOn
-			
-	- 70, 70, 70, 70, 70, 70, - 70, 70...	- -	7/2 M

Description: This machine data defines the M auxiliary function number with which the spindle is switched into axis mode.

The M number defined in the machine data replaces M70 in Siemens language mode.

Note:

On the VDI interface, M70 is always output with the corresponding address extension to indicate the switch to axis mode.

Restrictions: Refer to machine data MD10715 \$MN_M_NO_FCT_CYCLE

Related to:

MD10714 \$MN_M_NO_FCT_EOP,

MD10715 \$MN_M_NO_FCT_CYCLE,

MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,

MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,

MD10804 \$MN_EXTERN_M_NO_SET_INT

MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,

MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,

MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX

MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR
 For nibbling:
 \$MD26008 \$MC_NIBBLE_PUNCH_CODE

20095	EXTERN_RIGID_TAPPING_M_NR			C01, C11, C03, C10	H2,K1	
-	M function for switching to controlled axis mode(external mode)			DWORD	PowerOn	
-						
-	-	29, 29, 29, 29, 29, 29, 29, 29...	-	-	7/2	M

Description: This machine data defines the M function number with which the switchover to controlled spindle/axis mode is to be carried out.
 The M number defined in the machine data replaces M29 in external language mode.
 Pre-defined M numbers, such as M00,M1,M2,M3, etc., are not allowed as M numbers.
 Restrictions: See machine data MD10715 \$MN_M_NO_FCT_CYCLE
 Related to:
 MD10714 \$MN_M_NO_FCT_EOP,
 MD10715 \$MN_M_NO_FCT_CYCLE,
 MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,
 MD22254 \$MC_AUXFU_ASSOC_M0_VALUE
 For external language mode:
 MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,
 MD10804 \$MN_EXTERN_M_NO_SET_INT
 MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,
 MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,
 MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX
 MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR
 For nibbling:
 MD26008 \$MC_NIBBLE_PUNCH_CODE

20096	T_M_ADDRESS_EXT_IS_SPINO			C01, C04, C09	H2,W1	
-	Meaning of address extension at T, M tool change			BOOLEAN	PowerOn	
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: This MD is only significant if the functions 'Tool management'/'flat D numbers' are inactive.
 FALSE
 The contents of the address extensions of the NC addresses T and M 'tool change command number' are not evaluated by the NCK. The PLC decides on the significance of the programmed extension.
 TRUE
 The address extensions of the NC addresses T and M 'tool change command number' - 'tool change command number'=TOOL_CHANGE_M_CODE with 6 as the default value - are interpreted as spindle numbers.
 NCK treats the extension in the same way as the active functions 'tool management' and 'flat D number management'.

1.3 NC machine data

That is, the programmed D number always refers to the T number of the programmed main spindle number.

See also:

MD20090 \$MC_SPIND_DEF_MASTER_SPIND,
MD22550 \$MC_TOOL_CHANGE_MODE,
MD22560 \$MC_TOOL_CHANGE_M_CODE

20098	DISPLAY_AXIS		EXP, C01	-		
-	Display axis on HMI			DWORD	Immediately	
-						
-	20	0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF...	-	-	7/2	M

Description: Identifies whether the axis is to be displayed by the HMI as a machine, geometry or auxiliary axis.
 This data is only evaluated by the HMI.
 Bits 0 to 15: Machine
 Bit 0= 1 Display machine axis in the actual value windows
 0 Hide machine axis in the actual value windows
 Bit 1= 1 Display machine axis in the reference point windows
 0 Hide machine axis in the reference point windows
 Bit 2=1 Display machine axis in preset/scratch/parameter work offset
 0 Hide machine axis in preset/scratch/parameter work offset
 Bit 3= 1 Display machine axis in the handwheel selection window
 0 Hide machine axis in the handwheel selection window
 Bit 16 to 31: WCS
 Bit 16= 1 Display geometry axis in the actual value windows
 0 Hide geometry axis in the actual value windows
 (Bit 17) Not assigned
 Bit 18= 1 Display geometry axis in parameter work offset
 0 Hide geometry axis in parameter work offset
 Bit 19= 1 Display geometry axis in the handwheel selection window
 0 Hide geometry axis in the handwheel selection window
 Bit 20= 1 Display position axes in the JOG/manual windows
 0 Hide position axes in the JOG/manual windows

20100	DIAMETER_AX_DEF		C01, C10	H1,M5,P1,V1,W1
-	Geometry axis with transverse axis function		STRING	PowerOn
-				
-	-	...	-	7/2

Description: This MD is used to define a geometry axis as a transverse axis. Only one transverse axis can be defined here for each channel.
 Further transverse axes for axis-specific diameter programming can be activated via MD30460 \$MA_BASE_FUNCTION_MASK, bit 2.
 The axis identifier of an active geometry axis that has been defined in the channel-specific MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[n] or MD24120 \$MC_TRAFO_AX_GEOAX_ASSIGN_TAB_1[n] (from SW 4) and MD20060 \$MC_AXCONF_GEOAX_NAME_TAB[n] must be specified.

If space characters are entered or if an axis identifier is specified for an axis which is not defined as a geometry axis, this leads to the following alarms:

- during runup, to alarm 4032 "Channel %1 wrong identifier for transverse axis in %2", if the "Diameter programming" function (DIAMON) or constant cutting velocity G96/G961/G962 is the switch-on setting.
- when the "Diameter programming (DIAMON)" function is activated, to alarm 16510 "Channel %1 block %2 No transverse axis available for diameter programming", if no axis has been permitted via DIAMCHANA[AX] for channel-specific diameter programming.
- when G96/G961/G962 has been programmed, to alarm 10870 "Channel %1 block %2 No transverse axis defined as reference axis for G96/G961/G962", if no geometry axis has been defined as the reference axis for G96/G961/G962 by the instruction SCC[ax].

Related to:

MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[n]
 (assignment of geometry axis to channel axis)
 MD20060 \$MC_AXCONF_GEOAX_NAME_TAB[n]
 (geometry axis name in the channel)
 MD24120 \$MC_TRAFO_AX_GEOAX_ASSIGN_TAB_1[n]
 (assignment of GEO axis to channel axis for transformation 1)
 MD30460 \$MA_BASE_FUNCTION_MASK
 (Bit2 == 1: Axis-specific diameter programming)

20105	PROG_EVENT_IGN_REFPLOCK	N01	K1,Z1			
-	Start Prog-Events despite non-referenced axes.	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x3F	7/2	M

Description: The behavior of event-driven program calls (Prog-Events) regarding non-referenced axes can be set.

Bit 0 = 1 :

Prog-Event ignores non-referenced axes after part program start

Bit 1 = 1 :

Prog-Event ignores non-referenced axes after part program end

Bit 2 = 1 :

Prog-Event after operator panel reset ignores non-referenced axes

Bit 3 = 1 :

Prog-Event after power-up ignores non-referenced axes

Bit 4 = 1 :

Prog-Event after 1st start after search ignores non-referenced axes

Bit 5 = 1 :

reserved

Corresponds to:

MD20106 \$MC_PROG_EVENT_IGN_SINGLEBLOCK

MD20107 \$MC_PROG_EVENT_IGN_INHIBIT

MD20108 \$MC_PROG_EVENT_MASK

MD20192 \$MC_PROG_EVENT_IGN_PROG_STATE

MD20193 \$MC_PROG_EVENT_IGN_STOP

The machine data MD20105 \$MC_PROG_EVENT_IGN_REFPLOCK and MD20115 \$MC_IGNORE_REFPLOCK_ASUP replace bit 1 from MD11602 \$MN_ASUP_START_MASK.

1.3 NC machine data

If MD20700 \$MC_REFP_NC_START_LOCK is set, the setting in MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK is ignored.

20106	PROG_EVENT_IGN_SINGLEBLOCK	N01	K1,Z1
-	Prog-Events ignore single block	DWORD	PowerOn
-			
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0x3F 7/2 M

Description: Event-driven program calls (Prog-Events) can be set regarding their single-block response.

Bit 0 = 1 :

Prog-Event after start-of-part-program causes block change without restart

Bit 1 = 1 :

Prog-Event after end-of-part-program causes block change without restart

Bit 2 = 1 :

Prog-Event after OP reset causes block change without restart

Bit 3 = 1 :

Prog-Event after ramp-up causes block change without restart

Bit 4 = 1 :

Prog-Event after 1st start after search causes block change without restart

Bit 5 = 1 :

Safety Prog-Event during ramp-up causes block change without restart

Corresponds to:

MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK

MD20107 \$MC_PROG_EVENT_IGN_INHIBIT

MD20108 \$MC_PROG_EVENT_MASK

MD20192 \$MC_PROG_EVENT_IGN_PROG_STATE

MD20193 \$MC_PROG_EVENT_IGN_STOP

20107	PROG_EVENT_IGN_INHIBIT	N01	K1,Z1
-	Prog-Events ignore read-in disable	DWORD	PowerOn
-			
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0x3F 7/2 M

Description: Event-driven programm calls (Prog-Events) can be set regarding their read-in disable response.

Bit 0 = 1 :

Prog-Event after start-of-part-program causes block change despite read-in disable

Bit 1 = 1 :

Prog-Event after end-of-part-program causes block change despite read-in disable

Bit 2 = 1 :

Prog-Event after OP reset causes block change despite read-in disable

Bit 3 = 1 :

Prog-Event after ramp-up causes block change despite read-in disable

Bit 4 = 1 :

Prog-Event after 1st start after search run causes block change despite read-in disable

Bit 5 = 1 :

Safety-Prog-Event during ramp-up causes block change despite read-in disable
Corresponds to:

MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK
MD20106 \$MC_PROG_EVENT_IGN_SINGLEBLOCK
MD20108 \$MC_PROG_EVENT_MASK
MD20192 \$MC_PROG_EVENT_IGN_PROG_STATE
MD20193 \$MC_PROG_EVENT_IGN_STOP

20108	PROG_EVENT_MASK	N01, -	TE3,K1			
-	Setting of event-driven programm calls	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x3F	7/2	M

Description: Parameterization of the events causing the user program set with MD11620 \$MN_PROG_EVENT_NAME (default: _N_PROG_EVENT_SPF) or the safety program _N_SAFE_SPF to be called implicitly:

Bit 0 = 1 : Start of part program
Bit 1 = 1 : End of part program
Bit 2 = 1 : Operator panel reset
Bit 3 = 1 : Ramp-up
Bit 4 = 1 : Reserved
Bit 5 = 1 : Safety program booting

The user program is called via the following search path:

1. /_N_CUS_DIR/_N_PROG_EVENT_SPF
2. /_N_CMA_DIR/_N_PROG_EVENT_SPF
3. /_N_CST_DIR/_N_PROG_EVENT_SPF

The safety program has to be available in the following location:

1. /_N_CST_DIR/_N_SAFE_SPF

Furthermore, MD11450 \$MN_SEARCH_RUN_MODE bit 1 also causes the user program set with MD11620 \$MN_PROG_EVENT_NAME to be started up automatically after the action blocks, regardless of the settings in the machine data.

Corresponds to:

MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK
MD20106 \$MC_PROG_EVENT_IGN_SINGLEBLOCK
MD20107 \$MC_PROG_EVENT_IGN_INHIBIT
MD20192 \$MC_PROG_EVENT_IGN_PROG_STATE
MD20193 \$MC_PROG_EVENT_IGN_STOP

20109	PROG_EVENT_MASK_PROPERTIES	N01	K1			
-	Properties of Prog-Events	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x1	7/2	M

Description: Parameterization of additional properties of the event-controlled program calls (in short, Prog-Event), that is, the MD20108 \$MC_PROG_EVENT_MASK is further parameterized.

Bit 0 = 1 :

An ASUB started from channel status RESET does not result in a Prog-Event.

1.3 NC machine data

20110	RESET_MODE_MASK	C11, C03	F2,K6,M3,TE4,W5,B3,K5,M1, G2,K1,K2,P1,S1,W1,2.4,2.7			
-	Definition of basic control settings after reset/PP end	DWORD	Reset			
-						
-	-	0x1, 0x1, 0x1, 0x1, 0x1, 0x1, 0x1, 0x1...	0	0x7FFF	7/2	M

Description: Definition of the initial setting of the control after ramp-up and at reset/end-of-part-program with regard to the G codes (in particular the active plane and the settable work offset), tool length offset and transformation by setting the following bits:

Bit 0: Reset mode

Bit 1: Suppress aux. funct. output on tool selection

Bit 2: Select reset response after power-on (e.g. tool offset)

Bit 3: Select reset response after end of test mode with regard to active tool offsets

Bit 4: Reserved

Bit 5: Reserved

Bit 6: Reset response "Active tool length offset"

Bit 7: Reset response "Active kinematic transformation"

Bit 8: Reset response "Coupled-motion axes"

Bit 9: Reset response "Tangential correction"

Bit 10: Reset response "Synchronous spindle"

Bit 11: Reset response "Revolutional feedrate"

Bit 12: Reset response "Geo axis replacement"

Bit 13: Reset response "Master value coupling"

Bit 14: Reset response "Basic frame"

Bit 15: Reset response "Electronic gearbox"

Bit 16: Reset response "Master spindle"

Bit 17: Reset response "Master toolholder"

Bit 18: Reset response "Reference axis for G96/G961/G962"

Bit 19: Reserved "Adjustable software limit switch ineffective"

Bits 4 to 11, 16, and 17 are only evaluated when bit 0 = 1.

Meaning of each bit:

Bit 0 (LSB) = 0: Corresponds with response of software version 1, only recommended for test mode

Initial setting after ramp-up:

- G codes acc. to \$MC_GCODE_RESET_VALUES

- Tool length offset not active

- Transformation not active

- No coupled-motion axis groupings active

- No tangential correction active

- No axial revolutional feedrate active

- Path revolutional feedrate with master spindle (default)

Initial setting after reset or end-of-part-program:

The current settings are retained.

When next part program is started, the following initial setting is in effect:

- G codes acc. to \$MC_GCODE_RESET_VALUES

- Tool length offset not active

- Transformation not active
- No coupled-motion axis groupings active
- No tangential correction active
- No master value coupling active
- No axial revolutionary feedrate active
- Path revolutionary feedrate with master spindle (default)

Bit 0(LSB) = 1: Standard value for Powerline and Solutionline systems

Initial setting after ramp-up:

- G codes acc. to \$MC_GCODE_RESET_VALUES
- Tool length offset active acc. to \$MC_TOOL_RESET_VALUE, \$MC_CUTTING_EDGE_RESET_VALUE and \$MC_SUMCORR_RESET_VALUE
- Transformation active acc. to \$MC_TRAFO_RESET_VALUE
- Geometry axis replacement acc. to \$MC_GEOAX_CHANGE_RESET
- No coupled-motion axis groupings active
- No tangential correction active

Initial setting after reset or end-of-part-program:

Depending on \$MC_GCODE_RESET_MODE the current settings are retained for the G groups or the initial settings stored in \$MC_GCODE_RESET_VALUES are set.

Initial setting after reset or end-of-part-program:

Depending on \$MC_RESET_MODE_MASK bits 6 to 7, the current settings are retained or the initial settings stored in the MDs are set for:

- Tool length offset
- Transformation

Depending on bits 8 and 9, the current settings of coupled-motion axes or tangentially corrected axes are either deactivated or retained.

- Synchronous spindle coupling configured:
The coupling is deselected depending on the setting in \$MC_COUPLE_RESET_MODE_1.
- Synchronous spindle coupling not configured:
Depending on bit 10, the coupling is either deactivated or retained.
- Depending on bit 14, the basic frame is either retained or deselected.

Bit 1 = 0:
Aux. funct. output (D, T, M) to PLC on tool selection according to MDs \$MC_TOOL_RESET_VALUE, \$MC_CUTTING_EDGE_RESET_VALUE, \$MC_TOOL_PRESEL_RESET_VALUE, and \$MC_TOOL_CHANGE_MODE. If magazine management is active, T, M are generally not output as auxiliary functions.
The function uses its own communication to output T, M to the PLC, for example.

Bit 1 = 1:
Suppress aux. funct. output to PLC on tool selection.
If tool management or magazine management is active, T, M are generally not output as auxiliary functions.

Bit 2 = 0:
If tool or magazine management is not active:
- No tool offset active after power-on. Active and programmed T depend on the subsequent settings of the machine data (bits 0, 6).
If tool or magazine management is active:
- Not relevant

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Bit 2 = 1:
If tool or magazine management is not active:
- If bits 0 and 6 both = 1 (0x41), the tool offset of the last tool active in the NCK is active after the first reset after power-on.
(The value of the programmed tool depends on the value of machine data \$MC_TOOL_PRESEL_RESET_VALUE.)
Notice: The NCK does not know the conditions at the machine.
If tool or magazine management is active:
- Not relevant
Bit 3 = 0:
With and without active tool management:
End of test mode: "Retain current setting for active tool length offset" (bits 0 and 6 set) refers to the program which was active before activation of test mode.
Bit 3 = 1:
Relevant only if tool management is not active:
End of test mode: "Retain current setting for active tool length offset" (bits 0 and 6 set) refers to the program which was active at the end of test mode. (If tool management is active, the tool on the spindle is generally the active tool. Exception only for \$MC_CUTTING_EDGE_DEFAULT = -2.)
Bit 4 = 0:Reserved
Bit 4 = 1:Reserved
Bit 5 = 0:Reserved
Bit 5 = 1:Reserved
Bit 6 = 0:
Initial setting for active tool length offset after reset/end-of-part-program acc. to \$MC_TOOL_RESET_VALUE, \$MC_CUTTING_EDGE_RESET_VALUE, \$MC_USEKT_RESET_VALUE, and \$MC_SUMCORR_RESET_VALUE.
If \$MC_TOOL_CHANGE_MODE = 1, the tool specified in \$MC_TOOL_PRESEL_RESET_VALUE is also preselected.
If tool or magazine management is active, \$MC_TOOL_RESET_NAME is used instead of \$MC_TOOL_RESET_VALUE.
Bit 6 = 1:
Current setting for active tool length offset is retained after reset/end-of-part-program.
If tool or magazine management is active, the tool that is currently on the master spindle (generally = master toolholder) is selected.
If the tool on the master spindle is disabled, the 'disabled' status is ignored.
Please note that after a program ends or is canceled either the most recent value for master spindle or master toolholder programmed in the program or the value specified with \$MC_SPIND_DEF_MASTER_SPIND or \$MC_TOOL_MANAGEMENT_TOOLHOLDER defines the master spindle or master toolholder.
(The selection is made using bit 16 or bit 17.)
For \$MC_CUTTING_EDGE_DEFAULT = -2 the following applies specifically:
If a tool has been switched to the spindle but a new offset D has not yet been programmed, the previous tool is still active in the NCK.
If machining is canceled in this status (e.g. with the Reset key), the offset is defined with the smallest D number associated with the master spindle tool.

Bit 7 = 0:
Initial setting for active transformation after reset/end-of-part-program according to \$MC_TRAFO_RESET_VALUE.

Bit 7 = 1:
The current setting for active transformation is retained after reset/end-of-part-program.

Bit 8 = 0:
Coupled-motion axis groupings are ungrouped at reset/end-of-part-program.

Bit 8 = 1:
Coupled-motion axis groupings remain active after reset/end-of-part-program.

Bit 9 = 0:
Tangential correction is switched off at reset/end-of-part-program.

Bit 9 = 1:
Tangential correction remains active after reset/end-of-part-program.

Bit 10 = 0:
Non-configured synchronous spindle coupling is switched off at reset/end-of-part-program.

Bit 10 = 1:
Non-configured synchronous spindle coupling remains active after reset/end-of-part-program.

Bit 11 = 0:
At reset/end-of-part-program the setting data \$SA_ASSIGN_FEED_PER_REV_SOURCE is reset to 0 for all non-active axes/spindles, i.e. traversing at revolutionary feedrate is canceled and the setting for path and synchronous axes is reset to the master spindle (default).

Bit 11 = 1:
The current setting for revolutionary feedrate is retained after reset/end-of-part-program. At the start of the part program, the setting data \$SA_ASSIGN_FEED_PER_REV_SOURCE is reset to 0 for all non-active axes/spindles, i.e. traversing at revolutionary feedrate is canceled and the setting for path and synchronous axes is reset to the master spindle (default).

Bit 12 = 0:
If machine data \$MC_GEOAX_CHANGE_RESET is set, a changed geometry axis assignment is canceled at reset/end-of-part-program. The initial setting for the geometry axis assignment defined in the machine data becomes active.

Bit 12 = 1:
A changed geometry axis assignment remains active after reset/end-of-part-program.

Bit 13 = 0:
Master value couplings are canceled at reset/end-of-part-program.

Bit 13 = 1:
Master value couplings remain active after reset/end-of-part-program.

Bit 14 = 0:
The basic frame is deselected.

Bit 14 = 1:
The current setting of the basic frame is retained.

Bit 15 = 0:
Active electronic gearboxes remain active at reset/end-of-part-program.

Bit 15 = 1:
Active electronic gearboxes are canceled at reset/end-of-part-program.

1.3 NC machine data

Bit 16 = 0:
 Initial setting for the master spindle according to
`$MC_SPIND_DEF_MASTER_SPIND`.

Bit 16 = 1:
 The current setting of the master spindle (SETMS) is retained.
 If `$MC_TOOL_MANAGEMENT_TOOLHOLDER` = 0, this bit has also an effect on the response of bit 6.

Bit 17 = 0:
 Initial setting for the master toolholder according to
`$MC_TOOL_MANAGEMENT_TOOLHOLDER`

Bit 17 = 1:
 The current setting of the master toolholder (SETMTH) is retained
 (Bit 17 is only relevant if tool or magazine management is active and if
`$MC_TOOL_MANAGEMENT_TOOLHOLDER > 0`. Otherwise, the setting for master spindle
bit 16 applies if tool or magazine management is active. This bit has also an effect on the response of bit 6.)

Bit 18 = 0:
 Reference axis for G96/G961/G962 according to MD 20100: `$MC_DIAMETER_AX_DEF`.
 When using SCC with its own spindle reset, setting bit 18 = 1 is recommended
(see also MD 20112: `$MC_START_MODE_MASK`, bit 18).

Bit 18 = 1:
 Reference axis for G96/G961/G962 is retained.

Bit 19: Reserved!

Bit 19 = 0:
 The two adjustable software limit switches are deleted after reset and are no longer effective.

Bit 19 = 1:
 The two adjustable software limit switches remain active after reset.

Corresponds with:

- MD20120 `$MC_TOOL_RESET_VALUE`
- MD20130 `$MC_CUTTING_EDGE_RESET_VALUE`
- MD20150 `$MC_GCODE_RESET_VALUES`
- MD20152 `$MC_GCODE_RESET_MODE`
- MD20140 `$MC_TRAFO_RESET_VALUE`
- MD20112 `$MC_START_MODE_MASK`
- MD20121 `$MC_TOOL_PRESEL_RESET_VALUE`
- MD20118 `$MC_GEOAX_CHANGE_RESET`

20112	START_MODE_MASK	C03	K6,M3,K5,M1,K1,K2,P1,S1,W1			
-	Definition of basic setting of control after part program start	DWORD	Reset			
-						
-	-	0x400, 0x400, 0x400, 0x400, 0x400, 0x400...	0	0x7FFF	7/2	M

Description: Definition of the initial setting of the control at the start of the part program with respect to G codes (in particular, active plane and active set-table work offset), tool length offset, transformation, and axis couplings by setting the following bits:
 Bit 0: Not assigned: MD20112 `$MC_START_MODE_MASK` is evaluated every time a part program starts up

Bit 1: Suppress aux. funct. output on tool selection
 Bit 2: Not assigned, but reserved (see corresponding bit in RESET_MODE_MASK)
 Bit 3: Not assigned, but reserved (see corresponding bit in RESET_MODE_MASK)
 Bit 4: Start response for G code "Current plane"
 Bit 5: Start response for G code "Settable work offset"
 Bit 6: Start response for "Active tool length offset"
 Bit 7: Start response for "Active kinematic transformation"
 Bit 8: Start response for "Coupled-motion axes"
 Bit 9: Start response for "Tangential correction"
 Bit 10: Start response for "Synchronous spindle"
 Bit 11: Not assigned, but reserved (see corresponding bit in RESET_MODE_MASK)
 Bit 12: Start response for "Geo axis replacement"
 Bit 13: Start response for "Master value coupling"
 Bit 14: Not assigned, but reserved (see corresponding bit in RESET_MODE_MASK)
 Bit 15: Not assigned, but reserved (see corresponding bit in RESET_MODE_MASK)
 Bit 16: Start response for "Master spindle"
 Bit 17: Start response for "Master toolholder"
 Bit 18: Start response for "Reference axis for G96/G961/G962"
 Bit 19: Reserved "Adjustable software limit switch ineffective"

Meaning of individual bits:

Bit 1 = 0:

Auxiliary function output (D, T, M, DL) to PLC on tool selection according to the following MDs:\$MC_TOOL_RESET_VALUE, \$MC_CUTTING_EDGE_RESET_VALUE, \$MC_TOOL_PRESEL_RESET_VALUE, and \$MC_TOOL_CHANGE_MODE.

Note:

If tool or magazine management is active, only auxiliary functions D and DL are output.

Bit 1 = 1:

Suppress auxiliary function output to PLC on tool selection.

Bit 1 is not relevant if tool or magazine management is active.

Bit 2 : Reserved (reset response after power-on)

Bit 3 : Reserved (end of test mode)

Bit 4 = 0:

The current setting for G code "current plane" is retained.

Bit 4 = 1:

Initial setting for G code "current plane" according to \$MC_GCODE_RESET_VALUES

Bit 5 = 0:

The current setting for G code "settable work offset" is retained.

Bit 5 = 1:

Initial setting for G code "settable work offset" according to \$MC_GCODE_RESET_VALUES

Bit 6 = 0:

The current setting for active tool length offset is retained.

If tool or magazine management is active, the tool currently on the active toolholder (spindle) is always selected.

If the tool that is currently on the spindle is disabled, it is automatically replaced by a suitable spare tool.

If such a spare tool does not exist, an alarm is output.

1.3 NC machine data

Bit 6 = 1:
Initial setting for active tool length offset according to
\$MC_TOOL_RESET_VALUE, \$MC_CUTTING_EDGE_RESET_VALUE, \$MC_USEKT_RESET_VALUE,
and \$MC_SUMCORR_RESET_VALUE.
If \$MC_TOOL_CHANGE_MODE == 1, the tool selected via
\$MC_TOOL_PRESEL_RESET_VALUE is preselected in addition.
If tool or magazine management is active, MD \$MC_TOOL_RESET_NAME is used
instead of \$MC_TOOL_RESET_VALUE.

Bit 7 = 0:
The current setting for active transformation is retained.

Bit 7 = 1:
Initial setting for active transformation after reset/end-of-part-program
according to \$MC_TRAFO_RESET_VALUE

Bit 8 = 0:
Coupled-motion axis groupings remain active.

Bit 8 = 1:
Coupled-motion axis groupings are ungrouped.

Bit 9 = 0:
Tangential correction remains active.

Bit 9 = 1:
Tangential correction is switched off.

Bit 10 = 0:
Non-configured synchronous spindle coupling remains active.

Bit 10 = 1:
Non-configured synchronous spindle coupling is switched off.

Bit 11 : Reserved (revolutional feedrate)

Bit 12 = 0:
A changed geometry axis assignment remains active when the part program
starts up.

Bit 12 = 1:
If machine data \$MC_GEOAX_CHANGE_RESET is set, a changed geometry axis
assignment is deleted when the part program starts up.

Bit 13 = 0:
Master value couplings remain active.

Bit 13 = 1:
Master value couplings are canceled.

Bit 14 : Reserved (basic frame)

Bit 15 = 0:
Active electronic gearboxes remain active.

Bit 15 = 1:
Active electronic gearboxes are canceled.

Bit 16 = 0:
The current setting of the master spindle (SETMS) is retained.

Bit 16 = 1:
Initial setting for the master spindle according to
\$MC_SPIND_DEF_MASTER_SPIND

Bit 17 = 0:
The current setting of the master toolholder (SETMTH) is retained (relevant
only if tool or magazine management is active)

Bit 17 = 1:
 Only if \$MC_TOOL_MANAGEMENT_TOOLHOLDER > 0: Initial setting for the master toolholder according to \$MC_TOOL_MANAGEMENT_TOOLHOLDER.
 Otherwise, the setting for the master spindle applies.

Bit 18 = 0:
 Reference axis for G96/G961/G962 according to MD20100 \$MC_DIAMETER_AX_DEF.
 When using SCC with its own spindle reset, setting bit 18 = 1 is recommended (see also MD 20110: \$MC_RESET_MODE_MASK, bit 18).

Bit 18 = 1:
 Reference axis for G96/G961/G962 is retained.
 Corresponds with:

- MD20120 \$MC_TOOL_RESET_VALUE
- MD20130 \$MC_CUTTING_EDGE_RESET_VALUE
- MD20150 \$MC_GCODE_RESET_VALUES
- MD20152 \$MC_GCODE_RESET_MODE
- MD20140 \$MC_TRAFO_RESET_VALUE
- MD20110 \$MC_RESET_MODE_MASK
- MD20121 \$MC_TOOL_PRESEL_RESET_VALUE
- MD20118 \$MC_GEOAX_CHANGE_RESET

20114	MODESWITCH_MASK		C03	K1		
-	Interruption MDI by mode change			DWORD	Reset	
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0xFFFF	7/2	M

Description: After program interruption in MDI mode (e.g. in order to carry out a measurement on the workpiece and to correct the tool wear values or after tool breakage) the tool can be manually withdrawn from the contour by changing into JOG mode.

In this case, the control stores the coordinates of the position of the interruption and indicates the path differences traversed by the axes in JOG mode as "Repos offset". When MDI mode is selected again, the axis is repositioned on the contour. This response can be canceled by means of this machine data.

Bit 0 (LSB) = 0:

When MDI (JOG, JOGREF, JOGREPOS, MDIREF and MDIREPOS) are deselected in stopped status, the system ASUB Repos is selected.

Bit 0 (LSB) = 1:

When MDI (JOG, JOGREF, JOGREPOS, MDIREF and MDIREPOS) are deselected in stopped status, the system ASUB Repos is not selected.

Bit 1 (LSB) = 0:

If the NCK stops at a part program block in the program execution in which repositioning is not possible, alarm 16916 is generated if an attempt is made to switch to manual mode.

Bit 1 (LSB) = 1:

If the NCK stops at a part program block in the program execution in which repositioning is not possible, no alarm is generated if an attempt is made to switch to manual mode.

1.3 NC machine data

20115	IGNORE_REFP_LOCK_ASUP	C01	K1,Z1
-	Process interrupt program despite non-referenced axes	DWORD	NEW CONF
-			
-	- 0x200, 0x200, 0x200, 0x200, 0x200, 0x200...	-	- 7/2 M

Description: Despite non-referenced axes, an assigned user ASUB is processed for the interrupt channel whose bit is set.

Bit 0 is assigned to interrupt channel 1.

Bit 1 is assigned to interrupt channel 2, etc.

Corresponds to:

MD20116 \$MC_IGNORE_INHIBIT_ASUP

MD20117 \$MC_IGNORE_SINGLEBLOCK_ASUP

The machine data MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK and MD20115
\$MC_IGNORE_REFP_LOCK_ASUP replace bit 1 from MD11602 \$MN_ASUP_START_MASK.

If MD20700 \$MC_REFP_NC_START_LOCK is set, the setting in MD20105
\$MC_PROG_EVENT_IGN_REFP_LOCK will be ignored.

20116	IGNORE_INHIBIT_ASUP	C01	K1,Z1
-	Execute interrupt program despite read-in disable	DWORD	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0...	-	- 7/2 M

Description: In spite of the set read-in disable, an assigned user ASUB is completely executed for the interrupt channel with the set bit.

Bit 0 is assigned to interrupt channel 1.

Bit 1 is assigned to interrupt channel 2, etc.

Related to:

MD20115 \$MC_IGNORE_REFP_LOCK_ASUP

MD20117 \$MC_IGNORE_SINGLEBLOCK_ASUP

20117	IGNORE_SINGLEBLOCK_ASUP	C01	K1,Z1
-	Execute interrupt program completely despite single block	DWORD	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0...	-	- 7/2 M

Description: In spite of the set single-block processing mode, an assigned user ASUB is completely executed for the relevant channel with the set bit.

Bit 0 is assigned to interrupt channel 1.

Bit 1 is assigned to interrupt channel 2, etc.

The MD is only active with single block type 1.

Related to:

MD20115 \$MC_IGNORE_REFP_LOCK_ASUP

MD20116 \$MC_IGNORE_INHIBIT_ASUP

20118	GEOAX_CHANGE_RESET			C03	M1,K1,Z1	
-	Enable automatic geometry axis change			BOOLEAN	Reset	
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M
-	-					

Description: 0: The current configuration of the geometry axes remains unchanged on reset and part program start. With this setting, the response is identical to that with older software versions without geometry axis replacement.

1: The configuration of the geometry axes remains unchanged on reset or part program end, depending on MD20110 \$MC_RESET_MODE_MASK and, on part program start, depending on MD20112 \$MC_START_MODE_MASK, or is switched to the initial state defined by MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB.

Related to:

MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB

MD20110 \$MC_RESET_MODE_MASK

MD20112 \$MC_START_MODE_MASK

20120	TOOL_RESET_VALUE			C03	K1,W1	
-	Tool with length compens. during runup (reset/part program end).			DWORD	Reset	
-	-	0,0,0,0,0,0,0,0...	0	32000	7/2	M
-	-					

Description: Definition of the tool for which tool length compensation is selected during runup or on reset or part program end as a function of MD20110 \$MC_RESET_MODE_MASK, and on part program start as a function of MD20112 \$MC_START_MODE_MASK

Related to:

MD20110 \$MC_RESET_MODE_MASK

MD20112 \$MC_START_MODE_MASK

20121	TOOL_PRESEL_RESET_VALUE			C03	K1,W1	
-	Preselected tool on RESET			DWORD	Reset	
-	-	0,0,0,0,0,0,0,0...	0	32000	7/2	M
-	-					

Description: Definition of the preselected tool in MD20310 \$MC_TOOL_MANAGEMENT_MASK=1. A tool is selected after runup, or on reset or part program end as a function of MD20110 \$MC_RESET_MODE_MASK, and on part program start as a function of MD20112 \$MC_START_MODE_MASK.

This MD is valid only without tool management.

Related to:

MD20110 \$MC_RESET_MODE_MASK

MD20112 \$MC_START_MODE_MASK

20122	TOOL_RESET_NAME			C03	-	
-	Active tool at RESET/START with tool management			STRING	Reset	
-	-	...	-	-	7/2	M
-	-					

Description: This MD is used only with active tool management.

1.3 NC machine data

Definition of the tool for which tool length compensation is selected during runup or on reset or part program end as a function of MD20110
\$MC_RESET_MODE_MASK, and on part program start as a function of MD20112
\$MC_START_MODE_MASK.

Related to:

MD20110 \$MC_RESET_MODE_MASK,
MD20112 \$MC_START_MODE_MASK
MD20124 \$MC_TOOL_MANAGEMENT_TOOLHOLDER
MD20130 \$MC_CUTTING_EDGE_RESET_VALUE

20123	USEKT_RESET_VALUE	C03	-
-	Preselected value of \$P_USEKT on RESET	DWORD	Reset
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 0xF	7/2 M

Description: The system variable \$P_USEKT is set with the value of this MD:

- after run-up:

As a function of MD20112 \$MC_START_MODE_MASK

- after RESET or part program end:

As a function of MD20110 \$MC_RESET_MODE_MASK

Related to:

MD20110 \$MC_RESET_MODE_MASK
MD20112 \$MC_START_MODE_MASK

20124	TOOL_MANAGEMENT_TOOLHOLDER	C03	H2,K1
-	Tool holder number	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0...	0 20	7/2 M

Description: This MD is only relevant with tool management active.

The TM must know on which tool holder a tool has to be loaded.

The data is only evaluated if the value is greater than zero.

Then, the numbers \$TC_MPP5 are no longer regarded as spindle numbers but as tool holder numbers.

The automatic address extension of T and M=6 is then the value of this machine data, and no longer the value of MD20090 \$MC_SPIND_DEF_MASTER_SPIND. The MD defines the master tool holder number to which a tool preparation or a tool change refers.

Reference is also made to this value for the determination of the tool on the tool holder for the setting 'retain old offset' of MD20110
\$MC_RESET_MODE_MASK.

If a machine has several tool holders but no defined master spindle, then the MD serves as a default value for determining the tool holder on which the tool is to be loaded during a tool change (reset, start, T='identifier', M6). When defining the magazine locations of internal magazines (see documentation for TM), locations of the type 'SPINDLE' - \$TC_MPP1=2 = spindle location can be given a 'location kind index' (\$TC_MPP5). This assigns the location to a specific tool holder.

The tool holder with the number n can be declared the master tool holder with the language command SETMTH(n). That is, the offsets of a tool, which is loaded in a provisional buffer storage location of the type 'SPINDLE', correct the tool path with the value \$TC_MPP5=n.

Tool changes on 'SPINDLE' locations with \$TC_MPP5 unequal to the number of the master tool holder do not influence the path.

The tool holder defined in the MD is again declared as the master tool holder with SETMTH.

Related to:

MD20110 \$MC_RESET_MODE_MASK,
 MD20112 \$MC_START_MODE_MASK
 MD20122 \$MC_TOOL_RESET_NAME
 MD20130 \$MC_CUTTING_EDGE_RESET_VALUE

References:

Description of Functions: Coordinate Systems (K2)

20125	CUTMOD_ERR	C08	-			
-	Error handling for function CUTMOD	DWORD	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: When function CUTMOD becomes active (through explicit call or tool selection), various error conditions may occur. For any of these error conditions it is possible to use this machine data to set whether the error shall trigger an alarm and, if so, whether such an alarm shall only be displayed (warning) or whether the interpretation of the part program shall be canceled. Two machine data bits are assigned to each error condition (also see the description of alarm 14162).

The 2nd bit, which can be used in the case of an error to set that the part program interpretation should be interrupted, is only effective, if the associated 1st bit (display) of an alarm is also set.

Bit Hex. Meaning

Value

- 0 0x1Display error "Invalid cutting direction."
- 1 0x2Program stop after error "Invalid cutting direction".
- 2 0x4Display error "Undefined cutting edge angle".
- 3 0x8Program stop after error "Undefined cutting edge angle".
- 4 0x10Display error "Invalid clearance angle."
- 5 0x20Program stop after error "Invalid clearance angle".
- 6 0x40Display error "Invalid holder angle".
- 7 0x80Program stop after error "Invalid holder angle".
- 8 0x100Display error "Invalid insert angle".
- 9 0x200Program stop after error "Invalid tool angle".
- 10 0x400Program stop after error "Invalid insert angle".
- 11 0x800Program stop after error "Invalid combination of cutting edge position and holder angle".
- 12 0x1000Display error "Invalid rotation".
- 13 0x2000Program stop after error "Invalid rotation".
- 14 0x4000Display error "cutting edge plane deviates too significantly from machining plane".
- 15 0x8000Program stop after error "Cutting edge plane deviates too significantly from machining plane".

1.3 NC machine data

20126	TOOL_CARRIER_RESET_VALUE	C03	W1
-	Active tool holder on RESET	DWORD	Reset
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0... - - 7/7 M		

Description: Definition of the tool holder for which tool length compensation is selected during runup or on reset or part program end as a function of MD20110 \$MC_RESET_MODE_MASK and as a function of MD20112 \$MC_START_MODE_MASK on part program start.

This data is valid without tool management.

Related to:

MD20110 \$MC_RESET_MODE_MASK

MD20112 \$MC_START_MODE_MASK

20127	CUTMOD_INIT	C08	K1,W1
-	Initialize CUTMOD after power ON	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0... -2 999999999 7/2 M		

Description: The value programmable with NC command CUTMOD is initialized automatically on power ON with the value stored in this machine data. If the value of the machine data equals -2, CUTMOD will be set to the value included in MD20126 \$MC_TOOL_CARRIER_VALUE.

20128	COLLECT_TOOL_CHANGE	C04	-
-	Tool change commands to PLC after search run	DWORD	PowerOn
-			
-	- 1, 1, 1, 1, 1, 1, 1, 1... - - 1/1 M		

Description: This MD is only relevant with active magazine management (MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK, MD20310 \$MC_TOOL_MANAGEMENT_MASK).

It defines whether or not tool change commands, tool preparation commands (tool change commands in general) are output to the PLC after block search with calculation.

1: Tool change commands, tool preparation commands are collected and, after reaching the search target, output to the PLC with program start.

0: All tool/magazine-specific commands that have been collected during the block search are not output to the PLC with the subsequent program start! This means that programmed POSM, TCI, TCA commands are not output either.

Note 1:

Without active magazine management, the tool change M code is not collected if it is not assigned to an auxiliary function group. With active magazine management, this corresponds to MD value = 0.

Note 2:

Value = 0 is appropriate if, for example, after reaching of the search target, the collected tool change commands are output to the PLC in an ASUB by means of the GETSELT, GETEXET commands.

Related to:

MD22560 \$MC_TOOL_CHANGE_M_CODE

20129	CUTMODK_INIT	C08	K1,W1
-	Initialize CUTMODK at POWERON	STRING	PowerOn
-			
-	-	...	-

Description: On POWER ON, the name (which can be programmed using the NC command CUTMODK) of a transformation defined by means of kinematic chains is automatically initialized with the value stored in this machine data.

20130	CUTTING_EDGE_RESET_VALUE	C03	-
-	Tool edge with length compens. during runup (reset/end of pp)	DWORD	Reset
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Definition of the cutting edge for which tool length compensation is selected during runup or on reset or part program end as a function of MD20110 \$MC_RESET_MODE_MASK, and as a function of MD20112 \$MC_START_MODE_MASK on part program start.

With active tool management and with bit 0 and bit 6 set in MD20110 \$MC_RESET_MODE_MASK at selection, the last offset of the tool active at power OFF - as a rule the tool on the spindle - is effective after runup.

Related to:

MD20110 \$MC_RESET_MODE_MASK

MD20112 \$MC_START_MODE_MASK

20132	SUMCORR_RESET_VALUE	C03	-
-	Effective resulting offset on RESET	DWORD	Reset
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Definition of the total offset with which the tool length compensation is selected in the runup and on reset or part program end as a function of MD20110 \$MC_RESET_MODE_MASK and as a function of MD20112 \$MC_START_MODE_MASK on part program start.

MD18110 \$MN_MM_MAX_SUMCORR_PER_CUTTEDGE determines the maximum useful value which can be entered.

20140	TRAFO_RESET_VALUE	C03	F2,TE4,M1
-	Transformation data block selected during runup (reset/pp end)	BYTE	Reset
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Definition of the transformation data block which is selected during runup and on reset or part program end as a function of MD20110 \$MC_RESET_MODE_MASK, and as a function of MD20112 \$MC_START_MODE_MASK on part program start.

Related to:

MD20110 \$MC_RESET_MODE_MASK

MD20112 \$MC_START_MODE_MASK

1.3 NC machine data

20142	TRAFO_RESET_NAME	C03	K1
-	Transformation during power up (reset/part program end)	STRING	Reset
-			
-	- ... -	-	7/2 M

Description: Specifies the name of a transformation (\$NT_NAME[n]) defined with the aid of kinematic chains, which is selected during power on or on reset/part program end as a function of MD 20110: \$MC_RESET_MODE_MASK and, on part program start, as a function of MD 20112: \$MC_START_MODE_MASK.

If this machine data is not empty, machine data MD20140 \$MC_TRAFO_RESET_VALUE is ignored. This means that MD20142 \$MC_TRAFO_RESET_NAME has priority over MD20140 \$MC_TRAFO_RESET_VALUE.

Not relevant:

MD20110 \$MC_RESET_MODE_MASK, bit 0 = 0

20144	TRAFO_MODE_MASK	C07	M1
-	Function selection of kinematic transformation	BYTE	Reset
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x03 7/2 M

Description: The specific functionality of the kinematic transformation is selected by setting the following bits:

Bit 0 = 0:

Default behavior.

Bit 0 = 1:

The transformation as defined in MD20140 \$MC_TRAFO_RESET_VALUE is persistent. That is, it is also selected with TRAFOOF and not shown in the display. This requires that the transformation defined in MD20140 \$MC_TRAFO_RESET_VALUE is selected automatically after RESET and START via MD20110 \$MC_RESET_MODE_MASK and MD20112 \$MC_START_MODE_MASK. This means that:

MD20110 \$MC_RESET_MODE_MASK bit 0 = 1 and bit 7 = 0,

MD20112 \$MC_START_MODE_MASK bit 7 = 1

MD20118 \$MC_GEOAX_CHANGE_RESET = TRUE

Bit 1 = 0:

Default behavior.

Bit 1 = 1:

The last active transformation is selected again after control power on.

MD20110 \$MC_RESET_MODE_MASK Bit 0 = 1 and Bit 7 = 1 also have to be set.

20147	ZERO_CHAIN_ELEM_NAME	EXP, N01	K1
-	Name of the kinematic chain element for defining the machine zero point	STRING	Reset
-			
-	- ... -	-	7/2 M

Description: Specifies the name of a kinematic chain element that defines the machine zero point. This zero point is required, for example, to specify the position of a workpiece defined by the language command WORKPIECE, if its position is not specified relative to a kinematic chain in the language command itself.

20150	GCODE_RESET_VALUES		
-	Initial setting of G groups	BYTE	Reset
-			
-	70	2, 0, 0, 1, 0, 1, 1, 1, 0, 1, 0, 1, 2, 1, 2, 1, 1, 1, 1, 1...	- - 7/2 M

Description: Definition of the G codes, which are active when powering up and reset and/or end of part program depending on MD20110 \$MC_RESET_MODE_MASK (up to SW 4) and MD20152 \$MC_GCODE_RESET_MODE (from SW 5) and for the start of part program depending on MD20112 \$MC_START_MODE_MASK.

The index of the G codes in the respective groups must be programmed as the default value.

For a list of the G groups and their G functions, please refer to References: Programming Manual, Fundamentals

DesignationGroupStandard value for 840D

GCODE_RESET_VALUES[0]	12 (G1)
GCODE_RESET_VALUES[1]	20 (inactive)
GCODE_RESET_VALUES[2]	30 (inactive)
GCODE_RESET_VALUES[3]	42 (STARTFIFO)
GCODE_RESET_VALUES[4]	50 (inactive)
GCODE_RESET_VALUES[5]	61 (G17)
GCODE_RESET_VALUES[6]	71 (G40)
GCODE_RESET_VALUES[7]	81 (G500)
GCODE_RESET_VALUES[8]	90 (inactive)
GCODE_RESET_VALUES[9]	101 (G60)
GCODE_RESET_VALUES[10]	110 (inactive)
GCODE_RESET_VALUES[11]	121 (G601)
GCODE_RESET_VALUES[12]	132 (G71)
GCODE_RESET_VALUES[13]	141 (G90)
GCODE_RESET_VALUES[14]	151 (G94)
GCODE_RESET_VALUES[15]	161 (CFC)
GCODE_RESET_VALUES[16]	171 (NORM)
GCODE_RESET_VALUES[17]	181 (G450)
GCODE_RESET_VALUES[18]	191 (BNAT)
GCODE_RESET_VALUES[19]	201 (ENAT)
GCODE_RESET_VALUES[20]	211 (BRISK)
GCODE_RESET_VALUES[21]	221 (CUT2D)
GCODE_RESET_VALUES[22]	231 (CDOF)
GCODE_RESET_VALUES[23]	241 (FFWOF)
GCODE_RESET_VALUES[24]	251 (ORIWKS)
GCODE_RESET_VALUES[25]	262 (RMI)
GCODE_RESET_VALUES[26]	271 (ORIC)
GCODE_RESET_VALUES[27]	281 (WALIMON)
GCODE_RESET_VALUES[28]	291 (DIAMOF)
GCODE_RESET_VALUES[29]	301 (COMPOF)
GCODE_RESET_VALUES[30]	311 (inaktiv)
GCODE_RESET_VALUES[31]	321 (inactive)
GCODE_RESET_VALUES[32]	331 (FTOCOF)

1.3 NC machine data

GCODE_RESET_VALUES [33]	341 (OSOF)
GCODE_RESET_VALUES [34]	351 (SPOF)
GCODE_RESET_VALUES [35]	361 (PDELAYON)
GCODE_RESET_VALUES [36]	371 (FNORM)
GCODE_RESET_VALUES [37]	381 (SPIF1)
GCODE_RESET_VALUES [38]	391 (CPRECOF)
GCODE_RESET_VALUES [39]	401 (CUTCONOF)
GCODE_RESET_VALUES [40]	411 (LFOF)
GCODE_RESET_VALUES [41]	421 (TCOABS)
GCODE_RESET_VALUES [42]	431 (G140)
GCODE_RESET_VALUES [43]	441 (G340)
GCODE_RESET_VALUES [44]	451 (SPATH)
GCODE_RESET_VALUES [45]	461 (LFTXT)
GCODE_RESET_VALUES [46]	471 (G290 SINUMERIK mode)
GCODE_RESET_VALUES [47]	483 (G462)
GCODE_RESET_VALUES [48]	491 (CP)
GCODE_RESET_VALUES [49]	501 (ORIEULER)
GCODE_RESET_VALUES [50]	511 (ORIVECT)
GCODE_RESET_VALUES [51]	521 (PAROTOF)
GCODE_RESET_VALUES [52]	531 (TOROTOF)
GCODE_RESET_VALUES [53]	541 (ORIROTA)
GCODE_RESET_VALUES [54]	551 (RTLION)
GCODE_RESET_VALUES [55]	561 (TOWSTD)
GCODE_RESET_VALUES [56]	571 (FENDNORM)
GCODE_RESET_VALUES [57]	581 (RELIEVEON)
GCODE_RESET_VALUES [58]	591 (DYNORM)
GCODE_RESET_VALUES [59]	601 (WALCS0)
GCODE_RESET_VALUES [60]	611 (ORISOF)
GCODE_RESET_VALUES [61]	621 (inactive)
GCODE_RESET_VALUES [62]	631 (inactive)
:	::
GCODE_RESET_VALUES [69]	701 (not defined)

20152	GCODE_RESET_MODE	C03	M1,K1,K2,P1
-	Reset response of G groups	BYTE	Reset
-			
-	70	0, 0...	0 1 7/2 M

Description: This MD is only evaluated if bit 0 is set in MD20110 \$MC_RESET_MODE_MASK.

For each entry in MD20150 \$MC_GCODE_RESET_VALUES (that is for each G group), this MD is used to determine whether, on reset/part program end, the setting in MD20150 \$MC_GCODE_RESET_VALUES is used again (MD = 0) or the current setting is retained (MD = 1).

Example:

Here, the basic setting for the 6th G group (current plane) is read from MD20150 \$MC_GCODE_RESET_VALUES at each reset / part program end:

```
$MC_GCODE_RESET_VALUES[5]=1 ; reset value of the 6th G group is G17
$MC_GCODE_RESET_MODE[5]=0 ; basic setting for 6th G group corresponds, after
;reset / part program end
```

;to MD20150 \$MC_GCODE_RESET_VALUES [5]
 However, if the current setting for the 6th G group (current plane) is to be retained after reset / part program end, then the following setting results:
 \$MC_GCODE_RESET_VALUES[5]=1 ; reset value of the 6th G group is M17
 \$MC_GCODE_RESET_MODE[5]=1 ; current setting for 6th G group
 ;is retained even after reset / part program end.
 Related to:
 MD20110 \$MC_RESET_MODE_MASK
 MD20112 \$MC_START_MODE_MASK

20154	EXTERN_GCODE_RESET_VALUES	C11, C03	-			
-	Initial setting of G groups in ISO mode	BYTE	Reset			
-						
-	31	1, 1, 1, 2, 1, 1, 1, 3, 4, 1, 1, 2, 2, 1, 3, 2, 1, 0, 1, 1, 1...	-	-	2/2	M

Description: When an external NC programming language is used, the G codes which become active on runup and reset or at part program end are defined as a function of MD20110 \$MC_RESET_MODE_MASK and at part program start as a function of MD20112 \$MC_START_MODE_MASK.

The following external programming languages are possible:

ISO2 dialect Milling
 ISO3 dialect Turning

The G group division that is to be used is stated in the current SINUMERIK documentation.

The following groups within MD20154 \$MC_EXTERN_GCODE_RESET_VALUES can be written:

ISO2 dialect M:
 G group 2: G17/G18/G19
 G group 3: G90/G91
 G group 5: G94/G95
 G group 6: G20/G21
 G group 13: G96/G97
 G group 14: G54-G59
 ISO3 dialect T:
 G group 2: G96/G97
 G group 3: G90/G91
 G group 5: G94/G95
 G group 6: G20/G21
 G group 16: G17/G18/G19

20156	EXTERN_GCODE_RESET_MODE	C03	-			
-	Reset response of external G groups	BYTE	Reset			
-						
-	31	0, 0...	0	1	7/2	M

Description: This MD is evaluated only if bit0 is set in MD20110 \$MC_RESET_MODE_MASK (see there).

1.3 NC machine data

For each entry in MD20154 \$MC_EXTERN_GCODE_RESET_VALUES (that is for each G group), this MD is used to determine whether, on reset/part program end, the setting in MD20154 \$MC_EXTERN_GCODE_RESET_VALUES is used again (MD = 0) or the current setting is retained (MD = 1).

Example for ISO dialect M:

Here, the basic setting for the 14th G group (settable work offset) is read from MD20154 \$MC_EXTERN_GCODE_RESET_VALUES at each reset / part program end:
MD20154 \$MC_EXTERN_GCODE_RESET_VALUES[13]=1
; the reset value for the 14th G group
;is G54 MD20156 \$MC_EXTERN_GCODE_RESET_MODE[13]=0 ; the basic setting for the 14th G group
;after reset / part program end is defined by
;MD20154 \$MC_EXTERN_GCODE_RESET_VALUES[13]
;However, if the current setting for the 14th G group is to be retained beyond reset / part program end, this results in the following setting:
MD20154 \$MC_EXTERN_GCODE_RESET_VALUES[13]=1
;reset value for the 14th G group
;is G54 MD20156 \$MC_EXTERN_GCODE_RESET_MODE[13]=1 ;current setting for the 14th
;G group is retained even after
;reset / part program end

20160	CUBIC_SPLINE_BLOCKS	EXP, C09	-
-	Number of blocks for C spline	BYTE	PowerOn
-			
-	-	8, 8, 8, 8, 8, 8, 8...	4

Description: Number of motion blocks across which a spline section is calculated with the cubic spline (CSPLINE) function.

The larger the value, the closer the generated contour is to the ideal mathematical cubic spline, which in the boundary condition CUBIC_SPLINE_BLOCKS = reaches infinity.

However, the higher the value, the longer the block search calculation time.

References:

/PA/, Programming Guide: Fundamentals

20170	COMPRESS_BLOCK_PATH_LIMIT	C09	B1
mm	Maximum traversing distance of an NC block with compression	DOUBLE	NEW CONF
-			
-	-	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	7/2

Description: The machine data defines the maximum traversing length of a block that can be compressed. Longer blocks interrupt the compression and are traversed in the normal way.

Related to:

MD33100 \$MA_COMPRESS_POS_TOL (maximum deviation with compression)

References:

/PA/, Programming Guide: Fundamentals

20172	COMPRESS_VELO_TOL	C09	B1,V1
mm/min	Max. permissible deviation of path feedrate with compression	DOUBLE	PowerOn
-			
-	-	60000.0, 60000.0, 60000.0, 60000.0...	-

Description: The value indicates the maximum permissible deviation for the compression for the path feedrate. The larger the value, the more short blocks can be compressed into one long block. The maximum number of compressible blocks is limited by the size of the spline buffer.

In this way, the compressors COMPON and COMPCURV may limit the compression of the path axes.

Compressor COMPCAD acts differently: It ignores changes to the F word as long as they lie below the threshold defined by COMPRESS_VELO_TOL. If the feed programmed in a block changes more than COMPRESS_VELO_TOL, COMPCAD interrupts the compression at this block transition so that the feed change takes place at exactly the desired position.

Related to:

MD33100 \$MA_COMPRESS_POS_TOL[AXn]

MD20170 \$MC_COMPRESS_BLOCK_PATH_LIMIT

References:

/PGA/, Programming Guide, Advanced

20180	TOCARR_ROT_ANGLE_INCR	C08	W1
-	Rotary axis increment of orientable tool holder	DOUBLE	NEW CONF
-			
-	2	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: For orientable tool carriers, this machine data defines the size of the minimum increment (in degrees) by which the first or second orientation axis can be changed (e.g. for Hirth tooth systems).

A programmed or calculated angle is rounded to the nearest value resulting from

$$\text{phi} = s + n * d$$

with integer n.

In which:

s = MD20180 \$MC_TOCARR_ROT_ANGLE_INCR[i]

d = MD20182 \$MC_TOCARR_ROT_ANGLE_OFFSET[i]

and i is 0 for the 1st and 1 for the 2nd axis.

There is no rounding if this machine data is equal to zero.

20182	TOCARR_ROT_ANGLE_OFFSET	C08	-
-	Rotary axis offset of orientable tool holder	DOUBLE	NEW CONF
-			
-	2	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This machine data defines the offset of the rotary axis for an orientable tool holder if its position cannot be continuously changed.

It is only evaluated if MD20180 \$MC_TOCARR_ROT_ANGLE_INCR is not equal to zero.

For the precise meaning of this machine data, see the description of MD20180 \$MC_TOCARR_ROT_ANGLE_INCR.

1.3 NC machine data

20184	TOCARR_BASE_FRAME_NUMBER	C08	K2,W1
-	Base frame number for holding machine table offset	DWORD	NEW CONF
-			
-	-1, -1, -1, -1, -1, -1, -1, -1... -1...	-1	15

Description: This machine data indicates into which channel-specific base frame the table offset of an orientable tool holder with a rotary table is written.
 This machine data must refer to a valid base frame.
 If its content is less than 0 or greater than or equal to the maximum number of base frames set in MD28081 \$MC_MM_NUM_BASE_FRAMES, selection of a corresponding tool holder causes an alarm.

20188	TOCARR_FINE_LIM_LIN	C07	W1
mm	Limit of linear fine offset TCARR	DOUBLE	Immediately
-			
-	-1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-1	-1 7/3 M

Description: Indicates for each channel the input limit for the linear fine offset values of an orientable tool holder.

20190	TOCARR_FINE_LIM_ROT	C07	W1
degrees	Limit of rotary fine offset TCARR	DOUBLE	Immediately
-			
-	-1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-1	-1 7/3 M

Description: Indicates for each channel the input limit for the rotary fine offset values of an orientable tool holder.

20191	IGN_PROG_STATE_ASUP	EXP	K1
-	Do not display interrupt program execution on OPI	DWORD	NEW CONF
-			
-	-0, 0, 0, 0, 0, 0, 0, 0... -0	-0	-0 7/2 M

Description: If the ASUB is started, OPI variables progStatus and chanStatus do not change, i.e. the HMI does not see this normally short program execution.
 Bit 0 is assigned to interrupt channel 1.
 Bit 1 is assigned to interrupt channel 2, etc.
 Korrespondiert mit:
 MD20192 \$MC_PROG_EVENT_IGN_PROG_STATE

20192	PROG_EVENT_IGN_PROG_STATE	EXP	-
-	Do not display the Prog-Event on OPI	DWORD	NEW CONF
-			
-	-0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x3F 7/2 M

Description: Event-driven program calls (Prog-Events) can be set regarding their response on the OPI.

The progStatus and chanStatus variables remain unaffected despite Prog-Event processing being active and retain the old value. This provides a means of concealing Prog-Event processing from the HMI.

Bit 0 = 1 :
Reserved bit, ineffective

Bit 1 = 1 :
Prog-Event after end-of-part-program does not change progStatus and chanStatus

Bit 2 = 1 :
Prog-Event after OP reset does not change progStatus and chanStatus

Bit 3 = 1 :
Prog-Event after ramp-up does not change progStatus and chanStatus

Bit 4 = 1 :
Reserved

Bit 5 = 1 :
Safety-Prog-Event during ramp-up does not change progStatus and chanStatus

Corresponds to:

MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK
 MD20106 \$MC_PROG_EVENT_IGN_SINGLEBLOCK
 MD20107 \$MC_PROG_EVENT_IGN_INHIBIT
 MD20108 \$MC_PROG_EVENT_MASK
 MD20193 \$MC_PROG_EVENT_IGN_STOP

20193	PROG_EVENT_IGN_STOP	EXP	-			
-	Prog-Events ignore the stop key	DWORD	NEW CONF			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0xF	7/2	M

Description: Event-controlled program calls (Prog-Events) can be influenced with regard to their behavior after pressing of the stop key.

The Stop, StopAll and StopAtEnd key of the PLC is ignored, if required.

Bit 0 = 1 :

Prog-Event after part program start delays the stop until the part program starts, i.e. the stop only becomes active in the part program, not before its start. If the part program starts with a traversing block, it is possible that it starts briefly, i.e. a short motion occurs, although Stop has already been pressed in the Start-Prog-Event.

Bit 1 = 1 :

Prog-Event after part program end ignores the stop

Bit 2 = 1 :

Prog-Event after operator panel reset ignores the stop

Bit 3 = 1 :

Prog-Event after power up ignores the stop

Corresponds to:

MD20105 \$MC_PROG_EVENT_IGN_REFP_LOCK
 MD20106 \$MC_PROG_EVENT_IGN_SINGLEBLOCK
 MD20107 \$MC_PROG_EVENT_IGN_INHIBIT
 MD20108 \$MC_PROG_EVENT_MASK
 MD20192 \$MC_PROG_EVENT_IGN_PROG_STATE

1.3 NC machine data

20196	TOCARR_ROTAX_MODE	C07	V1			
-	ToolCarrier: rotary axis setting with axis positions not defined	DWORD	Immediately			
-						
-	-	2, 2, 2, 2, 2, 2, 2...	0	3	7/3	M

Description: The MD is bit-coded. Bit 0 applies to orientable tool holders with one axis, bit 1 for those with 2 axes.

When the axis positions of an orientable tool holder are determined from a specified frame, it might happen that the required orientation is achieved at any position of a rotary axis.

This MD specifies how the rotary axis position is defined in these cases:

If the relevant bit is 0, the position of the rotary axis will be 0; a possibly necessary rotation is performed through the specified frame.

If the relevant bit is 1, the rotation is performed by means of the rotary axis of the orientable tool holder. The resulting frame will no longer include a rotation.

Example:

A tool in its basic position points into the Z direction, and an axis of the orientable tool holder rotates the workpiece around Z (C_Axis). If the tool shall be oriented in parallel with the Z axis of a rotating frame, and if the frame only rotates around the Z axis, the tool orientation will not be changed, if the C axis is rotated. The condition saying that the tool is to point in the direction of the Z axis defined by the frame is therefore fulfilled for any position of the Z axis.

20200	CHFRND_MAXNUM_DUMMY_BLOCKS	EXP, C02, C06, C09	V1			
-	Empty blocks with chamfer/radii	BYTE	PowerOn			
-						
-	-	3, 3, 3, 3, 3, 3, 3, 3...	0	15	7/2	M

Description: Indicates the maximum number of blocks without traversing information in the compensation plane (dummy blocks) that can be programmed between two blocks with traversing information when chamfer/rounding are active.

20201	CHFRND_MODE_MASK	C09	V1			
-	Chamfer/rounding behavior	DWORD	Reset			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0xFFFF	7/2	M

Description: Determination of the chamfer/rounding behavior

Bit 0: (LSB) Assignment of the chamfer/rounding to the preceding or following block.

This influences:

- The technology of the chamfer/rounding (feed, type of feed, M commands ...)
- The execution of the blocks without movement in the active plane (e.g. M commands, movement in the applicate) before or after a modal rounding (RNDM)

Bit 1: free

Meaning of the individual bits:

Bit 0 = 0

Chamfer/rounding is derived from the following block (default value).

The technology of the chamfer/rounding is determined by the following block. Blocks without movement (M commands) or movement only in the applicate between two movement blocks in the plane are executed before the modal rounding.

Bit 0 = 1:

Chamfer/rounding is derived from the preceding block.

The technology of the chamfer/rounding is determined by the preceding block. Blocks without movement (M commands) or movement only in the applicate between two movement blocks in the plane are executed after the modal rounding.

20202	WAB_MAXNUM_DUMMY_BLOCKS	C02, C06	W1			
-	maximum number of blocks w/o traversing movement with SAR	BYTE	Reset			
-						
-	-	5, 5, 5, 5, 5, 5, 5...	0	10	7/2	M

Description: Maximum number of blocks which can appear between the SAR (soft approach and retraction) block and the traversing block which determines the direction of the approach or retraction tangent.

20204	WAB_CLEARANCE_TOLERANCE	C06	W1			
mm	Change of direction with SAR	DOUBLE	PowerOn			
-						
-	-	0.01, 0.01, 0.01, 0.01, -0.01, 0.01, 0.01...	-	-	7/2	M

Description: In the case of smooth approach and retraction, the point defined with DISCL, from which, in the case of infeed from the initial plane, traversing is carried out at lower speed (G341) or the point in which the actual approach movement begins (G 340), must lie between the initial plane and the approach plane.

If this point lies outside this interval and the deviation is less than or equal to this machine data, it is assumed that the point lies in the approach or retraction plane.

If the deviation is greater, then alarm 10741 is output.

Example:

An approach is made from position Z = 20. The SAR plane is at Z = 0. The point defined by DISCL must therefore lie between these two values. If it lies between 20.000 and 20.010 or between 0 and -0.010, it is assumed that the value 20.0 or 0.0 was programmed (under the condition that the MD has the value 0.010). The alarm is output if the position is greater than 20.010 or less than -0.010.

20210	CUTCOM_CORNER_LIMIT	C08, C06	W1			
degrees	Maximum angle f. compensation blocks in tool radius compensation	DOUBLE	Reset			
-						
-	-	100., 100., 100., 100., 100., 100....	0.0	150.	7/2	M

Description: Where outer corners are very pointed, G451 can result in long idle paths. The system therefore switches automatically from G451 (intersection) to G450 (transition circle, with DISC where appropriate) when the outer corners are very pointed. The contour angle which can be traversed following this automatic switchover (intersection ---> transition circle) can be defined in CUTCOM_CORNER_LIMIT.

1.3 NC machine data

20220	CUTCOM_MAX_DISC	C08, C06	W1			
-	Maximum value for DISC	DOUBLE	Reset			
-						
-	-	50.0, 50.0, 50.0, 50.0, 0.0 50.0, 50.0, 50.0...	75.0	7/2	M	

Description: The G450 transition circle cannot produce sharp outer contour corners, because the path of the tool center point through the transition circle is controlled so that the cutting edge stops at the outer corner (programmed position).

Where sharp outer corners are to be machined with G450, the DISC instruction can be used in the program to program an overshoot. This transforms the transition circle into a conic section and the cutting edge lifts off from the outer corner.

The value range of the DISC instruction extends from 0 to theoretically 100 in steps of 1.

DISC = 0 ...Overshoot disabled, transition circle active

DISC = 100 ...Overshoot large enough to theoretically produce a response similar to intersection (G451).

Programmed values of DISC which are higher than those stored in CUTCOM_MAX_DISC are limited to this maximum value without output of a message. A severely non-linear alteration in the path speed can thus be avoided.

Special cases:

It is not generally meaningful to enter values higher than 50 in DISC.

It is therefore not possible to enter values > 75.

20230	CUTCOM_CURVE_INSERT_LIMIT	C08, C06	W1			
-	Maximum angle for calculation of intersection with TRC	DOUBLE	Reset			
-						
-	-	10., 10., 10., 10., 10., 10., 10., 10....	0.0	150.	7/2	M

Description: Where outer corners are very flat, G450 (transition circle) and G451 (intersection) approximate each other more and more. In such a case, it is no longer useful to insert a transition circle. Especially with 5-axis machining, it is not allowed to insert a transition circle at these outer corners, as this might lead to losses in velocity during continuous-path mode (G64).

That is why the system switches automatically from G450 (transition circle, possibly with DISC) to G451 (intersection) in the case of very flat outer corners. The contour angle (in degrees), as of which the automatic switchover (transition circle ---> intersection) is to be carried out, can be specified in CUTCOM_CURVE_INSERT_LIMIT.

20240	CUTCOM_MAXNUM_CHECK_BLOCKS	C08, C02	W1			
-	Blocks for look-ahead contour calculation with TRC	DWORD	PowerOn			
-						
-	-	4, 4, 4, 4, 4, 4, 4, 4...	2	10000	7/2	M

Description: Indicates the maximum number of blocks with traversing information at the offset plane that are considered simultaneously for collision detection with active radius compensation.

20250	CUTCOM_MAXNUM_DUMMY_BLOCKS	C08, C02	W1			
-	maximum number of blocks without traversing motion in TRC	DWORD	PowerOn			
-						
-	-	3, 3, 3, 3, 3, 3, 3, 3...	0	1000	7/2	M

Description: During active TRC only program blocks with movements of geometry axes perpendicular to the current tool orientation are normally programmed. Nevertheless, individual intermediate blocks that do not contain such path information may also be programmed during active TRC. For example:

- Movements in the direction of tool orientation
- Movements in axes that are not geometry axes
- Auxiliary functions
- In general: Blocks that are taken over into the main run and executed there

The maximum number of intermediate blocks is defined with this MD. If the value is exceeded, alarm 10762 "Too many empty blocks between 2 traversing blocks during active tool radius compensation" is output.

Note:

Comment blocks, arithmetic blocks and empty blocks are not intermediate blocks in the sense of this MD and can therefore be programmed in any number (without an alarm being triggered).

20252	CUTCOM_MAXNUM_SUPPR_BLOCKS	EXP, C01, C08, C02	W1			
-	Maximum number of blocks with compensation suppression	DWORD	PowerOn			
-						
-	-	5, 5, 5, 5, 5, 5, 5...	0	1000	7/2	M

Description: Indicates the maximum number of blocks for active tool radius compensation, in which the function "Keep radius offset constant" (CUTCONON or reprogramming of G41 / G42 during active TRC) may be active.

Note:

The restriction of the number of blocks with active CUTONON is necessary in order to carry out repositioning in this situation too. Increasing this value for the machine data can lead to an increased memory requirement for NC blocks.

20254	ONLINE_CUTCOM_ENABLE	EXP, C01, C08	-			
-	Real-time tool radius compensation enabled	BOOLEAN	PowerOn			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: This data enables online tool radius compensation. When the function is enabled, the control reserves the necessary memory space required for online tool radius compensation after POWER ON.

ONLINE_CUTCOM_ENABLE = 0:

Online tool radius compensation can be used

ONLINE_CUTCOM_ENABLE = 1:

Online tool radius compensation cannot be used

1.3 NC machine data

20256	CUTCOM_INTERS_POLY_ENABLE	C09	W1
-	Intersection procedure for polynomials is possible	BOOLEAN	PowerOn
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: If this machine data is TRUE and tool radius compensation active, the transitions at outer corners where polynomials (splines) are involved can be treated with the intersection mode. If the machine data is FALSE, conic sections (circles) are always inserted in this case.
 If the machine data is FALSE, the response is identical to that of software releases older than 4.0.

20260	PATH_IPO_IS_ON_TCP	EXP, C09, C05	-
-	Velocity control with spline	BOOLEAN	PowerOn
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: For SW-internal function optimization.

20262	SPLINE_FEED_PRECISION	EXP, C09, C05	-
-	Permissible rel. error of path velocity for spline	DOUBLE	PowerOn
-			
-	-	0.001, 0.001, 0.001, 0.001, 0.001, 0.001...	0.000001

Description: This machine data is evaluated only if MD28540 \$MC_MM_ARCLENGTH_SEGMENTS is greater than 0.

The factor indicates how large the relative error of the path velocity may be for splines, compressor and polynomial interpolation. The smaller the factor the more computing time is required for preprocessing.

Furthermore, more memory is required to display the arc length function (see 28540 \$MC_MM_ARCLENGTH_SEGMENTS).

Example:

SPLINE_FEED_PRECISION=0.1, programmed path velocity=1000 mm/min.

The actual path velocity for polynomial and spline interpolations may then vary within the range between 900 and 1100 mm/min.

20270	CUTTING_EDGE_DEFAULT	C11, C03	H2,W1
-	Initial position of tool cutting edge without programming	DWORD	PowerOn
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	-2

Description: Default cutting edge after tool change

If no cutting edge has been programmed after a tool change, the default cutting edge number set in MD20270 \$MC_CUTTING_EDGE_DEFAULT is used.

Value

:= 0

Initially, no cutting edge is active after a tool change.

The cutting edge is not selected until D programming.

```

:= 1
MD_SLMAXCUTTINGEDGENUMBER
No. of cutting edge (MD_SLMAXCUTTINGEDGENUMBER=9 is valid up to P4)
:= -1
Cutting edge number of old tool also applies to new tool.
:= -2
Cutting edge (correction) of old tool remains active until D is programmed.
This means that the old tool remains the active tool until D is programmed.
In other words, the tool on the spindle remains the programmed tool until D
is programmed.

Example:
MD20270 $MC_CUTTING_EDGE_DEFAULT = 1;
After a tool change, the first cutting edge is active if no other cutting
edge has been programmed.

```

20272	SUMCORR_DEFAULT	C03	H2,W1			
-	Initial position resulting offset without program	DWORD	PowerOn			
-	-	0,0,0,0,0,0,0,0...	-1			
		6	7/2	M		

Description: The number of the total offset of the cutting edge which becomes active when a new cutting edge compensation is activated without a programmed DL value being available.

MD18110 \$MN_MM_MAX_SUMCORR_PER_CUTTEDGE defines the maximum useful value which can be entered.

Value	Meaning
> 0	Number of the total offset
= 0	No total offset active with D programming
= 1	The total offset number for the previously programmed D is used.

Related to:

MD20270 \$MC_CUTTING_EDGE_DEFAULT.

20280	LIMIT_CHECK_MODE	EXP	-			
-	Type of limit position check	DWORD	Reset			
-	-	1,1,1,1,1,1,1,1...	0			
		1	1/1	M		

Description: This MD can be used to set the mode of operation for the software limit position check.

The following options are available:

- 0: The limit positions are checked in real time on active transformation
- 1: The limit positions are checked in a preparative manner on active transformation

20310	TOOL_MANAGEMENT_MASK	C09	P3 pl,P3 sl			
-	Activation of tool management functions	DWORD	PowerOn			
-	-	0x0,0x0,0x0,0x0,	0			
		0x0,0x0,0x0,0x0...	0	0xFFFFFFFF	7/2	M

Description: MD = 0: Tool management inactive
 Bit 0 to bit4
 Bit 0=1: Tool management active

1.3 NC machine data

Tool management functions are enabled for the current channel.

Bit 1=1: Tool monitoring function active
The functions for monitoring the tools (tool life and quantity) are enabled.

Bit 2=1: OEM functions active
The memory for user data can be used (see also MD18090 \$MN_MM_NUM_CC_MAGAZINE_PARAM to MD18098 \$MN_MM_NUM_CC_MON_PARAM)

Bit 3=1: Consider adjacent location active
Bit 0 to bit 3 must be set as in MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK.

Bit 4=1: The PLC has the option of requesting a T preparation again with changed parameters.
The acknowledgment states "2", "7" und "103" are enabled with this bit. The tool selection is then recalculated in the NCK.

Bit 5 to bit 8
Bit 5 and bit 7 refer to the main spindle
Bit 6 und bit 8 refer to secondary spindles
Bit 5 = 1: The command is regarded as output when the internal transport acknowledgment + the transport acknowledgment are present, that is, when the command has been accepted by the basic PLC program.
(Bit 19=1 also allows the block change to be prevented (main run) until the required acknowledgments have been received.)
Bit 7 = 1: The output of the command is not regarded as being completed until the end acknowledgment has been received from the PLC. That is, the command has been acknowledged by the PLC user program with status "1".
(Bit 19=1 also allows the block change to be prevented (main run) until the required acknowledgments have been received.)
Bit 5 and bit 7 (alternatively bit 6 and bit 8) are mutually exclusive.
Only the following combinations are permissible:
Bit 5: ...0....1....0
Bit 7: ...0....0....1
With the default setting, that is bits 5 to 8 = 0, synchronisation takes place in the block in which a cutting edge is selected for the first time.
Setting these bits delays the block processing.
Bit 9 to bit 11
Bit 9: Reserved for test purposes
It can also be used by machine manufacturers during the test phase, provided that the PLC program does not yet control the tool change.
Bit 10=1: M06 is delayed until the preparation has been accepted by the PLC user program.
The change command is not output until the preparation acknowledgment has been received. That can be, for example, status "1" or "105".
Bit 10=0: The change command is output without delay, directly after the preparation command.
Bit 11=1: The tool preparation command (PLC command numbers=2, 4, 5) is also executed if the same tool preparation command has already been executed.
(Commands 4, 5 contain the tool preparation)
Example: (Tool changed with M6 (PLC command no.= 3):
T="Tool1"; tool preparation
M6; tool change
T="Tool2" ; 1st tool preparation after M6 (for same tool holder)
; is always output to PLC.

T="Tool2"; 2nd tool preparation is only output as a command to the PLC if bit 11 = 1.
; This tool preparation counts as the first if the state of the tool has changed since the previous tool preparation such that it would no longer be serviceable.
That might be, for example, an asynchronous unloading of the tool. This tool preparation then attempts to select a replacement tool.
Bit 11=0: The preparation command can only be output once for any one tool.
Bit 12 to bit 14
Bit 12=1: The preparation command (PLC command numbers = 2, 4, 5) is also executed when the tool is already in the spindle/tool holder.
T="Tool1" ; tool preparation
M6; tool change
T="Tool1"; tool is already in the tool holder
; 1st tool preparation after M6 (for the same tool holder)
; is only output to the PLC if bit 12 = 1.
; An unserviceable tool (e.g. disabled because of tool monitoring.) on the tool holder does not count as being on the tool holder. This tool preparation then attempts to select a replacement tool.
T="Tool2" ; 2nd tool preparation - the rules of bit 11 apply to the output.
Bit 12=0: The preparation command is not executed if the tool is already in the spindle.
Bit 13=1: On reset, the commands are retrieved from the diagnostics buffer and stored in the passive file system (TCTRAXx.MPF under part program) This file is required by the Hotline.
The tool sequences are only recorded in the the diagnostics buffers of systems that have adequate memory (NCU572, NCU573)).
Bit 14=1: Reset mode
Tool and offset selection correspond to the settings in MD20110 \$MC_RESET_MODE_MASK and MD20112 \$MC_START_MODE_MASK.
Bit 14=0: No reset mode
Bit 15 to bit 19
Bit 15=1: No return transport of the tool if there are multiple preparation commands (Tx->Tx).
Bit 15=0: Return transport of the tool from any defined buffers.
Bit 16=1: T = location number is active
Bit 16=0: T="Tool name"
Bit 17=1: Tool life decrementation can be started and stopped via the PLC in channel DB 2.1...DBx 1.3.
Bit 18=1: Activation of monitoring of "Last tool in the tool group"
Bit 18 Lengthens the search for a suitable tool, above all, when there are a large number of disabled replacement tools.
Bit 18=0: No monitoring of "Last tool in the tool group"
Bit 19=1: The synchronizations determined by bits 5...8 refer to the main run block. This means that the block change is delayed until the required acknowledgments have been received.
Bit 19, in conjunction with set bits 5, 6, 7, 8, delays block processng.
Bit 19=0: The synchronizations determined by bits 5...8 refer to the tool command output. This means that the block change is not delayed.
Bit 20 to bit 24

1.3 NC machine data

Bit 20=0: If the PLC signal "Program test active" is present, then the commands generated are not output to the PLC. The NCK acknowledges the commands itself. The magazine and tool data are not changed.

Bit 20=1: If the PLC signal "Program test active" is present, then the commands generated are output to the PLC. Depending upon the type of acknowledgement, tool/magazine data can be changed in the NCK. If the acknowledgment parameters for the "target magazine" are given the values of the "source magazine", then there is no tool transport, and thus also no data change in the NCK.

Bit 21=0: Default setting: Ignore the tool state "W" during tool selection.

Bit 21=1: Tools in the state "W" cannot be selected by another tool change/tool preparation command.

Bit 22=1: Function "Tool subgroups"

\$TC_TP11[x] is the grouping or selection parameter

Bit 23=0: Default setting

The tool management selects the tool optimally and safely in the main run. This means that the interpreter may have to wait until the end of the tool selection for the offset selection.

Bit 23=1: For simple applications

The interpreter selects the tool itself. This means synchronization with the main run is not required for the offset selection. (However, an uncorrectable alarm may be issued if a tool becomes unserviceable after selection but before loading.)

Bit 24=0: Default setting

If the PLC commands 8 and 9 (asynchronous transfer) want to move a tool to a location reserved for another tool, then this is rejected with an alarm.

Bit 24=1: If the PLC commands 8 and 9 want to move a tool to a location reserved for another tool with "Reserved for tool from buffer" (bit value= "H4"), then this is possible. This location reservation is removed before execution of the motion ("Reserved for new tool to be loaded" (bit value= "H8") remains effective).

Related to:

MD18080 \$MN_MM_TOOL_MANAGEMENT_MASK

MD20320 \$MC_TOOL_TIME_MONITOR_MASK

MD20122 \$MC_TOOL_RESET_NAME

MD20110 \$MC_RESET_MODE_MASK

MD20124 \$MC_TOOL_MANAGEMENT_TOOLHOLDER

MD22560 \$MC_TOOL_CHANGE_M_CODE

20320	TOOL_TIME_MONITOR_MASK	C06, C09	-
-	Time monitoring for tool in tool holder	DWORD	PowerOn
-			
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	-
			7/2
			M

Description: Activation of the tool time monitoring for the tool holders and spindles 1...x.

As soon as the path axes have been traversed (not with G00, always with G63), the tool time monitoring data of the active D compensation are updated for the tool in the selected tool holder, which is also the master tool holder.

Bit 0...x-1: Monitoring of the tool in tool holder 1...x

20350	TOOL_GRIND_AUTO_TMON	C06, C09	-			
-	Activation of tool monitoring. 0/1: Monitoring off/on	BYTE	PowerOn			
-						
-	-	0,0,0,0,0,0,0,0...	0	1	7/2	M

Description: This MD is used to define whether tool monitoring is switched on automatically if tool length compensation for a grinding tool with monitoring is selected (odd type number types 401 - 499).
 TOOL_GRIND_AUTO_TMON = 1 : Automatic monitoring switched on
 TOOL_GRIND_AUTO_TMON = 0 : Automatic monitoring switched off

20360	TOOL_PARAMETER_DEF_MASK	C09	M5,P1,W1			
-	Definition of tool parameters	DWORD	PowerOn			
-						
-	-	0x0,0x0,0x0,0x0, 0x0,0x0,0x0,0x0...	0	0x1FFFFF	7/2	M

Description: Definition of the effects of tool parameters.
 Bit no. Meaning when bit is set

-

Bit 0: (LSB):
 For turning and grinding tools, the wear parameter of the transverse axis is included in the calculation as a diameter value.

Bit 1:
 For turning and grinding tools, the tool length component of the transverse axis is included in the calculation as a diameter value.

Bit 2:
 If a wear component or a length component is included in the calculation as a diameter value, the tool may only be used in the plane that was active when the tool was selected. If this bit is set, a plane change leads to an alarm.

Bit 3:
 Work offsets in frames in the transverse axis are included in the calculation as a diameter value.

Bit 4:
 PRESET value is included in the calculation as a diameter value

Bit 5:
 Include the external work offset in the transverse axis in the calculation as a diameter value

Bit 6:
 Read actual values of the transverse axis as diameter values (AA_IW, AA_IEN, AA_IBN, AA_IB, Notice: however not AA_IM)

Bit 7:
 Display all actual values of the transverse axis as diameter values, irrespective of the G code of group 29 (DIAMON / DIAMOF)

Bit 8:
 Always display the distance-to-go as a radius in the WCS

Bit 9:
 During DRF handwheel travel of a transverse axis, only half the distance of the specified increment is traveled (on condition that MD11346 \$MN_HANDWH_TRUE_DISTANCE = 1).

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Bit10:

Activate the tool component of an active, orientable tool carrier even if no tool is active.

Bit11:

The tool parameter \$TC_DP6 is not interpreted as a tool radius but as a tool diameter.

Bit12:

The tool parameter \$TC_DP15 is not interpreted as wear of the tool radius but as wear of the tool diameter.

Bit13:

When jogging circles, the circle center coordinate is always a radius value, see SD42690 \$SC_JOG_CIRCLE_CENTRE.

Bit14:

Absolute values of the transverse axis with cycle masks in the radius

Bit15:

Incremental values of the transverse axis with cycle screen forms as diameter

Bit16:

For GWPS (GWPSON/TMON), the tool parameters tool length, wear and base dimension are interpreted as diameter values

Bit17:

With cutting edge position compensation (CUTMOD) for turning and grinding tools, the cutting plane for calculating the compensation values is rotated into the machining plane. If this bit is not set, the cutting edge is projected into the machining plane instead.

Bit18:

With cutting edge position compensation (CUTMOD) for turning and grinding tools, always use the active plane (G17 - G19). If this bit is not set, the plane specified by setting data \$SC_TOOL_LENGTH_CONST has priority over the plane specified by the G code group 6 (plane selection, G17 - G19).

Bit19:

The tool orientation change caused by an orientable tool carrier becomes effective even if no tool is active. This bit is only effective if Bit 10 is also set.

Bit20:

If this bit is zero, and if the tool parameters \$TC_DP10 (holder angle) and/or \$TC_DP24 (clearance angle) contain in the value 0, for the CUTMOD function, to calculate the modified cutting-edge position and the modified cutting direction, the following default values are used as basis:

Holder angle 112.5 degrees for cutting edge positions 1 - 4

Holder angle 67.5 degrees for cutting edge positions 5 - 8

Clearance angle 22.5 degrees for cutting edge positions 1 - 4

Clearance angle 67.5 degrees for cutting edge positions 5 - 8

If this bit is set, then for the specified cases, an alarm is output. This bit is used to establish compatibility with older software releases.

20370	SHAPED_TOOL_TYPE_NO		C01, C08	-		
-	Tool type number for contour tools		DWORD	Immediately		
-						
-	4	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/2	M

Description: Indicates for each channel max. two number ranges for tool types that are treated as forming tools. Therefore individual ranges are possible both for grinding and for turning tools.

The first range is specified by the first and the second number, the second range by the third and fourth number.

If the first number is not smaller than the second one (the same applies for the third and fourth number), no range will be defined, but two individual numbers will be specified instead.

The numbers 400 through 599 are permissible (tool type numbers for turning and grinding tools), and also value 0 (no tool type number defined).

Examples:

400 405 590 596 : Tool types 400-405 and 590-596 are contour tools

410 400 590 596 : tool types 400, 410 and 590-596 are contour tools

450 0 420 430 : Tool types 450 and 420-430 are contour tools

20372	SHAPED_TOOL_CHECKSUM		C01, C08	-		
-	Checksum test for contour tools		BOOLEAN	Immediately		
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/5	M

Description: Indicates for each channel whether for completion of the contour tool definition an edge must be available that includes the negative sums of tool length components and tool radius of the previous edges.

20380	TOOL_CORR_MODE_G43G44		C01, C08, C11	-		
-	Treatment of tool length compensation with G43 / G44		BYTE	Reset		
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	2	7/2	M

Description: This machine data determines in ISO dialect M (G43 / G44) the way in which length compensations programmed with H are processed.

0: Mode A

Tool length H always acts on the third geometry axis (usually Z)

1: Mode B

Tool length H acts, depending on the active plane, on one of the three geometry axes. This means with

G17 on the 3rd geometry axis (usually Z)

G18 on the 2nd geometry axis (usually Y)

G19 on the 1st geometry axis (usually X)

In this mode, compensations in all three geometry axes can be configured through multiple programming, i.e. through the activation of one component, the length compensation possibly active in another axis is not deleted.

2: Mode C

The tool length acts, independent of the active plane, on the axis that has simultaneously been programmed with H. Otherwise, the response is the same as with mode B.

Machine and setting data

1.3 NC machine data

20382	TOOL_CORR_MOVE_MODE			C01, C08	-	
-	Traversing of tool length compensation			BOOLEAN	Reset	
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: This machine data determines how the tool length compensations are traversed.
 0: A tool length compensation is only traversed if the associated axis has been programmed (behavior as in previous software versions)
 1: Tool lengths are always traversed independently of whether the associated axes are programmed or not.

20384	TOOL_CORR_MULTIPLE_AXES			C01, C08, C11	-	
-	Tool length compensation in several axes simultaneously			BOOLEAN	Reset	
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/2	M

Description: This machine data determines for tool length compensation in ISO dialect M (ISO2) (G43 / G44), whether the compensation shall be allowed in mode C (selection of the axis on which the compensation is acting by specifying the corresponding axis letter) to act on several axes simultaneously.
 If this machine data is 1, this type of programming is allowed; otherwise it is rejected with an alarm.

20390	TOOL_TEMP_COMP_ON			C01, C08	K3,W1	
-	Activation of temperature compensation for tool length			BOOLEAN	Reset	
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: This machine data activates the temperature compensation in tool direction (see also SD42960 \$SC_TOOL_TEMP_COMP)

20392	TOOL_TEMP_COMP_LIMIT			C01, C08	W1	
mm	Max. temperature compensation for tool length			DOUBLE	Reset	
-						
-	3	1.0, 1.0 , 1.0, 1.0, 1.0 , 1.0...	-	-	7/7	M

Description: With temperature compensation, this machine data indicates the maximum permissible value for the tool length for each geometry axis.
 If a temperature compensation value larger than this limit value is entered, it will be limited without an alarm.

20400	LOOKAH_USE_VELO_NEXT_BLOCK			EXP, C05	B1	
-	LookAhead following block velocity			BOOLEAN	PowerOn	
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/2	M

Description: For SW-internal function optimization.

20430	LOOKAH_NUM_OVR_POINTS	EXP, C02, C05	B1			
-	Number of override characteristics for LookAhead	DWORD	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	2	7/2	M

Description: For SW-internal function optimization.

20440	LOOKAH_OVR_POINTS	EXP, C05	B1			
-	Override switch points for Look Ahead	DOUBLE	PowerOn			
-						
-	2	1.0, 0.2, 1.0, 0.2, 1.0, 0.2, 1.0, 0.2...	0.2	2.0	7/2	M

Description: For SW-internal function optimization.

20442	LOOKAH_SYSTEM_PARAM	EXP	-			
-	System parameter for extended LookAhead	DOUBLE	NEW CONF			
-						
-	20	0., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0....	-	-	0/0	M

Description: System parameter for extended LookAhead.

20443	LOOKAH_FFORM	EXP, C05	-			
-	Activate extended LookAhead	BYTE	NEW CONF			
-						
-	5	0, 0, 0, 0, 0, 0, 0, 0, 0...	0	2	7/2	M

Description: The MD specifies for which technology groups the extended LookAhead is active.

Value 0: Default LookAhead

Value 1: Extended LookAhead

Value 2: reserved

E.g. MD20443 \$MC_LOOKAH_FFORM[4]=1; i.e. activation for DYNFINISH.

Entry for all dynamic G code groups.

When changing between default LookAhead and extended LookAhead or vice versa, the continuous-path mode is interrupted by an interpolatory stop.

20450	LOOKAH_RELIEVE_BLOCK_CYCLE	EXP, C05	B1			
-	Relief factor for block cycle time	DOUBLE	PowerOn			
-						
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/2	M

Description: Block cycle problems occur for the following reason:

The traversing length of the NC blocks to be processed is so short that the Look Ahead function must reduce the machine velocity to provide enough time for block preparation. In this situation, constant deceleration and acceleration of the path motion can occur.

This machine data defines the extent to which such velocity fluctuations are to be smoothed.

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Special cases:

Values up to approx. 1.0 are appropriate.

The value 0.0 means that the function is deactivated.

20455	LOOKAH_FUNCTION_MASK	EXP, C05	-
-	Look Ahead special functions	BYTE	NEW CONF
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0 1 7/2 M

Description: Look Ahead special functions:

Bit 0 = 1:

The Safety Integrated setpoint limitation is already taken into account in Look Ahead.

20460	LOOKAH_SMOOTH_FACTOR	EXP, C05	B1
%	Smoothing factor for Look Ahead	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	0. 500.0 7/2 M

Description: A smoothing factor can be defined to give a more stable path velocity control.

It defines the maximum permitted productivity loss.

Acceleration procedures which contribute less than this factor to a shorter program run time are then not executed.

In this case, only those acceleration procedures whose frequency lies above the frequency parameterized in MD32440 \$MA_LOOKAH_FREQUENCY are taken into account.

The entry of 0.0 deactivates the function.

20462	LOOKAH_SMOOTH_WITH_FEED	EXP, C05	B1
-	Path velocity smoothing with programmed feed	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	- - 7/2 M

Description: The MD defines whether the programmed feed is also taken into account for smoothing the path velocity. In these cases, the factor defined in MD20460 \$MC_LOOKAH_SMOOTH_FACTOR can be better maintained when the override is set to 100%.

Related to:

MD32440 \$MA_LOOKAH_FREQUENCY,

MD20460 \$MC_LOOKAH_SMOOTH_FACTOR

20463	FIFOCTRL_ADAPTION	EXP, C05	-
-	Adaptation of the IPO buffer control	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	0.0 1.0 1/1 M

Description: The MD defines how significantly the IPO buffer control (FIFOCTRL) should influence the path feedrate with the buffer full.

0.0 means that the IPO buffer control, for a full IPO buffer stops limiting the path feedrate. This shortens the machining time, but it can increase the risk of the IPO buffer running empty.

1.0 means that the IPO buffer control, with full IPO buffer continues to control the path feedrate, and therefore avoids the IPO buffer becoming empty faster. This results in minor fluctuations of the IPO buffer fill level. However, a longer machining time must be expected.

Values between 0.0 and 1.0 permit a smooth, seamless transition from the old to the new response.

Corresponds with:

FIFOCTRL

20464	PATH_MODE_MASK	EXP, C05	-
-	Path behavior	DWORD	Reset
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0

Description: This machine data is used to influence the path action

Bit0:

If only rotary axes are traversed in the block as path axes with active G700, the programmed rotary axis velocity corresponds to

0: [degrees/min]

1: [25.4*degrees/min]

20465	ADAPT_PATH_DYNAMIC	EXP, C05	B1
-	Adaptation of path dynamic response	DOUBLE	NEW CONF
-			
-	2	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	1.0 100.0 7/2 M

Description: This adaptation factor can be used to reduce the dynamics of changes in tool path velocity.

ADAPT_PATH_DYNAMIC[0] is effective with Brisk, reducing the permissible acceleration

ADAPT_PATH_DYNAMIC[1] is effective with Soft, reducing the permissible jerk
Considering only acceleration processes using a frequency above the frequency parameterized in MD32440 \$MA_LOOKAH_FREQUENCY.

To disable this function, enter 1.0.

20470	CPREC_WITH_FFW	EXP, C06, C05	K6
-	Programmable contour accuracy	BYTE	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 3 7/2 M

Description: This machine data defines the behavior of the programmable function CPRECON.

0: The CPRECON function is inactive when feedforward control is activated simultaneously.

1: CPRECON is also active with feedforward control.

2: As 1, but the function is parameterized with \$MA_EQUIV_CPREC_TIME.

3: As 2, but any contour accuracy programmed with CTOL has priority over \$SC_CONTPREC.

The values 0 and 1 are no longer recommended. They only provide compatibility with older software versions.

Related to:

\$SC_CONTPREC, \$SC_MINFEED, \$MA_EQUIV_CPREC_TIME

1.3 NC machine data

20476	ORISON_STEP_LENGTH	EXP	F2
mm	Path length for block division with ORISON	DOUBLE	NEW CONF
-			
-	-	0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5...	0.1

Description: The path lengths of the part blocks are set with this MD as they are formed with orientation smoothing with ORISON.
For this data to be active, the division of blocks with ORISON must be enabled with MD \$MC_ORISON_MODE (Value 100).

20478	ORISON_MODE	EXP	F2
-	Mode of orientation smoothing	DWORD	NEW CONF
-			
-	-	100, 100, 100, 100, 100, 100, 100, 100...	0

Description: The mode of operation of orientation smoothing with ORISON can be set with this MD.
The units, tens, hundreds and thousands digits have different meanings.
The following possibilities are available:
The units digits of this data define the type of smoothing: rotary axis or vector smoothing.
xx0: The type of smoothing is defined by the active G code of the 51st G code group:
 ORIAXES active: rotary axis smoothing, ORIAXES inactive (e.g. ORI-VECT): vector smoothing.
xx1: Vector smoothing independent of the active G code of the 51st G code group
xx2: Rotary axis smoothing independent of the active G code of the 51st G code group
The tens digits can change the effect of the smoothing:
x0x: Smoothing takes place along the entire path length.
x1x: Smoothing takes place homogeneously along the traversing length of the orientation axes.
x2x: Tolerance changes become active block-synchronously. In the other case, a change of tolerance becomes active incrementally over a defined path length. As a rule, this leads to a more homogeneous progression of the orientation. This setting option only plays a role if the blocks are subdivided (hundreds digit of this machine data 1xx). If the blocks are not subdivided, any tolerance change always becomes active block-synchronously.
The hundreds digits can set whether the smoothing works on the programmed original blocks or on suitably split blocks:
0xx: The programmed blocks are not subdivided. The effect of orientation smoothing depends very strongly on the programmed block structure.
1xx: The programmed blocks are subdivided so that the orientation smoothing can generate an overall homogeneous progression of the orientation.
 Only those blocks are subdivided, in which a compressor (COMPCAD, COMPCURV, COMPON) is active.
2xx: The programmed blocks are subdivided so that the orientation smoothing can generate an overall homogeneous progression of the orientation.
 All programmed blocks are subdivided irrespective of whether a compressor (COMPCAD, COMPCURV, COMPON) is active in them or not.

The thousands digit can set how the tolerance is specified for the orientation smoothing:

0xxx: The tolerance is specified according to the usual rules. This means that, when OTOL = <...> is programmed, the value thus programmed becomes active, otherwise the value of SD \$SC_ORISON_TOL becomes active. The G0 tolerance factor is

always included in the calculation (the value of MD \$MC_G0_TOLERANCE_FACTOR or the value programmed with STOLF = <...>).

1xxx: The tolerance is always specified with SD \$SC_ORISON_TOL, irrespective of any programming of OTOL = <...>.

2xxx: The G0 tolerance factor is not included in the calculation. This is the case both for the tolerance specified with OTOL = <...> as well as that with \$SC_ORISON_TOL.

The two numerical values can be combined with one another.

20480	SMOOTHING_MODE	EXP	B1			
-	Behavior of smoothing with G64x	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	15744	7/7	M

Description: Configuration of smoothing with G641 and G642 or G643.

The MD is decimal-coded. The units digits define the behavior with G643, and the tens digits the behavior with G642. The hundreds digit can define whether, with G641 or G642, the axes might be accelerated within the smoothing range or traversed at constant velocity. The thousands and ten-thousands digits are used to configure smoothing with G644.

x0: G643 uses axis-specific tolerances; these are set with the axis-specific MD33100 \$MA_COMPRESS_POS_TOL.

x1: G643 uses the contour tolerance SD42465 \$SC_SMOOTH_CONTUR_TOL for smoothing the geometry axes. The axis-specific tolerances in MD33100 \$MA_COMPRESS_POS_TOL are used for smoothing all other axes.

x2: The angular tolerance SD42466 \$SC_SMOOTH_ORI_TOL is used for smoothing the orientation movement. The axis-specific tolerances in MD33100 \$MA_COMPRESS_POS_TOL are used for all other axes.

x3: Combination of the two options 01 and 02. This means that G643 uses the tolerances SD42465 \$SC_SMOOTH_CONTUR_TOL and SD42466 \$SC_SMOOTH_ORI_TOL. All other axes are smoothed with an axis-specific tolerance.

x4: G643 uses the smoothing length programmed with ADIS= or ADISPOS=. The specification of possible axis-specific tolerances or contour and orientation tolerances is ignored.

0x: G642 uses axis-specific tolerances; these are set with the axis-specific MD33100 \$MA_COMPRESS_POS_TOL.

1x: G642 uses the contour tolerance for smoothing the geometry axes. The axis-specific tolerances in MD33100 \$MA_COMPRESS_POS_TOL are used for smoothing all other axes.

2x: The orientation movement with G642 is smoothed using the angular tolerance SD42466 \$SC_SMOOTH_ORI_TOL. The axis-specific tolerances in MD33100 \$MA_COMPRESS_POS_TOL are used for smoothing all other axes.

3x: Combination of both options 10 and 20. This means that G642 uses the tolerances SD42465 \$SC_SMOOTH_CONTUR_TOL und SD42466 \$SC_SMOOTH_ORI_TOL. All other axes are smoothed with an axis-specific tolerance.

x4: G642 uses the smoothing length programmed with ADIS= or ADISPOS=. The specification of possible axis-specific tolerances or contour and orientation tolerances is ignored.

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Possible values of the hundreds digit (specification of path velocity for smoothing) :

0xx: A profile of the limit velocity is calculated within the smoothing range from the specified maximum values for acceleration and jerk of the axes or path involved. This can lead to an increase in

path velocity in the smoothing range and consequently to an acceleration of the axes involved.

1xx: A profile of the limit velocity is not calculated for smoothing blocks with G641. Only a constant limit velocity is specified. In the case of smoothing with G641/G642 this prevents the axes involved accelerating in the smoothing range. However, this setting may lead to smoothing blocks being traversed at a velocity that is too low, especially in the case of long smoothing ranges.

2xx: No velocity profile for G642 and G645 (see the above scenario for description)

4xx: The "effective" path velocity in a smoothing block will remain constant if possible as long as the dynamic response of the axes permits this. Differing from the default setting, with this setting, the smoothing blocks are also interpolated as a path.

Possible values for the thousands digit (configuration of G644) :

0xxx:

When smoothing with G644, the maximum deviations of each axis specified in MD COMPRESS_POS_TOL are adhered to. If the dynamic response of the axis allows, the specified tolerance might not be fully utilized.

1xxx:

When smoothing with G644, the smoothing distance is specified.

2xxx:

When smoothing with G644, the maximum frequency at which the smoothing movement of each axis occurs is limited. The maximum frequency is specified in MD32440 \$MA_LOOKAH_FREQUENCY.

3xxx:

When smoothing with G644, neither the tolerance nor the smoothing distance is monitored. Each axis traverses around a corner with the maximum possible dynamic response. With SOFT, both the maximum acceleration and the maximum jerk of each axis are observed. With BRISK, the jerk is not limited; instead each axis traverses with the maximum possible acceleration.

4xxx:

When smoothing with G644, the maximum deviations of each axis specified in MD COMPRESS_POS_TOL are adhered to. In contrast to the value 0xxx, the specified tolerance is fully utilized where possible. The axis then does not reach its maximum possible dynamic response.

5xxx:

When smoothing with G644, the smoothing distance is specified (ADIS or ADIS-POS). In contrast to the value 1xxx, the specified smoothing distance is also fully utilized if possible. The axes involved then might not reach their maximum dynamic response.

Possible values for the ten-thousands digit (configuration of G644) :

0xxxx:

The velocity profiles of the axes in the smoothing range are defined without jerk limitation when BRISK is active, and with jerk limitation when SOFT is active.

1xxxx:

The velocity profiles of the axes in the smoothing range are always defined with jerk limitation no matter whether BRISK or SOFT is active.

The values of the units, tens, hundreds and thousands digits are added.

Related to:

MD33100 \$MA_COMPRESS_POS_TOL,
SD42465 \$SC_SMOOTH_CONTUR_TOL,
SD42466 \$SC_SMOOTH_ORI_TOL

20481	ORISMOOTHING_MODE	EXP	B1			
-	Behavior of smoothing of orientations with OST/OSD	DWORD	NEW CONF			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	12	7/7	M

Description: Settings for the behavior of smoothing of orientation motions with OST/OSD.

It can be set how block transitions are smoothed if additional rotary axes are participating in a path motion which do not act as orientation axes in a transformation. If the value of this MD is zero, for OST/OSD at a block transition, only rotary axes that act as orientation axes in a transformation are smoothed. For values <> 0, any existing additional rotary axes are also smoothed, depending on the situation.

Meaning of the unit position:

x0: Additional rotary axes are not smoothed.

x1: Additional rotary axes are only smoothed if rotary axis interpolation is active for orientation.

x2: Additional rotary axes are smoothed even if vector interpolation is active. In this case, in both blocks it is switched to rotary axis interpolation. Depending on machine kinematics and situation, the switchover can cause undesired rotary axis movements (orientation changes).

Meaning of the decade:

0x: If no orientation transformation is active, rotary axis motions with OST/OSD are not smoothed.

1x: Even without active transformation, rotary axis motions are smoothed.

This permits the active smoothing of rotary axes with OST/OSD even without active orientation transformation.

20482	COMPRESSOR_MODE	EXP	F2			
-	Mode of compressor	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	1333	7/7	M

Description: This MD is used to set the compressor operating mode.

The units digits, the tens digits and the hundreds digits have different meanings.

The following options are available:

Units digits:

0: With the compressor, the tolerances specified with MD33100 \$MA_COMPRESS_POS_TOL are met for all axes (geometry and orientation axes).

1: With the compressor, the contour tolerances specified with SD42475 \$SC_COMPRESS_CONTUR_TOL are active for the geometry axes.

For the orientation axes, the axis-specific tolerances MD33100 \$MA_COMPRESS_POS_TOL are active.

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2: With the compressor, the axis-specific tolerances MD33100 \$MA_COMPRESS_POS_TOL become active for the geometry axes. The orientation movement is compressed in compliance with the maximum angular deviations specified with SD42476 \$SC_COMPRESS_ORI_TOL or SD42477 \$SC_COMPRESS_ORI_ROT_TOL.

3: With the compressor, the contour tolerance SD42475 \$SC_COMPRESS_CONTUR_TOL becomes active for the geometry axes and the maximum angular deviation SD42476 \$SC_COMPRESS_ORI_TOL or SD42477 \$SC_COMPRESS_ORI_ROT_TOL becomes active for the orientation axes.

Tens digits:

The tens digits of this MD can be used to set a compressor response that is compatible with previous software releases (< SW 6.3).

0x: All blocks with orientations and value assignments are compressed. This is the default setting.

Notice: This response is incompatible with previous software releases!

1x: Blocks with value assignments are not compressed (e.g. X=100 ... , etc.)

2x: Blocks with a programmed tool orientation are not compressed. (e.g. A3= B3= C3=) .

3x: All blocks with value assignments and/or programmed tool orientation are not compressed. With this setting, the response is fully compatible with previous software releases (< 6.3) .

Hundreds digits:

The hundreds digit can be used to set which blocks in addition to G01 blocks are to be compressed or not:

0xx: Circular blocks and G00 blocks are not compressed. Is compatible with previous releases.

1xx: Circular blocks are linearized and compressed by COMPCAD.

2xx: G00 blocks are compressed; a different tolerance may be applied here (see MD 20560 \$MC_G0_TOLERANCE_FACTOR) .

3xx: Combination of the two previous options: Both circular blocks and G00 blocks are compressed.

The thousands digits optimize the compressor for different machine types:

0xxx: Optimization for a good surface quality in tool and mold building.

1xxx: Optimization for soft and fast traversing in special applications.

20484	COMPRESSOR_PERFORMANCE	EXP	-
-	Compressor power	BYTE	Reset
-			
-	- 9, 9, 9, 9, 9, 9, 9, 9... 0 9 0/0 M		

Description: This MD is used to set the compressor power. Higher values ensure better surfaces, but also require a higher computer power. The correct value is pre-specified for each NCU. For this reason, this MD should only be modified in exceptional cases.

20485	COMPRESS_SMOOTH_FACTOR	EXP, C05	B1
-	Smoothing by compressor	DOUBLE	NEW CONF
-			
-	5 0., 0., 0., 0., 0., 0., 0., 0., 0.... 0. 1. 7/2 M		

Description: Smoothing of the programmed block end points with compressor type COMPCAD. Value 0: no smoothing. Value 1: maximum smoothing.
Entry for all dynamic G code groups.

20486	COMPRESS_SPLINE_DEGREE		EXP, C05	B1		
-	Compressor spline degree		BYTE	NEW CONF		
-						
-	5	3, 3, 3, 3, 3, 3, 3, 3, 3, 3...	3	5	7/2	M

Description: Spline degree for compressor type COMPCAD. Value 3 is recommended; value 5 may be possible for roughing, if soft and rapid movements are more important than accuracy
Entry for all dynamic G code groups.

20487	COMPRESS_SMOOTH_FACTOR_2		EXP, C05	B1		
-	Smoothing by compressor		DOUBLE	NEW CONF		
-						
-	5	0., 0., 0., 0., 0., 0., 0., 0., 0., 0....	0.	1.	7/2	M

Description: Extent to which the programmed block end points are smoothed in the case of compressor type COMPCAD for non-geometry axes. Value 0: No smoothing. Value 1: Maximum smoothing.
Entry for each dynamic G code group.

20488	SPLINE_MODE		EXP	B1		
-	Setting for spline interpolation		BYTE	NEW CONF		
-						
-	-	0, 0, 0, 0, 0, 0, 0,...	0	7	7/7	M

Description: This MD is used to determine the settings for spline interpolation. The allocation of the spline segments to the NC blocks can thus be influenced. With spline interpolation, the spline blocks are combined, if possible, in such a way, that there are no blocks that are too short and could lead to a reduction in the possible path velocity.
Bit 0: With BSPLINE, blocks that are too short are avoided.
Bit 1: With BSPLINE/ORICURVE, blocks that are too short are avoided.
Bit 2: With CSPLINE, blocks that are too short are avoided.

20490	IGNORE_OVL_FACTOR_FOR_ADIS		EXP	B1		
-	G641/G642 independent of overload factor		BOOLEAN	NEW CONF		
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: A block transition is normally only smoothed with G641 and G642 when the path velocity at block transition is reduced by the overload factor set in MD32310 \$MA_MAX_ACCEL_OVL_FACTOR. When SOFT is active, the maximum jerk occurring at block transitions is also limited by MD32432 \$MA_PATH_TRANS_JERK_LIM. This means that the effect of smoothing with G641/G642 depends on the values set for the overload factor and possibly for the maximum jerk.
By setting MD20490 \$MC_IGNORE_OVL_FACTOR_FOR_ADIS = TRUE, a block transition can be smoothed with G641/G642, irrespectively of the values set for the overload factor.

1.3 NC machine data

20500	CONST_VELO_MIN_TIME		EXP, C05	B2		
s	Minimum time with constant velocity		DOUBLE	PowerOn		
-						
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	0.0	0.1	7/2	M

Description: Defines the minimum time for constant velocity during transition from acceleration to deceleration in short blocks in which the set velocity cannot be reached. Entering a time of at least several IPO cycles prevents a direct transition from the acceleration to the deceleration phase and thus reduces the acceleration jump to half. This acceleration limitation is only active with the acceleration profile BRISK.

MD irrelevant for:

Look Ahead does not take account of this function.

20550	EXACT_POS_MODE		EXP	B1		
-	Exact stop conditions on G00/G01.		BYTE	NEW CONF		
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	33	7/2	M

Description: Configuration of the exact stop conditions for G00 and other G codes of the 1st G code group.

The MD is decimal-coded. The units digits define the behavior at G00 (infeed motion) and the tens digits the behavior of all the other G codes of the 1st group ("machining G codes").

x0: At G00, the relevant programmed exact stop conditions become active.

x1: At G00, G601 (fine positioning window) becomes active independent of the programmed exact stop condition.

x2: At G00, G602 (coarse positioning window) becomes active independent of the programmed exact stop condition.

x3: At G00, G603 (setpoint value reached) becomes active independent of the programmed exact stop condition.

0x: At the machining G codes, the relevant programmed exact stop conditions become active.

1x: At the machining G codes, G601 (fine positioning window) becomes active independent of the programmed exact stop condition.

2x: At the machining G codes, G602 (coarse positioning window) becomes active independent of the programmed exact stop condition.

3x: At the machining G codes, G603 (setpoint value reached) becomes active independent of the programmed exact stop condition.

The values of the units digits and tens digits are added.

For example, the value of EXACT_POS_MODE = 2 means that the exact stop condition G602 is always activated automatically at G00, independently of which exact stop condition was programmed. At all other G codes of group 1, the programmed exact stop condition becomes active.

20552	EXACT_POS_MODE_G0_TO_G1		EXP	B1		
-	Exact stop condition at G00-G01 transition		BYTE	NEW CONF		
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	5	7/2	M

Description: Configuration of a stop at transition from G00 to a different G code of the 1st G code group, and also vice versa, at transition from non-G00 to G00 in continuous-path mode.

In exact-stop mode, the positioning window programmed or set in MD20550 \$MC_EXACT_POS_MODE is used.

The following applies:

- 0: No additional stop, no control of exact stop
- 1: Behavior active as with G601 (positioning window, fine).
- 2: Behavior active as with G602 (positioning window, coarse).
- 3: Behavior active as with G603 (setpoint reached).
- 4: As 0,

in addition, the override of the subsequent non-G00 block is taken into account in the G00 block via LookAhead in the case of a change from G00 to non-G00.

- 5: As 0,

in addition, the override of the subsequent block is taken into account via LookAhead in the case of a change from G00 to non-G00 and non-G00 to G00.

20560	G0_TOLERANCE_FACTOR			EXP	B1	
-	Tolerance factor for G00			DOUBLE	NEW CONF	
-				-		
-	-	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	1.e-9	-	1/1	M

Description: Tolerance factor for G00.

This factor is used to make different settings for the tolerances for processing when G00 is active (rapid traverse, infeed motion).

This tolerance factor is relevant for the following control functions:

1. Compressor (COMPCAD, COMPCURV, and COMPON)
2. Smoothing with G64x
3. Smoothing of orientation with OST
4. Smoothing of orientation response with ORISON

This factor can be both greater than 1 and less than 1. However, higher tolerance settings are usual for infeed motion.

If the factor is equal to 1, the tolerances applied for G00 motion are the same as those for non-G00 motion.

20600	MAX_PATH_JERK			C05	B1,B2	
m/s ³	Path-related maximum jerk			DOUBLE	NEW CONF	
-				-		
-	5	100., 100., 100., 100., 100....	1.e-9	-	7/2	M

Description: The jerk limitation restricts the path acceleration change in SOFT mode. The path acceleration divided by the jerk limitation value produces a time in which the acceleration change takes place.

The jerk limitation is activated on the path by the NC command SOFT, and deactivated by BRISK.

MD irrelevant for:

Error states that lead to a rapid stop. In addition, the limitation is also inactive for positioning axes.

There is an entry for each dynamic G code group.

1.3 NC machine data

20602	CURV_EFFECT_ON_PATH_ACCEL	EXP, C05	B1,B2			
-	Effect of path curvature on path dynamic	DOUBLE	NEW CONF			
-						
-	5	0., 0., 0., 0., 0., 0., 0., 0., 0., 0....	0.	0.95	7/2	M

Description: This MD is used to determine whether the reaction of path curvature on path acceleration and path velocity is taken into account.

0:

Not taken into account

> 0:

If required, the path velocity and path acceleration are reduced in order to keep a sufficient reserve on the machine axes for centripetal acceleration.
0.75: Recommended setting.

MD20602 \$MC_CURV_EFFECT_ON_PATH_ACCEL defines the proportion of the axis accelerations (see MD32300 \$MA_MAX_AX_ACCEL[...]) that can be used for centripetal acceleration. The remainder is used for changing the path velocity.

Centripetal acceleration is not required for linear blocks; the full axis acceleration is therefore available for the path acceleration. On slightly curved contours or with a sufficiently low maximum path feedrate

\$MC_CURV_EFFECT_ON_PATH_ACCEL has only a partial or no effect. Accordingly, the path acceleration is higher than that specified by (1. - MD20602
\$MC_CURV_EFFECT_ON_PATH_ACCEL) * MD32300 \$MA_MAX_AX_ACCEL[...].

There is an entry for each dynamic G code group.

20603	CURV_EFFECT_ON_PATH_JERK	EXP, C05	B1			
-	Effect of path curvature on path jerk	DOUBLE	NEW CONF			
-						
-	5	0., 0., 0., 0., 0., 0., 0., 0., 0., 0....	0.	1000.	7/2	M

Description: Allows the reaction of the path curvature on the path jerk to be taken into account on especially jerk-sensitive machines.

Entry for each dynamic G code group.

20605	PREPDYN_SMOOTHING_FACTOR	EXP, C05	B1			
-	Factor for curve smoothing	DOUBLE	NEW CONF			
-						
-	5	1., 1., 1., 1., 1., 1., 1., 1., 1., 1....	-	-	1/1	M

Description: Factor to determine the degree of smoothing and torsion.

A larger value of this MD causes a stronger smoothing and thus a more homogenous curvature/torsion and resulting path velocity.

With this factor being zero no smoothing is performed.

There is an entry for all dynamic G code groups.

20606	PREPDYN_SMOOTHING_ON	EXP, C05	B1			
-	Activation of curve smoothing	BOOLEAN	NEW CONF			
-						
-	5	0, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/2	M

Description: Switch on of curve and torsion smoothing.

Smoothing of the curve or torsion causes a homogenous path velocity.

Smoothing is only performed, when the relevant factor is MD 20605
 $\$MC_PREPDYN_SMOOTHING_FACTOR > 0$.

There is an entry for all dynamic G code groups.

20607	PREPDYN_MAX_filt_LENGTH_GEO			EXP, C05	B1
mm	Maximum filter length for geometry axes			DOUBLE	NEW CONF
-					
-	5	2., 2., 2., 2., 2., 2., 2., 2., 2., 2....	-	-	0/0 M

Description: Maximum filter length for curve and torsion smoothing of the geometry axes.
 There is an entry for all dynamic G code groups.

20608	PREPDYN_MAX_filt_LENGTH_RD			EXP, C05	B1
mm	Maximum filter length for rotary axes			DOUBLE	NEW CONF
-					
-	5	5., 5., 5., 5., 5., 5., 5., 5., 5., 5....	-	-	0/0 M

Description: Maximum filter length for curve and torsion smoothing of the rotary axes.
 There is an entry for all dynamic G code groups.

20610	ADD_MOVE_ACCEL_RESERVE			C05	F2,B2,K1
-	Acceleration margin for overlaid movements			DOUBLE	PowerOn
-					
-	-	.2, .2, .2, .2, .2, .2, .2, .2...	0.	0.9	7/2 M

Description: This machine data contains the factor which defines the acceleration margin which is not used by a path movement in order to provide sufficient acceleration reserves for an overlaid movement for the velocity control.

A factor of 0.2 means that the path axes utilize 80% of the path acceleration in normal operation. Only when a request for overlaid movement is made, can 100% of the path acceleration be utilized.

MD irrelevant for:

Error states that lead to a rapid stop. In addition, the limitation is also ineffective for positioning axes.

Special cases:

At the moment the machine data is only taken into account if the function "Fast retraction" is first activated.

Related to:

MD32300 \$MA_MAX_AX_ACCEL (axis acceleration)

20620	HANDWH_GEOAX_MAX_INCR_SIZE			C08, C06	H1
mm	Limitation handwheel increment for geometry axes			DOUBLE	PowerOn
-					
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/2 M

Description: > 0: Limitation of the size of the selected increment for geometry axes
 $\$MN_JOGL_INCR_SIZE0[<\text{increment}/\text{VDI signal}>]$ or
 $\$SD41010 \$SN_JOGL_VAR_INCR_SIZE$ for geometry axes
 0: No limitation on geometry axes

1.3 NC machine data

20621	HANDWH_ORIAX_MAX_INCR_SIZE	C08, C06	-
degrees	Limiting of handwheel increment for orientation axes	DOUBLE	PowerOn
-			
-	- 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/2 M

Description: > 0: Limitation of the size of the selected increment for orientation axes
\$MN_JOG_INCR_SIZE[<increment/VDI signal>] or
SD41010 \$SN_JOG_VAR_INCR_SIZE for orientation axes
= 0: No limitation on orientation axes

20622	HANDWH_GEOAX_MAX_INCR_VSIZE	C08, C06, C05	-
mm/min	Path velocity override	DOUBLE	PowerOn
-			
-	- 500., 500., 500., 500., 500., 500..., 500., 500..., 500...	-	- 7/2 M

Description: The following applies to the velocity override of the path:
> 0: Limitation of the size of the selected increment
(\$MN_JOG_INCR_SIZE_[< increment/VDI signal>] or
SD41010 \$SN_JOG_VAR_INCR_SIZE) / 1000*IPO sampling time
= 0: No limitation

20623	HANDWH_ORIAX_MAX_INCR_VSIZE	C08, C06, C05	-
rev/min	Orientation velocity overlay	DOUBLE	PowerOn
-			
-	- 0.1, 0.1, 0.1, 0.1, 0.1, 0.1..., 0.1, 0.1, 0.1...	-	- 7/2 M

Description: For the orientation velocity overlay:
> 0: Limitation of the size of the selected increment
(\$MN_JOG_INCR_SIZE[< increment/VDI signal>] or
SD41010 \$SN_JOG_VAR_INCR_SIZE) / 1000 * IPO sampling time
= 0: No limitation

20624	HANDWH_CHAN_STOP_COND	EXP, C09	H1,P1
-	Definition of response of handwheel travel, channel-specific	DWORD	PowerOn
-			
-	- 0x13FF, 0x13FF, 0x13FF, 0x13FF, 0x13FF...	0	0xFFFF 7/2 M

Description: Definition of the behavior for handwheel travel to channel-specific VDI interface signals (bit 0 to bit 7) or the context-sensitive interpolator stop (bit 7):
Bit = 0:
Interruption or collection of the displacements entered via the handwheel.
Bit = 1:
Traversing canceled and no collecting
Bit assignment:
Bit 0: Mode group stop
Bit 1: Mode group stop, axes plus spindle
Bit 2: NC stop
Bit 3: NC stop, axes plus spindles

Bit 4: Feed disable (exceptions with MD30460 \$MA_BASE_FUNCTION_MASK bit 6)

For bit 4 feed disable, it must be taken into account that a PLC-controlled axis, for which MD30460 \$MA_BASE_FUNCTION_MASK bit 6 = 1, is not stopped by the feed disable, and that no interruption and no cancelation are triggered here.

Bit 5: Feedrate override

Bit 6: Rapid traverse override

Bit 7: Feed stop, geometry axis or context-sensitive interpolator stop

Bit 8 = 0:

The maximum feedrate for handwheel travel of geometry axes is that specified in machine data JOG_AX_VEL0 for the corresponding machine axis/axes.

Bit 8 == 1:

The maximum feedrate for handwheel travel of geometry axes is that specified in machine data MAX_AX_VEL0 for the corresponding machine axis/axes.

Bit 9 = 0:

The override is active during handwheel travel of geometry axes

Bit 9 = 1:

During handwheel travel of geometry axes, the override is assumed to be 100% irrespective of the position of the override switch.

Exception: override 0, which is always active.

Bit 10 = 0:

MD11310 \$MN_HANDWH_REVERSE is not active for DRF, i.e. handwheel travel with DRF is carried out as if MD11310 \$MN_HANDWH_REVERSE = 0.

Bit 10 = 1:

MD11310 \$MN_HANDWH_REVERSE is active for DRF.

Bit 11 = 0:

When the contour handwheel is deselected, program processing is continued automatically.

Bit 11 = 1:

When the contour handwheel is deselected, an NCSTOP is triggered automatically. Program processing is not continued until NCSTART is entered.

Bit 12 = 0

NC start has no effect on handwheel travel.

Bit 12 = 1:

The previously collected paths are rejected at NC start.

Bit 13 = 0:

For DRF, bits 0 - 3 and bit 12: bit = 0 / bit = 1 are active (see above).

Bit 13 = 1:

For DRF, bits 0 - 3 and bit 12 are NOT active: the DRF motion is not interrupted by a stop, and a DRF motion can take place even in "Automatic interrupted" state (achieved by NC Stop).

Note:

If an alarm leads to an axis stop and if such an alarm is pending, no DRF motion can take place.

Bit 14 = 0:

The maximum feedrate for handwheel travel of geometry axes is that specified in SD41120 \$SN_JOG_REV_SET_VEL0 or in MD32050 \$MA_JOG_REV_VEL0 (for revolutionary feedrate) or in MD32040 \$MA_JOG_REV_VEL0_RAPID (for rapid traverse) for the corresponding machine axis, the spindle or rotary axis feedrate is included in the calculation.

1.3 NC machine data

Bit 14 = 1:

The maximum rotational feedrate for handwheel travel of geometry axes is the feedrate specified in MD32000 \$MA_MAX_AX_VEL0 for the corresponding machine axis (see also bit 6).

Bit 15 = 0:

If an axis with active diameter programming is traversed in the channel, only half the distance of the specified increment is traveled during handwheel travel (\$MN_HANDWH_TRUE_DISTANCE = 1 or 3).

Bit 15 = 1:

If an axis with active diameter programming is traversed in the channel, the specified increment is fully traveled during handwheel travel (\$MN_HANDWH_TRUE_DISTANCE = 1 or 3).

20700	REFP_NC_START_LOCK	C01, C03	D1,R1,Z1
-	NC start disable without reference point	BYTE	Reset
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0 2 7/2 M

Description: 0: The NC/PLC interface signal DB21-30 DBX7.1 (NC start) for starting part programs or part program blocks (MDI and overstore) is active even if one or all axes of the channel have not yet been referenced.

To ensure that the axes nevertheless reach the correct position after NC startup, the work (workpiece coordinate system = work) must be set to the correct value by means of other methods (scratch method, automatic work offset determination etc.).

1: Axes for which the axial MD34110 \$MA_REFP_CYCLE_NR specifies that a reference point is mandatory (value > -1), must be referenced for NC startup to be enabled.

2: Advanced form of setting 1 in that the axis state "Position restored" (instead of "referenced") is sufficient for NC startup in MDI or overstore.

20730	G0_LINEAR_MODE	C09	P2
-	G0 interpolation mode	BOOLEAN	PowerOn
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	- - 7/2 M

Description: This machine data defines the interpolation behavior of G0:

0: Non-linear interpolation (RTLIOF): Each path axis interpolates as an individual axis (positioning axis), independently of the other axes, at the rapid traverse velocity of the axis (MD32000 \$MA_MAX_AX_VEL0).

1: Linear interpolation (RTLION): The path axes are interpolated jointly.

Related to:

MD20732 \$MC_EXTERN_G0_LINEAR_MODE

20732	EXTERN_G0_LINEAR_MODE	N12	P2
-	G00 interpolation mode	BOOLEAN	PowerOn
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	- - 7/2 M

Description: This machine data defines the interpolation behavior of G00:

0: Axes are traversed as positioning axes

1: Axes interpolate with each other

Related to:

MD10886 \$MN_EXTERN_INCREMENT_SYSTEM

20734	EXTERN_FUNCTION_MASK	N12	-			
-	Function mask for external language	DWORD	Reset			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	0xFFFF	7/2	M

Description: This machine data is used to influence functions in ISO mode.

Bit0: 0:

ISO mode T: "A" and "C" are interpreted as axes. If contour definition has been programmed, "A" or "C" must be preceded by a comma.

1:

"A" and "C" in the part program are always interpreted as a contour definition. An axis "A" or "C" is not allowed.

Bit1: 0:

ISO mode T: G10 P < 100 tool geometry
P > 100 tool wear

1:

G10 P < 10000 tool geometry
P > 10000 tool wear

Bit2: 0:

G04 dwell time: always [s] or [ms]

1:

If G95 is active, in spindle revolutions

Bit3: 0:

Errors in ISO scanner lead to an alarm

1:

Errors in ISO scanner are not output, the block is transferred to the Siemens translator.

Bit4: 0:

G00 is traversed with the current exact stop - continuous-path mode G code

1:

G00 is always traversed with G09

Bit5: 0:

Modulo rotary axis is positioned at the shortest possible distance

1:

Direction of rotation of modulo rotary axis depends on sign

Bit6: 0:

Only 4-digit program number allowed.

1:

8-digit program number allowed. If the program number has less than 4 digits, it is expanded to 4 digits with 0.

Bit7: 0:

Axis programming for geometry axis exchange/parallel axes is compatible with ISO mode.

1:

Axis programming for geometry axis exchange/parallel axes in ISO mode is compatible with Siemens mode.

1.3 NC machine data

Bit8: 0:
With cycles, the F value transferred is always interpreted as a feedrate.
1:
With threading cycles, the F value transferred is interpreted as a pitch.

Bit9: 0:
Multiplication with 0.01mm / 0.0001inch is carried out in ISO mode T for G84, G88 and in standard mode F for G95.
1:
Multiplication with 0.001mm / 0.00001inch is carried out in ISO mode T for G84, G88 and in standard mode F for G95.

Bit10: 0:
With M96 Pxx, the program programmed with Pxx is always called in the case of an interrupt
1:
With M96 Pxx, CYCLE396.spf is always called in the case of an interrupt

Bit11: 0:
With G54 Pxx, only G54.1 is displayed
1:
With G54 Pxx, the programmed program is displayed after the point, e.g. G54.48

Bit12: 0:
When the subroutine defined with M96 Pxx is called, \$P_ISO_STACK is not modified
1:
When the subroutine defined with M96 Pxx is called, \$P_ISO_STACK is incremented

Bit13: 0:
G10 is executed without internal STOPRE
1:
G10 is executed with internal STOPRE

Bit14: 0:
ISO_mode T: No alarm if a cutting edge has been programmed in the T command.
1:
ISO mode T: Alarm 14185 if a cutting edge has not been programmed in the T command.

20750	ALLOW_G0_IN_G96	C09, C05	P2,V1			
-	G0 logic with G96, G961	BOOLEAN	PowerOn			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/2	M

Description: This machine data defines the speed regulation characteristic of the spindle in G0 blocks with constant cutting rate (G96, G961) selected .
1: In a G0 block, the spindle speed is kept constant at the last value of the previous block that was unequal G0.
Prior to a subsequent block that does not contain G0, the spindle speed is increased to a value that belongs to the transverse axis position of the subsequent block.
0: In a G0 block, the spindle speed changes against the transverse axis position.

20800	SPF_END_TO_VDI	C04, C03	H2,K1
-	End of subroutine to PLC	BYTE	PowerOn
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	-

Description: Bit 0 = 1:

The M functions for subroutine end (M17 and/or M2/M30) are transferred to the PLC interface.

Bit 0 = 0:

The M functions for subroutine end (M17 and/or M2/M30) are not transferred to the PLC interface.

Note:

To prevent stopping in continuous-path mode, M17 must not be programmed alone in a block.

Example of a subroutine: G64 F2000 G91 Y10 X10
X10 Z10 M17

Bit 1 = 0:

M01:

conditional program stop is always output to PLC, irrespective of whether the M01 signal is active or not.

Fast auxiliary function output M=QU(1) is inactive because M01 is assigned to the 1st M function group and thus is always output at block end.

Bit 1 = 1:

M01:

conditional program stop is only output to PLC, if M01 is also active.

This thus enables optimal run-time processing of the part program.

With fast auxiliary function output M=QU(1), M1 is output during the movement; thus it is possible to traverse blocks in continuous-path mode with programmed M01 as long as M01 is not active.

The request of the M01 signal with M=QU(1) no longer occurs at block end but during the movement.

20850	SPOS_TO_VDI	C04, C03	S1
-	Output of M19 to PLC on SPOS/SPOSA	BYTE	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	-

Description: Bit 0 = 0:

When bit 19 is also set to '0' in MD35035 \$MA_SPIND_FUNCTION_MASK, auxiliary function M19 is not generated with SPOS and SPOSA. This also eliminates the acknowledgement time for the auxiliary function, which can cause faults with very short blocks.

Bit 0 = 1:

When SPOS and SPOSA are programmed in the part program, auxiliary function M19 is generated and output to the PLC. The address extension corresponds to the spindle number.

Related to:

SPIND_FUNCTION_MASK

1.3 NC machine data

20900	CTAB_ENABLE_NO_LEADMOTION	EXP	M3
-	Curve tables with jump of slave axis	BYTE	Reset
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0 2 7/2 M

Description: This MD is used to configure the way jumps of the slave axis are processed in curve tables. A jump of the slave axis results from the presence of a movement of the slave axis in a segment of the curve table with no corresponding movement of the master axis.

The jumps of the slave axis may be programmed directly, or they are created internally in the control.

These segments may be created especially if a curve table with active tool radius compensation is generated.

The following configurations are possible:

0: No curve tables are created that contain a jump of the slave axis. If a jump of the slave axis occurs, alarm 10949 (CTAB_NO_LEADMOTION) is issued and program processing is terminated. This setting is compatible with previous software versions.

1: Curve tables containing a jump of the slave axis may be implemented. If a jump of the slave axis occurs, alarm 10955 (CTAB_NO_LEADMOTIONWARNING) is issued without terminating program processing.

2: Curve tables with jumps of the slave axis are implemented without issuing an alarm or a note.

20905	CTAB_DEFAULT_MEMORY_TYPE	EXP	M3
-	Default memory type for curve tables	BYTE	Reset
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0 1 7/2 M

Description: This machine data defines the memory (SRAM or DRAM) in which the curve tables are created by default.

This MD is only relevant if no memory type was specified when defining a curve table using CTABDEF().

The following settings can be selected:

0: By default, curve tables are created in the SRAM.

1: By default, curve tables are created in the DRAM.

21000	CIRCLE_ERROR_CONST	C06	-
mm	Circle end point monitoring constant	DOUBLE	PowerOn
-			
-	-	0.01, 0.01, 0.01, 0.01, - 0.01, 0.01, 0.01...	- 7/2 M

Description: This machine data is used to specify the permissible absolute circle error [mm].

When a circle is programmed, both conditions (that the distances from the programmed center point to the start and end points (circle radius) must be the same and that the center point of the circle must be located on the perpendicular bisector of the straight line connecting the start and end points (perpendicular bisector of the circular plane)) apply.

The fact that the circular parameters can be freely programmed means that these conditions are not usually met exactly in the case of circular-path programming with I, J, and K (the circle is "overdefined").

The maximum permissible difference between the two radii that is accepted without an alarm, as well as the distance between the programmed center point of the circle and the perpendicular bisector described above, is defined by the larger value in the following data:

- MD21000 \$MC_CIRCLE_ERROR_CONST
- Start radius multiplied by MD21010 \$MC_CIRCLE_ERROR_FACTOR

This means that for small circles the tolerance is a fixed value (MD21000 \$MC_CIRCLE_ERROR_CONST), and for large circles it is proportional to the start radius.

Related to:

MD21010 \$MC_CIRCLE_ERROR_FACTOR
(circle end point monitoring factor)

In the context of the predefined tolerances, conflicting circle data is compensated essentially by moving the center point of the circle. Please note that the deviation between the programmed center point and the actual center point can reach the order of magnitude set with machine data \$MC_CIRCLE_ERROR_CONST and/or \$MC_CIRCLE_ERROR_FACTOR. In the case of circles which are almost full circles in particular, this can also lead to contour deviations of the same order of magnitude.

21010	CIRCLE_ERROR_FACTOR	C06	-			
-	Circle end point monitoring factor	DOUBLE	PowerOn			
-						
-	-	0.001, 0.001, 0.001, 0.001, 0.001, 0.001...	-	-	7/2	M

Description: Factor for permissible radius difference.

Defines the factor for large circles by which the starting radius and end radius may deviate from each other

(see also MD21000 \$MC_CIRCLE_ERROR_CONST (circle end point monitoring constant)).

When a circle is programmed, both conditions (that the distances from the programmed center point to the start and end points (circle radius) must be the same and that the center point of the circle must be located on the perpendicular bisector of the straight line connecting the start and end points (perpendicular bisector of the circular plane)) apply.

The fact that the circular parameters can be freely programmed means that these conditions are not usually met exactly in the case of circular-path programming with I, J, and K (the circle is "overdefined").

The maximum permissible difference between the two radii that is accepted without an alarm, as well as the distance between the programmed center point of the circle and the perpendicular bisector described above, is defined by the larger value in the following data:

- MD21000 \$MC_CIRCLE_ERROR_CONST
- Start radius multiplied by MD21010 \$MC_CIRCLE_ERROR_FACTOR

This means that for small circles the tolerance is a fixed value (MD21000 \$MC_CIRCLE_ERROR_CONST), and for large circles it is proportional to the start radius.

Related to:

MD21000 \$MC_CIRCLE_ERROR_CO'NST
(circle end point monitoring factor)

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In the context of the predefined tolerances, conflicting circle data is compensated essentially by moving the center point of the circle. Please note that the deviation between the programmed center point and the actual center point can reach the order of magnitude set with machine data \$MC_CIRCLE_ERROR_CONST and/or \$MC_CIRCLE_ERROR_FACTOR. In the case of circles which are almost full circles in particular, this can also lead to contour deviations of the same order of magnitude.

21015	INVOLUTE_RADIUS_DELTA	C06	A2
mm	Involute end point monitoring	DOUBLE	PowerOn
-			
-	-	0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01...	-

Description: Permissible absolute difference of radius at involute interpolation [mm].

At involute interpolation, the radius of the basic circle determined by the end point may differ from the programmed radius.

This data is used to limit the permissible maximum difference between start radius and end radius.

21016	INVOLUTE_AUTO_ANGLE_LIMIT	C06	A2
-	Automatic angle limitation during involute interpolation	BOOLEAN	PowerOn
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: If the angle of rotation is programmed for an involute (AR=angle), the maximum angle of rotation is limited in case the involute is travelling towards the basic circle ($AR < 0$). The maximum angle of rotation is reached when the involute touches the basic circle.

Normally, if an angle larger than the maximum angle is programmed, an alarm is issued and the NC program canceled.

If this MD is set to TRUE any angle is accepted without an alarm for programming. If required, this angle is limited automatically.

21020	WORKAREA_WITH_TOOL_RADIUS	C03, C06	A3
-	Consideration of tool radius for working area limitation	BOOLEAN	Reset
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: This machine data indicates whether the tool radius is taken into account in the working area limitation.

0: It is checked whether the tool center lies within the working area limits.

1: The tool radius is taken into account when the working area limitation is checked. This means that the working area is reduced by the tool radius.

21050	CONTOUR_TUNNEL_TOL	C06	K6
mm	Response threshold for contour tunnel monitoring	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Response threshold for contour tunnel monitoring. Defines the radius of the "tunnel" around the path of the tool tip.

If three geometry axes are defined, the tunnel can be regarded as a tube through the center of which the path of the tool tip travels.

If only two geometry axes are defined, this tube can be regarded as squashed flat in the plane of the two geometry axes.

Monitoring is only active if:

- option contour tunnel monitoring is present and
- MD21050 \$MC_CONTOUR_TUNNEL_TOL is larger than 0.0 and
- at least two and at most three geometry axes are defined.

Related to:

MD21060 \$MC_CONTOUR_TUNNELREACTION,

MD21070 \$MC_CONTOUR_ASSIGN_FASTOUT,

MD36500 \$MA_ENC_CHANGE_TOL

21060	CONTOUR_TUNNELREACTION	C06	K6
-	Reaction when contour tunnel monitoring responds	BYTE	PowerOn
-			
-	-	1, 1, 1, 1, 1, 1, 1...	0

Description: Reaction to response of the alarm

0: Only display alarm, continue machining

1: Ramp stop

2: Rapid stop

MD irrelevant:

If the contour tunnel monitoring option is not available

Related to:

MD21050 \$MC_CONTOUR_TUNNEL_TOL, MD21070 \$MC_CONTOUR_ASSIGN_FASTOUT

21070	CONTOUR_ASSIGN_FASTOUT	C01, C06	K6
-	Assignment of an analog output for the output of contour error	BYTE	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0

Description: Assignment of an analog output on which the calculated contour error can be output.

0: No output

1: Output on output 1

2: Output on output 2

etc.

8: Output on output 8

An error as large as the response threshold MD21050 \$MC_CONTOUR_TUNNEL_TOL appears on the output as a voltage of 10V.

Multiple assignment of the same output by other signals is checked automatically.

1.3 NC machine data

MD irrelevant:

If the contour tunnel monitoring option is available

Related to:

MD21050 \$MC_CONTOUR_TUNNEL_TOL, MD21060 \$MC_CONTOUR_TUNNELREACTION

21080	CUTCOM_PARALLEL_ORI_LIMIT	C08, C06	-
degrees	Minimum angle (path tangent / tool orientation) in 3D TRC	DOUBLE	Reset
-			
-	- 3., 3., 3., 3., 3., 3., 3....	0.1	89. 7/2 M

Description: With 3D tool radius compensation, the angle between the path tangent and the tool orientation may not drop below a certain limit angle. This machine data specifies this angle (in degrees).

Generally speaking, the lower the value entered in this machine data, the greater the computing capacity required to check that the above conditions are fulfilled.

Linear blocks with constant orientation are an exception.

21082	CUTCOM_PLANE_ORI_LIMIT	C08, C06	-
degrees	Minimum angle between surface normal vector and tool orientation	DOUBLE	Reset
-			
-	- 3., 3., 3., 3., 3., 3., 3....	1.0	89. 7/2 M

Description: This machine data applies to 3D face milling operations and specifies the minimum angle that must exist between the surface normal vector and the tool orientation on every point of the path if the applied lateral angle is not equal to zero and the tool is not a ball mill. Otherwise, machining is canceled with an alarm if the angle is smaller than the value set here.

Generally speaking, the lower the value entered in this machine data, the greater the computing capacity required to check that the above conditions are fulfilled. This data has no effect in linear blocks with constant orientation. The angle between the surface normal vector and tool orientation may be as small as desired in such cases, even if the lateral angle is not equal to zero.

21084	CUTCOM_PLANE_PATH_LIMIT	C08, C06	W5
degrees	Min. angle betw. surface normal vector and path tangent vector	DOUBLE	Reset
-			
-	- 3., 3., 3., 3., 3., 3., 3....	1.0	89. 7/2 M

Description: This machine data applies to 3D face milling operations and specifies the minimum angle that must exist between the surface normal vector and the path tangent vector on every point of the path. Otherwise machining is canceled with an alarm if the angle is smaller than the value set here.

Generally speaking, the lower the value entered in this machine data, the greater the computing capacity required to check that the above conditions are fulfilled.

21090	MAX LEAD ANGLE	C08, C09	M1
degrees	Maximum value of permitted lead angle for orientation progr.	DOUBLE	NEW CONF
-			
-	- 80., 80., 80., 80., 80., 80., 80., 80....	0.	80. 7/7 M

Description: Maximum permissible value of the lead angle in degrees.

21092	MAX TILT ANGLE	C08, C09	M1
degrees	Maximum value of permitted side angle for orientation progr.	DOUBLE	NEW CONF
-			
-	- 180., 180., 180., 180., -180. 180., 180., 180....	180.	7/7 M

Description: Maximum permissible value of the tilt angle in degrees.

21094	ORIPATH MODE	C02	F2
-	Setting for ORIPATH path-relative orientation	DWORD	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0... 0	1211	7/7 M

Description: This MD is used to set the response for ORIPATH, i.e. path-relative interpolation of tool orientation.

The various digits of this machine data are used to activate different functions for ORIPATH.

Meaning of the units digit: Activation of "true" path-relative orientation interpolation

xxx 0:

The tool orientation has the relation to the path tangent and the normal vector programmed with LEAD and TILT only at the end of the block; within the block, the orientation does not follow the path tangent. This corresponds to the response in SW release 6.xx.

xxx1:

The tool orientation relation to the path tangent and the surface normal vector programmed with LEAD/TILT is retained throughout the block. Meaning of the tens digit: Interpretation of the TILT angle.

Meaning of the tens digit: Interpretation of the angle programmed with LEAD and TILT.

xx0x:

The angles programmed with LEAD and TILT are evaluated in the following rotation sequence:

1. LEAD = Rotation around direction vertical to tangent and normal vector (forward angle)

2. TILT = Rotation of orientation around normal vector

This is the interpretation of the LEAD/TILT angles in SW releases < 7.2

xx1x:

The angles programmed with LEAD and TILT are evaluated in the following rotation sequence:

1. LEAD = Rotation around direction vertical to tangent and normal vector

(forward angle)

2. TILT = Rotation of orientation around vector in direction of tangent (tilt angle)

1.3 NC machine data

xx2x:

The angles programmed with LEAD and TILT are evaluated in the following rotation sequence:

1. LEAD = Rotation around direction vertical to tangent and normal vector

(forward angle)

2. TILT = Rotation of orientation around vector in direction of rotated (new) tangent

(tilt angle)

xx3x:

The angles programmed with LEAD and TILT are evaluated in the following rotation sequence:

1. TILT = Rotation of orientation around vector in direction of tangent (tilt angle)

2. LEAD = Rotation around direction vertical to tangent and normal vector

(forward angle)

xx4x:

The angles programmed with LEAD and TILT are evaluated in the following rotation sequence:

1. TILT = Rotation of orientation around vector in direction of tangent (tilt angle)

2. LEAD = Rotation around direction vertical to tangent and rotated (new) normal vector

(forward angle)

Meaning of hundreds digit: Activation of a retract movement in the case of reorientation.

0xx:

In the case of reorientation with ORIPATH, a retract movement is not executed.

1xx:

In the case of reorientation with active ORIPATH, a retract movement in the direction of the programmed vector is executed. The programmed vector for the direction of the retract movement refers to the coordinate system defined by the current tool direction (z coordinate) and the change in orientation (x coordinate).

2xx:

In the case of reorientation with active ORIPATH, a retract movement in the direction of the programmed vector is executed. The programmed vector for the direction of the retract movement refers to the coordinate system defined by the current surface normal vector (z coordinate) and the change in orientation (x coordinate).

A retract movement is possible only with a "true" path-relative orientation interpolation, i.e. if the units digit of this MD has a value of one.

Meaning of the thousands digit: Response of path-relative orientation on activation / deactivation of tool offset.

0xxx:

The path-relative orientation is also retained in activation / deactivation blocks associated with tool offset.

1xxx:

The path-relative orientation is not retained in activation / deactivation blocks associated with tool offset. In these blocks, the tool orientation usually remains constant. However, tool orientation can be programmed in these blocks and then traversed there, although any orientation has to be programmed with vectors (the programming of rotary axis positions is not permitted).

21100	ORIENTATION_IS_EULER	C01, C09	F2, TE4, M1			
-	Angle definition for orientation programming	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This data is only active for MD21102 \$MC_ORI_DEF_WITH_G_CODE = 0

MD = 0 (FALSE) :

The values programmed with A2, B2, C2 during orientation programming are interpreted as an RPY angle (in degrees).

The orientation vector is produced by rotating a vector in direction Z first by C2 around the Z axis, then by B2 around the new Y axis and finally by A2 around the new X axis. In contrast to Euler angle programming, all three values influence the orientation vector in this case.

MD = 1 (TRUE) :

The values programmed with A2, B2, C2 during orientation programming are interpreted as Euler angles (in degrees).

The orientation vector is produced by rotating a vector in direction Z first by A2 around the Z axis, then by B2 around the new X axis and finally by C2 around the new Z axis. This means that the value of C2 is meaningless.

21102	ORI_DEF_WITH_G_CODE	C01, C07	F2			
-	Definition of orientation axes with G code	BOOLEAN	NEW CONF			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: Definition of the orientation angles A2, B2, C2

0: Definition as per MD21100 \$MC_ORIENTATION_IS_EULER

1: Definition as per G code (ORIEULER, ORIRPY, ORIVIRT1, ORIVIRT2)

21103	ORI_ANGLE_WITH_G_CODE	C01, C07	-			
-	Definition of orientation angles via G code	BOOLEAN	NEW CONF			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: Definition of the orientation angles A2, B2, C2:

FALSE: Definition as per MD21100 \$MC_ORIENTATION_IS_EULER

TRUE : Definition as per G code (ORIEULER, ORIRPY, ORIVIRT1, ORIVIRT2)

Only programming of angles with A2, B2, C2 is interpreted in accordance with G codes ORIEULER, ORIRPY, ORIVIRT1, ORIVIRT2 and not programming of angles by means of the orientation axes, as is the case with MD21102

\$MC_ORI_DEF_WITH_G_CODE = 1.

1.3 NC machine data

21104	ORI_IPO_WITH_G_CODE	C01, C07	F2
-	G code for orientation interpolation	BOOLEAN	NEW CONF
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-
			7/2 M

Description: Definition of the type of interpolation for the orientation

FALSE: Referred to G codes ORIWKS and ORIMKS

TRUE : Referred to G codes ORIAxes, ORIVECT, ORIPLANE, ORICONxx and ORICURVE of the 51st G code group

21106	CART_JOG_SYSTEM	C01, C07	F2,M1
-	Coordinate systems for Cartesian JOG	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 7 7/2 M

Description: This machine data has two meanings. First, it is used to activate the "Cartesian manual traverse" function. Second, it is used to determine the reference systems between which a switchover can be performed.

The meaning of the individual bits is determined as follows:

Bit 0 : Basic coordinate system

Bit 1 : Workpiece coordinate system

Bit 2 : Tool coordinate system

21108	POLE_ORI_MODE	C07	F2
-	Response with vector interpolation in pole position	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 11122 7/7 M

Description: This MD defines how the change in orientation in the case of vector interpolation is treated if the orientation runs through the pole taper, which is defined by MD2.... \$MC_TRAFO5_POLE_LIMIT_...n.

Vector interpolation is involved, if tool orientation is interpolated independent of the kinematics, e.g. by means of large circle interpolation (orientation is swiveled in a plane), taper interpolation or through interpolation of a 2nd reference point on the tool (ORICURVE), and not directly the orientation axes.

In the pole position, the pole axis can have any position. For large circle interpolation, however, this axis requires a certain orientation.

If the start orientation is equal or close to the pole orientation and the end orientation of the block lies outside the tolerance circle defined by machine data TRAFO5_POLE_LIMIT_n, the pole axis can be moved to a position suitable to ensure that the subsequent vector interpolation can be carried out. This is set via the units and tens digits of this machine data.

The units digits can have the following values (active if start orientation equal to pole orientation):

0: The interpolation is carried out as an axis interpolation. The specified orientation path (large circle) is followed only if the pole axis (coincidentally) has the right position and the basic orientation is perpendicular to the 2nd rotary axis.

1: A block, that positions the pole axis to a position enabling large circle interpolation to be carried out in the subsequent block, is inserted before the block where the situation described occurs.

2: If the block preceding the block in which the situation described occurs contains a geometry axis movement but no orientation movement the required positioning movement of the pole axis is additionally carried out in this previous block.

If one of the two conditions is not fulfilled (block does not contain a geometry axis movement or block contains an orientation movement), the pole axis movement is carried out in a separate block (same behavior as under 1).

The tens digits can have the following values (active if the start orientation differs from the pole orientation, but lies within the tolerance circle defined by TRAFO5_POLE_LIMIT_n):

00: The interpolation is carried out as an axis interpolation. The specified orientation path (large circle) is followed only if the pole axis (coincidentally) has the right position hat and the basic orientation is perpendicular to the 2nd rotary axis.

10: A block, which positions the two rotary axes to the point where the programmed large circle interpolation intersects with the tolerance circle defined by TRAFO5_POLE_LIMIT_n, is inserted before the block where the situation described occurs. In the original block, large circle interpolation is applied as of this point.

20: If the block preceding the block in which the described situation occurs contains a geometry axis movement but no orientation movement the necessary positioning movements of the two rotary axes are additionally carried out in this previous block. The residual movement in the original block is the same as that of value 10 of this machine data.

If one of the two conditions is not fulfilled (block does not contain a geometry axis movement or block contains an orientation movement), the pole axis movement is carried out in a separate block (same behavior as under 10.).

The behavior for the case that the orientation runs through the pole taper or ends within the pole taper is set with the hundreds digit of this MD.

The hundreds digit can have the following values:

000: A block with the orientation running within the pole taper is subdivided only if the start orientation is equal to the pole orientation (with POLE_ORI_MODE = 1) or is close to the pole orientation (with POLE_ORI_MODE = 10). If the pole orientation occurs at an arbitrary point in the block, the whole change in orientation is traversed by means of rotary axis interpolation. In general, this leads to a more or less significant deviation from the programmed orientation path.

100: If the programmed orientation path runs through the pole taper, the block is subdivided in up to 3 parts, so that there is a deviation from the orientation path only within the pole taper. Outside the pole taper, the orientation is interpolated exactly on the programmed orientation path.

The pole handling behavior with active ORIANGLE (interpolation of orientation in virtual axis angles) is set with the thousands digit of the MD.

0xxx: With this setting, the normal pole behavior is active even if ORIANGLE is active. If the transformation causes a switchover to axis interpolation due to a pole, then orientation is interpolated by means of the real rotary axes. This can result in considerable deviations from the programmed orientation path. Any different settings of the MD \$MC_POLE_ORI_MODE are also effective. This means, for example, that by means of the setting \$MC_POLE_ORI_MODE = 100, this behavior can be changed such that deviations from the programmed orientation path only occur within the pole taper.

1.3 NC machine data

lxxx: If ORIANGLE is active, there is never a switchover to the interpolation of the orientation by means of real rotary axes. The orientation is always interpolated with virtual axis angles (e.g. Euler angle or RPY angle). Different settings of the MD \$MC_POLE_ORI_MODE do not become effective. For example, with \$MC_POLE_ORI_MODE = 1100 the division of the orientation movement, which was activated by the value 100, does not become effective. Therefore, if MD \$MC_POLE_ORI_MODE = lxxx, then the units, tens and hundreds digits are ignored.

With the ten thousands digit, it can be set as to whether for generic 5/6-axis transformation, alarm 14112 is output if the intermediate orientations lie in the orientation area of the kinematics that cannot be reached, however, the final orientation of the block is possible:

0xxxx: The intermediate orientations are checked, as to whether these can be reached. If an orientation characteristic is programmed, which goes through the area that cannot be reached, then alarm 14112 (programmed orientation path not possible) is output.

1xxxx: The intermediate orientations are checked as to whether these can be reached. However, an alarm is not output if the orientation runs through the area that cannot be reached, but rather, the orientation changes are performed using rotary axis interpolation. This can result in significant deviations of the orientation from the programmed orientation characteristic. The values of the units, tens, hundreds and thousands digits are added. If the thousands digit = 1, the remaining decimal places of the MD are not evaluated (with the exception of the ten thousands digit).

21110	X_AXIS_IN_OLD_X_Z_PLANE	EXP, C01, C09	M1,K2			
-	Coordinate system for automatic frame definition	BOOLEAN	PowerOn			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: 1 = With automatic definition of a frame (TOFRAME), the Z direction of which equals the current tool orientation, the new coordinate system is additionally rotated around the new Z axis so that the new X axis is in the old Z-X plane.

0 = With automatic definition of a frame (TOFRAME), the Z direction of which equals the current tool orientation, the new coordinate system is maintained as it results from the kinematics of the machine, i.e. it is assumed that the coordinate system is fixed to the tool and rotates with the tool (orientation).

From SW 5.3:

This machine data is only effective when the three lowest value decimal positions (units, tens, hundreds) of SD42980 \$SC_TOFRAME_MODE equal zero. Otherwise the frame definition is specified by SD42980 \$SC_TOFRAME_MODE.

MD irrelevant for:

No orientation programming

Related to:

MD21100 \$MC_ORIENTATION_IS_EULER

Further references:

/PG/, Programming Guide, Fundamentals

21120	ORIAX_TURN_TAB_1			C07	F2,M1	
-	Definition of reference axes for orientation axes			BYTE	NEW CONF	
-						
-	3	1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3...	0	3	7/2	M

Description: Defines the assignment of the rotations of the orientation axes around the reference axes for each channel (definition 1).

This orientation description is activated with the G code ORIVIRT1

- 0: No rotation
- 1: Rotation around reference axis X
- 2: Rotation around reference axis Y
- 3: Rotation around reference axis Z

Example :

```
MD21120 $MC_ORIAX_TURN_TAB_1[ 0 ] = 3 ; 1st ORI axis rotates around reference axis Z
```

```
MD21120 $MC_ORIAX_TURN_TAB_1[ 1 ] = 2 ; 2nd ORI axis rotates around reference axis Y
```

```
MD21120 $MC_ORIAX_TURN_TAB_1[ 2 ] = 1 ; 3rd ORI axis rotates around reference axis X
```

21130	ORIAX_TURN_TAB_2			C07	F2	
-	Definition of reference axes for orientation axes			BYTE	NEW CONF	
-						
-	3	1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3...	0	3	7/2	M

Description: Defines the assignment of the rotations of the orientation axes around the reference axes for each channel (definition 2).

This orientation description is activated with the G code ORIVIRT2

- 0: No rotation
- 1: Rotation around reference axis X
- 2: Rotation around reference axis Y
- 3: Rotation around reference axis Z

Example :

```
MD21120 $MC_ORIAX_TURN_TAB_1[ 0 ] = 3 ; 1st ORI axis rotates around reference axis Z
```

```
MD21120 $MC_ORIAX_TURN_TAB_1[ 1 ] = 2 ; 2nd ORI axis rotates around reference axis Y
```

```
MD21120 $MC_ORIAX_TURN_TAB_1[ 2 ] = 1 ; 3rd ORI axis rotates around reference axis X
```

21132	ORI_DISP_IS_MODULO			C07	F2	
-	Modulo display of orientation axis positions			BOOLEAN	NEW CONF	
-						
-	3	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: This MD is used to activate the modulo display of orientation axes.

This only impairs the displayed positions and not the possible programming or traversing range of these axes.

Machine and setting data

1.3 NC machine data

The modulo range is set using MD21134 \$MC_ORI_DISP_MODULO_RANGE and MD21136 \$MC_ORI_DISP_MODULO_RANGE_START.

21134	ORI_DISP_MODULO_RANGE	C07	-
degrees	Size of the modulo range for orientation axis display.	DOUBLE	NEW CONF
-			
-	3 360.0, 360.0, 360.0, 1.0 360.0, 360.0, 360.0...	360000000.0	7/7 M

Description: Defines the size of the modulo range for the display of orientation axis positions.

This modulo range does not impair the programmable values of the positions nor the possible traversing range of orientation axes.

21136	ORI_DISP_MODULO_RANGE_START	C07	-
degrees	Starting position of the modulo range for orientation axis display.	DOUBLE	NEW CONF
-			
-	3 -180.0, -180.0, -180.0, -180.0, -180.0, -180.0...	-	7/7 M

Description: Defines the start position for the modulo range used to display the positions of orientation axes.

This only impairs the displayed positions, but not the possible programming or traversing range of these axes.

Example:

Start = 0 degree -> modulo range 0 <->360 degrees

Start = 180 degrees -> modulo range 180 <->540 degrees

Start = -180 degrees -> modulo range -180 <->180 degrees

21150	JOG_VELO_RAPID_ORI	C07	F2,R2
rev/min	JOG rapid traverse for orientation axes	DOUBLE	Reset
-			
-	3 10.0, 10.0, 10.0, 10.0, 10.0, 10.0...	-	7/2 M

Description: Velocity in JOG mode with rapid traverse override for orientation axes in the channel [degrees/min]

21155	JOG_VELO_ORI	C07	F2
rev/min	Jog feedrate for orientation axes	DOUBLE	Reset
-			
-	3 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-	7/2 M

Description: Velocity in JOG mode for orientation axes in the channel

21158	JOG_JERK_ORI	C07	F2
m/s ³	Jerk for jogging of orientation axes	DOUBLE	Reset
-			
-	3 100., 100., 100., 100., 100..., 100....	1.e-9	7/2 M

Description: The jerk limit value limits the change in acceleration of the orientation axes in SOFT mode when jogging. The acceleration divided by the jerk limit value results in a time period during which the acceleration is changed.

The jerk limitation during jogging of orientation axes is activated by the machine data \$MC_JOG_JERK_ORI_ENABLE = 1 (SOFT), and deactivated by \$MC_JOG_JERK_ORI_ENABLE = 0 (BRISK).

Not relevant for:

Fault conditions that cause a quick stop.

21159	JOG_JERK_ORI_ENABLE	C07	F2			
-	Jogging of orientation axes with SOFT	BOOLEAN	Reset			
-						
-	3	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: The jerk limitation function during jogging of orientation axes is enabled.
 FALSE: no jerk limitation (BRISK)
 TRUE: jerk limitation (SOFT)

21160	JOG_VELO_RAPID_GEO	C07	F2			
mm/min	JOG rapid traverse for geometry axes	DOUBLE	Reset			
-						
-	3	10000., 10000.0, 10000., 10000., 10000.0, 10000....	-	-	7/2	M

Description: Velocity in JOG mode with rapid traverse override for geometry axes in the channel (mm/min)

21165	JOG_VELO_GEO	C07	F2			
mm/min	Jog feedrate for geometry axes	DOUBLE	Reset			
-						
-	3	1000., 1000., 1000., 1000., 1000., 1000....	-	-	7/2	M

Description: JOG velocity for geometry axes in the channel (mm/min)

21166	JOG_ACCEL_GEO	C07, A04	F2			
m/s ²	Acceleration for geometry axes	DOUBLE	Reset			
-						
-	3	.0, .0, .0, .0, .0, .0, .0, .0...	-	-	7/2	M

Description: Acceleration of the geometry axes when traversing in Jog mode.
 If the machine data has the value zero, the value of the machine data \$MA_JOG_MAX_ACCEL[<axis>] is used.

21168	JOG_JERK_GEO	C07, A04	F2			
m/s ³	Jerk for jog mode of geometry axes	DOUBLE	Reset			
-						
-	3	0., 0., 0., 0., 0., 0., 0., 0....	1.e-9	-	7/2	M

Description: The jerk limit value limits the change in acceleration of the geometry axes in SOFT mode when jogging. The acceleration divided by the jerk limit value results in a time period during which the acceleration is changed.
 If the machine data has the value zero, the value of the machine data \$MA_JOG_MAX_JERK[<axis>] is used.

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Jerk limitation during jogging of geometry axes is activated by the machine data \$JOG_AND_POS_JERK_ENABLED[<axis>] = 1 (SOFTA) of the underlying machine axes, and it is deactivated by \$JOG_AND_POS_JERK_ENABLED[<axis>] = 0 (BRISKA), or by means of the NC commands SOFTA, DRIVEA or BRISKA.

Not relevant for:

Fault conditions that cause a rapid stop.

21170	ACCEL_ORI	C07	F2		
rev/s ²	Acceleration for ORI axes	DOUBLE	NEW CONF		
-					
-	3 .05, .05, .05, .05, .05, .05...	-	-	7/2	M

Description: Acceleration for orientation axes in the channel

21180	ROT_AX_SWL_CHECK_MODE	C07	F2		
-	Check of software limits for orientation axes	DWORD	NEW CONF		
-					
-	- 0, 0, 0, 0, 0, 0, 0...	0	112	7/7	M

Description: This machine data is evaluated only with the generic 5-axis transformation. If the block preparation shows that the path programmed in the direction programming would lead to a violation of the software limits of the orientation axes, this machine data determines how the motions of the rotary axes have to be modified.

The units digit of the MD is used to determine how alternative end positions of the rotary axes are created if the software limits would be violated. The tens digit is used to determine how the axes approach these end positions. The hundreds digit is used to activate an automatic limitation of the axis that swivels through the pole (non-pole axis).

Meaning of the units digit:

0: The path is not modified. Alarm 10720 (SW_LIMITSWITCH) is output if it is not possible to travel along the shortest path.

1: If the initially determined orientation path would violate the limits of the orientation axes, an attempt is made to modify the end points so that a motion becomes possible.

The first attempt uses the second solution. (There are usually two solutions to the conversion: orientation ==> angle of axis). If this solution would also violate the axis limits, an attempt is made to find a permissible solution by modifying both rotary axes by multiples of 360 degrees in both solutions.

The modifications of end positions described will only be performed if axis interpolation of rotary axes is active.

2: Monitoring and possibly modifications of the rotary-axis positions are the same as those when the machine data has the value 1.

However, modifications are also permissible if vector interpolation (large-circle interpolation, taper circumference interpolation, etc.) is active. If, in such a case, the rotary-axes positions would have to be modified, there is a switch to axis interpolation. The originally programmed orientation path will then usually not be followed.

Meaning of the tens digit:

0x: The orientation axes travel simultaneously to their possible end positions. There may be larger or smaller deviations from the original orientation path.

1x: If possible, the orientation is first rotated in the pole direction. In the pole position, the pole axis is then positioned so that the final orientation can be approached by rotating the orientation from the pole position into the programmed direction. The originally programmed orientation path is then followed.

Meaning of the hundreds digit:

0xx: The range of the non-pole axis is determined by its software limits or working area limitations.

1xx: The range of the non-pole axis is limited either in the positive or negative travel range. The possible range is limited by the larger of the absolute positive and negative values.

Examples:

1. MD36100 \$MA_POS_LIMIT_MINUS[AX5] = -5.0 and MD36110
\$MA_POS_LIMIT_PLUS[AX5] = 135.0, the possible range of axis AX5 is 0 ... 135.0
2. MD36100 \$MA_POS_LIMIT_MINUS[AX5] = -100.0 and MD36110
\$MA_POS_LIMIT_PLUS[AX5] = 10.0, the possible range of axis AX5 is -100.0 ... 0.0
3. MD36100 \$MA_POS_LIMIT_MINUS[AX5] = 5.0 und MD36110
\$MA_POS_LIMIT_PLUS[AX5] = 120.0, the possible range is 5.0 ... 120.0, there is no automatic limitation of the travel range.

21186	TOCARR_ROT_OFFSET_FROM_FR	C01, C07	F2			
-	Offset of TOCARR rotary axes from WO	BOOLEAN	Immediately			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: Rotary axes offset for the orientable tool holder is automatically accepted from the work offset activated on activation of the orientable tool holder for the rotary axes.

21190	TOFF_MODE	C08	F2,2.4			
-	Mode of correction in tool direction	BYTE	Reset			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/2	M

Description: This machine data specifies the online correction mode in tool direction via \$AA_TOFF[].

Bit 0: Behavior of \$AA_TOFF in case of a RESET
0: \$AA_TOFF is deselected in case of a RESET
1: \$AA_TOFF is maintained also after RESET

Bit 1: Effect of the value assignment on the 1st component of \$AA_TOFF[]
0: absolute value
1: incremental value (integrator)

Bit 2: Effect of the value assignment on the 2nd component of \$AA_TOFF[]
0: absolute value
1: incremental value (integrator)

Bit 3: Effect of the value assignment on the 3rd component of \$AA_TOFF[]
0: absolute value
1: incremental value (integrator)

Machine and setting data

1.3 NC machine data

21194	TOFF_VELO	C08	F2,2.4
mm/min	Feedrate for online correction in tool direction	DOUBLE	NEW CONF
-			
-	3 0., 0., 0., 0., 0., 0., 0., 0., 0....	-	- 7/2 M

Description: Feedrate for online correction in tool direction [mm/min] via \$AA_TOFF[]

21196	TOFF_ACCEL	C08	2.4
m/s ²	Acceleration for online correction in tool direction	DOUBLE	NEW CONF
-			
-	3 100., 100., 100., 100., 100., 100....	1.0e-6	- 7/2 M

Description: Acceleration for online correction in tool direction [m/s**2] via \$AA_TOFF[]

21198	ORI_TRAFO_ONLINE_CHECK_LIM	C07	F2
mm	Activation limit of the realtime dynamic monitoring	DOUBLE	NEW CONF
-			
-	- 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-	- 7/2 M

Description: If, in the case of an orientation transformation, the effective BCS position or the effective tool length deviates from the values applied in preprocessing by more than the value defined in this machine data (e.g. due to superimposed movement or the activation of online tool length offset), real-time limiting of the dynamic response is activated.

21199	ORI_TRAFO_ONLINE_CHECK_LIMR	C07	F2
degrees	Activation limit for real-time monitoring of dynamic response, rotary axes	DOUBLE	NEW CONF
-			
-	- 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-	- 7/2 M

Description: If, in the case of an orientation transformation, the effective BCS position of one of the rotary axes involved in the transformation deviates from the values applied in preprocessing by more than the value defined in this machine data (e.g. due to superimposed movement), real-time limiting of the dynamic response is activated.

21200	LIFTFAST_DIST	C09	K1,V1,2,6,6,1
mm	Traversing distance on rapid lift from contour	DOUBLE	PowerOn
-			
-	- 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1...	-	- 7/2 M

Description: The machine data determines the absolute value of the traverse movement for rapid lift. The direction of the traverse movement is defined in the part program by the command ALF.

References:

/PA/, Programming Guide: Fundamentals

21202	LIFTFAST_WITH_MIRROR	C09	K1			
-	Rapid retract with mirroring	BOOLEAN	PowerOn			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: 1: When determining the retraction direction, if mirroring of the contour is active then the retraction direction is also mirrored. Mirroring of the retraction direction only refers to the directional components vertical to the tool direction.
 0: Mirroring of the contour is NOT taken into account when determining the retraction direction.

21204	LIFTFAST_STOP_COND	C09	M3			
-	Stop behavior with fast retraction	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/2	M

Description: Specifies the stop behavior of the liftfast motion under different stop conditions
 Bit0: Axial NC/PLC interface signal DB31, ... DBX4.3 (Axial feed stop / Spindle stop) or context-sensitive interpolator stop
 =0 Stop of the retraction motion in case of an axial feed stop or context-sensitive interpolator stop
 =1 No stop of the retraction motion in case of an axial feed stop or context-sensitive interpolator stop
 Bit1: Feed disable in channel NC/PLC interface signal DB21-30 DBX6.0 (Feed stop)
 =0 Stop of the retraction motion in case of the feed stop in the channel
 =1 No stop of the retraction motion in case of the feed stop in the channel

21210	SETINT_ASSIGN_FASTIN	C01, C09	-			
-	HW assignment of ext. NCK input byte for NC progr. interrupts	DWORD	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1...	-	-	7/2	M

Description: HW assignment of the fast input byte for NC program interrupts
 Bit 0 to 7:
 Number of input used
 Bit 16 to 23:
 Mask of signals that the channel is not to evaluate
 Bit 24 to 31:
 Mask of signals that are to be evaluated in inverted form
 Bit set: Interrupt initiated by falling edge.
 Possible inputs:
 1:
 On board-inputs of the 840D (4 fast + 4 bits via VDI default)
 2 - 5:
 External digital inputs (fast NCK I/Os or VDI default)
 128 - 129:
 Comparator byte (results from fast analog inputs or VDI default)

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21220	MULTFEED_ASSIGN_FASTIN	C01, C09	A4,V1
-	Assignment of the NCK I/Os for 'several feedrates in the block'	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0... - - 7/2 M		

Description: In MD21220 \$MC_MULTFEED_ASSIGN_FASTIN (assignment of the input bytes of the NCK I/Os for "Multiple feeds in one block"), at most two digital input bytes or comparator input bytes of the NCK I/Os can be assigned to the input byte for the "Multiple feeds in one block" function.

Furthermore, the assigned input signals can be inverted with the machine data.

The MD is coded as follows:

Bit 0-7:

No. of 1st digital input byte or comparator input byte used

Bit 8 - 15:

No. of 2nd digital input byte or comparator input byte used

Bit 16 - 23:

Inversion mask for describing the 1st byte

Bit 24 - 31:

Inversion mask for describing the 2nd byte

Bit=0: do not invert

Bit=1: invert

The number for the digital inputs should be specified as follows:

1: for the on-board byte

2 - 5: for external bytes

The number for a comparator input byte should be specified as follows:

128: for comparator 1 (corresponds to 80Hex)

129: for comparator 2 (corresponds to 81Hex)

21230	MULTFEED_STORE_MASK	C01, C09	V1
-	Memory response for 'several feedrates in the block'	BYTE	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0... - - 7/2 M		

Description: The priority of the signals for feeds F2 - F7 of the "Multiple feeds in one block" function decreases as the bit number increases in the input byte. The highest priority signal determines the current feed.

The MD21230 \$MC_MULTFEED_STORE_MASK (store input signals of the "Multiple feeds in one block" function) can be used to specify the response when the highest priority input drops out:

Set bit 2 - 7 has the effect that the associated feed (F2 to F7) that has been selected by the highest priority input signal in each case is retained, even if the input signal drops out and a lower priority is present.

The MD is coded as follows:

Bit 0 - 1: No significance

Bit 2 - 7: Storage response of the feed signals

Bit 8 - 31: Reserved

21240	PREVENT_SYNACT_LOCK_CHAN	C01, C09	-		
-	Protected synchronized actions	DWORD	PowerOn		
-					
-	2	-1, -1, -1, -1, -1, -1, -1 1, -1, -1, -1...	255	7/2	M

Description: The machine data specifies a range of synchronized action IDs. Synchronized actions with IDs in this range cannot be overwritten, canceled or locked via synchronized actions. With 0.0, there is no range of protected synchronized actions. The values are read as absolute values; the upper value and the lower value can be indicated in any order. If a value is configured with -1, the configuration of the general machine data becomes active.

Note:

During the creation of protected static synchronized actions, the protection should be canceled; otherwise, a power ON would be necessary for each change in order to be able to redefine the logic.

21300	COUPLE_AXIS_1	C09	S3		
-	Synchron. spindle pair def, mach. axis no: follow. spindle [0], lead.sp [1]	BYTE	PowerOn		
-					
-	2	0, 0, 0, 0, 0, 0, 0, 0 0, 0, 0, 0, 0, 0...	31	7/2	M

Description: One pair of synchronous spindles per NC channel can be defined in a fixed configuration with this machine data. The machine axis numbers (channel-specific MD20070 \$MC_AXCONF_MACHAX_USED) applicable in the NC channel must be entered for the following spindle [n=0] and the leading spindle [n=1]. The coupling is not regarded as configured if values of "0" are entered, thus leaving 2 couplings to be configured freely via the NC part program.

MD irrelevant for:

User-defined coupling

Related to:

Channel-specific MD21310 \$MC_COUPLING_MODE_1

(type of coupling in synchronous spindle mode)

Channel-specific MD21340 \$MC_COUPLE_IS_WRITE_PROT_1

(coupling parameters cannot be changed)

Channel-specific MD21330 \$MC_COUPLE_RESET_MODE_1

(coupling cancelation response)

Channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1

(block change response in synchronous spindle mode)

SD42300 \$SC_COUPLE_RATIO_1

(speed ratio parameters for synchronous spindle mode)

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21310	COUPLING_MODE_1	C03, C09	S3			
-	Type of coupling in synchronous spindle operation	BYTE	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	2	7/2	M

Description: This machine data determines the type of coupling for the fixed coupling configuration defined with machine data COUPLE_AXIS_1[n].

1: Setpoint coupling activated.

With a setpoint coupling, the reference variable for the following spindle is calculated from the position setpoint of the leading spindle, thus allowing the setpoints for the FS and LS to be input simultaneously. This has a particularly positive effect on the spindle synchronism during acceleration and deceleration processes.

A setpoint coupling thus achieves better command behavior than an actual-value coupling.

When a setpoint coupling is used, the following conditions must be fulfilled before synchronous mode is activated:

- The LS must be assigned to the same NC channel as the FS
- The FS and LS must be in position control mode (SPCON)
- The FS and LS must have the same dynamic control response

0: Actual-value coupling activated.

With an actual-value coupling, the command variable for the following spindle is calculated from the position actual value of the leading spindle. With this type of coupling, the following drive must be significantly more dynamic than the leading drive, but never vice versa.

The actual-value coupling can be used, for example, in the following cases:

- The LS must be assigned to a different NC channel than the FS.
- For leading spindles which are not suitable for position control.
- In cases where the dynamic control response of the leading spindle is considerably slower than that of the following spindle. As soon as the actual-value coupling is active, the NC/PLC interface signal DB31, ... DBX98.2 (Actual-value coupling) for the FS is set to "1-signal".

2: Speed coupling activated.

Internally, the speed coupling is a setpoint coupling. Lower dynamic requirements are placed on the FS and LS. A defined relation between the positions of the FS and LS cannot be established.

A speed coupling is used in the following cases:

- LS and/or FS are not in position control.
- There are no measuring systems present.

The coupling type can be altered in the NC part program when the coupling is deactivated by means of language instruction COUPDEF provided this option has not been inhibited by the channel-specific MD21340

\$MC_COUPLE_IS_WRITE_PROT_1. However, the parameterized value of channel-specific MD21310 \$MC_COUPLING_MODE_1 remains unchanged.

MD irrelevant to:

User-defined coupling

Related to:

Channel-specific MD21300 \$MC_COUPLE_AXIS_1

(definition of pair of synchronous spindles)

Channel-specific MD21340 \$MC_COUPLE_IS_WRITE_PROT_1

(write-protection for configured coupling parameters)

NC/PLC interface signal DB31, ... DBX98.2 (Actual-value coupling)

21320	COUPLE_BLOCK_CHANGE_CTRL_1	C09	S3			
-	Block change behavior in synchronous spindle operation	BYTE	PowerOn			
-						
-	-	3, 3, 3, 3, 3, 3, 3, 3...	0	3	7/2	M

Description: This machine data determines the condition under which a block change has to be executed when synchronous mode is activated for the fixed coupling configuration defined in the channel-specific machine data COUPLE_AXIS_[n].

The following options are available:

- 0: Block change is enabled immediately
- 1: Block change in response to "Fine synchronization"
- 2: Block change in response to "Coarse synchronization"
- 3: Block change in response to IPOSTOP (i.e. after setpoint-based synchronization)

The block change response can be altered in the NC part program with language instruction COUPDEF provided this option is not inhibited by the channel-specific MD21340 \$MC_COUPLE_IS_WRITE_PROT_1. However, the parameterized value of the channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1 remains unchanged.

The selected block change response remains valid even when the velocity ratio is changed or a defined angular offset is programmed while the coupling is active.

MD irrelevant for:

User-defined coupling

Related to:

Channel-specific MD21300 \$MC_COUPLE_AXIS_1
(definition of pair of synchronous spindles)
Channel-specific MD21340 \$MC_COUPLE_IS_WRITE_PROT_1
(coupling parameters cannot be changed)
Channel-specific MD37200 \$MA_COUPLE_POS_TOL_COARSE or MD37220
\$MA_COUPLE_VELO_TOL_COARSE
(threshold value for coarse synchronization)
Channel-specific MD37210 \$MA_COUPLE_POS_TOL_FINE or MD37230
\$MA_COUPLE_VELO_TOL_FINE
(threshold value for fine synchronization)

21330	COUPLE_RESET_MODE_1	C03, C09	S3,K1			
-	Coupling cancelation behavior	DWORD	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	0x3FF	7/2	M

Description: This machine data defines the behavior of the synchronous mode for the pair of synchronous spindles configured with machine data COUPLE_AXIS_1[n].

Bit 0=0:

Synchronous mode remains active with a new program start and, as long as the control remains switched on, can be canceled only with COUPOF.

Bit 0=1:

Synchronous mode is canceled with program start (from the reset condition).

Bit 1=0:

Synchronous mode remains active even with program end and reset and, as long as the control remains switched on, can be canceled only with COUPOF.

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Bit 1=1:
Synchronous mode is canceled with program end or RESET.

Bit 5=1:
The configured data are activated with program start.

Bit 6=1:
The configured data are activated with program end or RESET.

Bit 9=1:
Synchronous mode is switched on with program start.

Note:
Synchronous mode is not deselected with NC Start after NC Stop.

MD irrelevant to:
User-defined coupling
Related to:
Channel-specific MD21300 \$MC_COUPLE_AXIS_1 (definition of pair of synchronous spindles)
NC/PLC interface signal DB31, ... DBX84.4 (Active spindle mode - synchronous mode)

21340	COUPLE_IS_WRITE_PROT_1	C09	S3			
-	Coupling parameters cannot be altered	BOOLEAN	PowerOn			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: This machine data defines whether or not the coupling parameters (speed ratio, block change response, coupling type) for the pair of synchronous spindles configured with channel-specific machine data COUPLE_AXIS_1[n] may be altered by the NC part program.

1: Coupling parameters may not be altered by the NC program (write-protection active)
An alarm message is generated if an attempt is made to change the parameters.
0: NC part program may alter coupling parameters using language instruction COUPDEF.

MD irrelevant for:
User-defined coupling
Related to:
Channel-specific MD21300 \$MC_COUPLE_AXIS_1
(definition of pair of synchronous spindles)
Channel-specific MD21310 \$MC_COUPLING_MODE_1
(type of coupling in synchronous spindle mode)
Channel-specific MD21330 \$MC_COUPLE_RESET_MODE_1
(coupling cancelation response)
Channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1
(block change response in synchronous spindle mode)
SD42300 \$SC_COUPLE_RATIO_1
(speed ratio parameters for synchronous spindle mode)

21380	ESR_DELAY_TIME1		EXP, N09	M3
s	Delay time ESR axes		DOUBLE	NEW CONF
-				
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-

Description: When, for example, an alarm occurs, this MD can be used to delay deceleration in order, for example, to enable a retraction from the tooth gap (ESR) in gear wheel machining.

21381	ESR_DELAY_TIME2		EXP, N09	M3
s	ESR time for IPO controlled braking		DOUBLE	NEW CONF
-				
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-

Description: When time MD21380 \$MC_ESR_DELAY_TIME1 has expired, the time (MD21381 \$MC_ESR_DELAY_TIME2) specified for interpolatory braking is still available. When time MD21381 \$MC_ESR_DELAY_TIME2 has expired, rapid deceleration with following tracking is initiated.

21500	TRACLG_GRINDSPI_VERT_OFFSET		C07	-
mm	Vertical position offset of grinding axis in centerless grinding		DOUBLE	PowerOn
-				
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-

Description: The vertical offset of the grinding axis is specified in this MD.

21501	TRACLG_GRINDSPI_HOR_OFFSET		C07	-
mm	Horiz. position offset of grinding axis in centerless grinding		DOUBLE	PowerOn
-				
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-

Description: Horizontal position offset of the grinding axis in centerless grinding. The setting in this MD is significant only when MD: TRAFO_AXES_IN_n[0] = 0, i.e. no axis is programmed for the grinding wheel.

21502	TRACLG_CTRLSPI_VERT_OFFSET		C07	-
mm	vert. position offset of regulating axis in centerless grinding		DOUBLE	PowerOn
-				
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-

Description: The vertical offset for the regulating axis is specified in this MD.

21504	TRACLG_SUPPORT_VERT_OFFSET		C07	-
mm	Vertical offset of work blade in centerless grinding		DOUBLE	PowerOn
-				
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-

Description: Y offset for work blade

Rule: X(0) = Y(offset) + Q1 < Y(direction vector Q1) + Q2 < Y(direction vector Q2)

Machine and setting data

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21506	TRACLG_SUPPORT_HOR_OFFSET	C07	S8
mm	Horizontal offset of work blade in centerless grinding	DOUBLE	PowerOn
-			
-	-	0., 0., 0., 0., 0., 0., 0....	-

Description: X offset for work blade

Rule: $X(0) = X(\text{offset}) + Q1 < X(\text{direction vector } Q1) + Q2 < X(\text{direction vector } Q2)$

21508	TRACLG_VERT_DIR_SUPPORTAX_1	C07	-
-	Vertical component of work blade direction vector for Q1	DOUBLE	PowerOn
-			
-	-	1., 1., 1., 1., 1., 1., 1....	-

Description: Y component of blade direction vector for Q1

Rule: $Y(0) = Y(\text{offset}) + Q1 < Y(\text{direction vector } Q1) + Q2 < Y(\text{direction vector } Q2)$

21510	TRACLG_HOR_DIR_SUPPORTAX_1	C07	-
-	Horizontal component of work blade direction vector for Q1	DOUBLE	PowerOn
-			
-	-	0., 0., 0., 0., 0., 0., 0....	-

Description: X component of blade direction vector for Q1

Rule: $X(0) = X(\text{offset}) + Q1 < X(\text{direction vector } Q1) + Q2 < X(\text{direction vector } Q2)$

21512	TRACLG_VERT_DIR_SUPPORTAX_2	C07	-
-	Vertical component of work blade direction vector for Q2	DOUBLE	PowerOn
-			
-	-	0., 0., 0., 0., 0., 0., 0....	-

Description: Y component of blade direction vector for Q2

Rule: $Y(0) = Y(\text{offset}) + Q1 < Y(\text{direction vector } Q1) + Q2 < Y(\text{direction vector } Q2)$

21514	TRACLG_HOR_DIR_SUPPORTAX_2	C07	-
-	Horizontal component of work blade direction vector for Q2	DOUBLE	PowerOn
-			
-	-	1., 1., 1., 1., 1., 1., 1....	-

Description: X component of blade direction vector for Q2

Rule: $X(0) = X(\text{offset}) + Q1 < X(\text{direction vector } Q1) + Q2 < X(\text{direction vector } Q2)$

21516	TRACLG_SUPPORT_LEAD_ANGLE	C07	-
degrees	Lead angle of work blade in centerless grinding	DOUBLE	PowerOn
-			
-	-	0., 0., 0., 0., 0., 0., 0....	-90.

Description: The angle of lead of the work blade (α) is entered here.

21518	TRACLG_CONTACT_UPPER_LIMIT	C07	-
mm	Upper contact limit of work blade with work in centerl. grinding	DOUBLE	PowerOn
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	7/2 M

Description: It is necessary to specify the upper contact limit of the blade with the part to be ground (d_1) for the purpose of monitoring the support range limits.

Related to:

MD21520 \$MC_TRACLG_CONTACT_LOWER_LIMIT

21520	TRACLG_CONTACT_LOWER_LIMIT	C07	-
mm	Lower contact limit of work blade with work in centerl. grinding	DOUBLE	PowerOn
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	7/2 M

Description: It is necessary to specify the lower contact limit of the blade with the part to be ground (d_2) for the purpose of monitoring the support range limits.

Related to:

MD : TRACLG_CONTACT_UPPER_LIMIT

Description: The number of the grinding spindle is specified in this MD.

21524	TRACLG_CTRLSPI_NR	C07	-
-	Definition of regulating spindle for centerless grinding	BYTE	PowerOn
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1, 1...	1 20 7/2 M

Description: The number of the regulating spindle is specified in this MD.

21526	TRACLG_G0_IS_SPECIAL	C07	-
-	Special logic for G0 in centerless grinding	BOOLEAN	PowerOn
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: This MD can be used to define how the speed of the regulating wheel must respond in the case of transitions from motion blocks with G0 and without G0 (see table).

TRACLG GO IS SPECIAL = 1:

On transition from a motion block with G0 to one without G0, the speed of the regulating wheel is increased during the G0 block to the desired initial speed in the block without G0.

TRADING GO TS SPECIAL = 0:

The speed of the regulating wheel is controlled only for motion blocks without G0 (the transitions from a motion block with G0 to one without G0 are not taken into account).

1.3 NC machine data

22000	AUXFU_ASSIGN_GROUP		C04	H2,S1		
-	Auxiliary function group		DWORD	PowerOn		
-						
-	255	1, 1...	1	168	7/2	M

Description: See MD22010 \$MC_AUXFU_ASSIGN_TYPE [n] (auxiliary function type)

22010	AUXFU_ASSIGN_TYPE		C04	H2,S1		
-	Auxiliary function type		STRING	PowerOn		
-						
-	255	"", "", "", "", "", "", "", "", "", "", "", "", "", "", "", ...	-	-	7/2	M

Description: Machine data

AUXFU_ASSIGN_TYPE[n] (auxiliary function type),
AUXFU_ASSIGN_EXTENSION[n] (auxiliary function extension),
AUXFU_ASSIGN_VALUE[n] (auxiliary function value) and
AUXFU_ASSIGN_GROUP[n] (auxiliary function group)
assign an auxiliary function type (M,S,H,T,F,D,DL), the associated extension
and the auxiliary function value to an auxiliary function group.

Example:

M0 = 100 => Group 5 (corr. M100)

Auxiliary function typeM

Auxiliary function extension 0

Auxiliary function value 100

Auxiliary function group 5

MD22010 \$MC_AUXFU_ASSIGN_TYPE[0] = "M"

MD22020 \$MC_AUXFU_ASSIGN_EXTENSION[0] = 0

MD22030 \$MC_AUXFU_ASSIGN_VALUE[0] = 100

MD22040 \$MC_AUXFU_ASSIGN_GROUP[0] = 5 ; (5th group)

M00, M01, M02, M17 and M30 are assigned to group 1 as default.

M3, M4, M5 and M70 of the master spindle are assigned to group 2 as default.

The S functions of the master spindle are assigned to group 3 as default.

The four machine data for assigning an auxiliary function to an auxiliary function group must always be given the same index [n].

Special cases:

If the value of an auxiliary function is less than 0, all auxiliary functions of this type and extension are assigned to one group.

Example:

S2 = -1 => group 9

(all S values of the 2nd spindle are assigned to group 9)

Note:

Only one auxiliary function from a group may be programmed in each block, otherwise alarm 14760 is output.

Related to:

MD11100 \$MN_AUXFU_MAXNUM_GROUP_ASSIGN

22020	AUXFU_ASSIGN_EXTENSION	C04	H2,S1			
-	Auxiliary function extension	DWORD	PowerOn			
-						
-	255	0, 0...	-1	99	7/2	M

Description: See MD22010 \$MC_AUXFU_ASSIGN_TYPE[n] (auxiliary function type)

Special cases:

With the spindle functions M3, M4, M5, M19, M70, M40, M41, M42, M43, M44, M45 and S,

the spindle number is output to the PLC in the auxiliary function extension.

22030	AUXFU_ASSIGN_VALUE	C04	H2,S1			
-	Auxiliary function value	DWORD	PowerOn			
-						
-	255	0, 0...	-	-	7/2	M

Description: See MD22010 \$MC_AUXFU_ASSIGN_TYPE[n] (auxiliary function type)

22035	AUXFU_ASSIGN_SPEC	C04	H2			
-	Output specification	DWORD	PowerOn			
-						
-	255	0, 0...	-	-	7/2	M

Description: Specification of the output behavior of the user-defined auxiliary functions.

- Bit 0 = 1Acknowledgment "normal" after an OB1 cycle
- Bit 1 = 1Acknowledgment "quick" with OB40
- Bit 2 = 1No predefined auxiliary function
- Bit 3 = 1No output to the PLC
- Bit 4 = 1Spindle reaction after acknowledgment by the PLC
- Bit 5 = 1Output before the motion
- Bit 6 = 1Output during the motion
- Bit 7 = 1Output at block end
- Bit 8 = 1No output after block search types 1, 2, 4
- Bit 9 = 1Collection during block search type 5 (SERUPRO)
- Bit 10 = 1 No output during block search type 5 (SERUPRO)
- Bit 11 = 1Cross-channel auxiliary function (SERUPRO)
- Bit 12 = 1Output via synchronized action
- Bit 13 = 1 Implicit auxiliary function
- Bit 14 = 1 Active M01
- Bit 15 = 1 No output during running-in test
- Bit 16 = 1 Nibbling off
- Bit 17 = 1 Nibbling on
- Bit 18 = 1 Nibbling

1.3 NC machine data

22037	AUXFU_ASSIGN_SIM_TIME	C04	H2,S1
-	Acknowledgment time	DWORD	PowerOn
-			
-	255	0, 0...	0 0x7FFFFFFF 7/2 M

Description: Acknowledgment time for auxiliary functions in ms.

See MD22010 \$MC_AUXFU_ASSIGN_TYPE[n] (auxiliary function type)

22040	AUXFU_PREDEF_GROUP	C04	H2
-	Predefined auxiliary function groups	DWORD	PowerOn
-			
-	301	1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 4, 4, 4, 4, 4, 4, 3, 1, 1, 1...	0 168 7/2 M

Description: Group assignment of predefined auxiliary functions.

The predefined groups cannot be changed for indices 0, 1, 2, 3, 4, 22, 23, 24.

22050	AUXFU_PREDEF_TYPE	C04	H2
-	Predefined auxiliary function type	STRING	PowerOn
-			
-	301	"M", "M", "M", "M", "M", "M", "M", "M", "M", "M", "M", "M", "M"...	- - 7/2 M

Description: The address codes of the predefined auxiliary functions are fix.

This setting cannot be changed!

22060	AUXFU_PREDEF_EXTENSION	C04	H2
-	Predefined auxiliary function extension	DWORD	PowerOn
-			
-	301	0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0...	-1 99 7/2 M

Description: Address extension for predefined auxiliary functions:

This setting can be changed only for indices 5 to 17 and 21!

22070	AUXFU_PREDEF_VALUE	C04	H2
-	Predefined auxiliary function value	DWORD	PowerOn
-			
-	301	0, 1, 2, 17, 30, 6, 3, 4, 5, 19, 70, 40, 41, 42, 43, 44, 45, -1...	- - 7/2 M

Description: Value of predefined auxiliary functions.

This setting cannot be changed!

22080	AUXFU_PREDEF_SPEC	C04	H2,K1			
-	Output specification	DWORD	PowerOn			
-						
-	301	0x81, 0x81, 0x81, 0x81, 0x81, 0x21, 0x21, 0x21, 0x21, 0x21...	-	-	7/2	M

Description: Specification of the output behavior of the predefined auxiliary functions.

Bit 0 = 1Acknowledgment "normal" after an OB1 cycle
 Bit 1 = 1Acknowledgment "quick" with OB40
 Bit 2 = 1No predefined auxiliary function
 Bit 3 = 1No output to the PLC
 Bit 4 = 1Spindle reaction after acknowledgment by the PLC
 Bit 5 = 1Output before the motion
 Bit 6 = 1Output during the motion
 Bit 7 = 1Output at block end
 Bit 8 = 1No output after block search types 1, 2, 4
 Bit 9 = 1 Collection during block search type 5 (SERUPRO)
 Bit 10 = 1No output during block search type 5 (SERUPRO)
 Bit 11 = 1Cross-channel auxiliary function (SERUPRO)
 Bit 12 = 1Output via synchronized action
 Bit 13 = 1 Implicit auxiliary function
 Bit 14 = 1 Active M01
 Bit 15 = 1 No output during running-in test
 Bit 16 = 1 Nibbling off
 Bit 17 = 1 Nibbling on
 Bit 18 = 1 Nibbling

22090	AUXFU_PREDEF_SIM_TIME	C04	H2,S1
-	Acknowledgment time	DWORD	PowerOn
-			
-	301	0, 0...	0 0x7FFFFFFF 7/2 M

Description: Acknowledgment time for auxiliary functions in ms.
 See MD22010 \$MC_AUXFU_PREDEF_TYPE[n] (auxiliary function type)

22100	AUXFU_QUICK_BLOCKCHANGE	C04	H2
-	Block change delay with quick auxiliary functions.	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 1 7/2 M

Description: Block change is not delayed with quick auxiliary functions.

0: With the quick auxiliary function output the block change is delayed until acknowledgement by the PLC (OB40).

1: With the quick auxiliary function output to the PLC the block change is not delayed.

MD irrelevant for:
 Auxiliary functions with normal acknowledgement

1.3 NC machine data

References:
/FBSY/, Synchronized Actions

22110	AUXFU_H_TYPE_INT	C11, C04	H2,K1
-	Data format of H auxiliary functions (integer/real)	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 1 7/2 M	

Description: 0: The values of H auxiliary functions are present in floating point format.
The maximum value range is +/-3.4028 ex 38.
1: The value of H auxiliary functions is rounded and changed to an integer.
The basic program in the PLC must interpret the value as an integer.
The maximum value range is -2147483648 to 2147483647.

22200	AUXFU_M_SYNC_TYPE	C04	H2,K1,2.4
-	Output time of M functions	BYTE	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 3 7/2 M	

Description: Synchronization of the M auxiliary functions with regard to a simultaneously programmed axis motion.
0 = Output before motion
1 = Output during motion
2 = Output at block end
3 = No output to the PLC (therefore no block change delay)
Notice:
An auxiliary function output specification configured by MD22080
\$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 \$MC_AUXFU_ASSIGN_SPEC[auxIndex]
or
A group output specification configured by MD11110 \$MN_AUXFU_GROUP_SPEC[groupIndex], which has a higher priority.

22210	AUXFU_S_SYNC_TYPE	C04	H2,2.4
-	Output time of S functions (see MD22200 for values)	BYTE	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 4 7/2 M	

Description: Synchronization of the S auxiliary functions with regard to a simultaneously programmed axis motion.
0 = Output before motion
1 = Output during motion
2 = Output at block end
3 = No output to the PLC (therefore no block change delay)
4 = Output in accordance with the predefined output specification
Notice:
An auxiliary function output specification configured by MD22080
\$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 \$MC_AUXFU_ASSIGN_SPEC[auxIndex]
or
A group output specification configured by MD11110 \$MN_AUXFU_GROUP_SPEC[groupIndex], which has a higher priority.

22220	AUXFU_T_SYNC_TYPE	C11, C04	H2,2.4
-	Output time for T functions (see MD22200 for values)	BYTE	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0 4 7/2 M

Description: Synchronization of the T auxiliary functions with regard to a simultaneously programmed axis motion.

0 = Output before motion

1 = Output during motion

2 = Output at block end

3 = No output to the PLC (therefore no block change delay)

4 = Output in accordance with the predefined output specification

Notice:

An auxiliary function output specification configured by MD22080

\$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 \$MC_AUXFU_ASSIGN_SPEC[auxIndex] or

A group output specification configured by MD11110 \$MN_AUXFU_GROUP_SPEC[groupIndex], which has a higher priority.

22230	AUXFU_H_SYNC_TYPE	C04	H2,2.4
-	Output time for H functions (see MD22200 for values)	BYTE	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 3 7/2 M

Description: Synchronization of the H auxiliary functions with regard to a simultaneously programmed axis motion.

0 = Output before motion

1 = Output during motion

2 = Output at block end

3 = No output to the PLC (therefore no block change delay)

Notice:

An auxiliary function output specification configured by MD22080

\$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 \$MC_AUXFU_ASSIGN_SPEC[auxIndex] or

A group output specification configured by MD11110 \$MN_AUXFU_GROUP_SPEC[groupIndex], which has a higher priority.

22240	AUXFU_F_SYNC_TYPE	C04	H2,K1,V1,Z1
-	Output time for F functions (see MD22200 for values)	BYTE	PowerOn
-			
-	-	3, 3, 3, 3, 3, 3, 3...	0 4 7/2 M

Description: Synchronization of the F auxiliary functions with regard to a simultaneously programmed axis motion.

0 = Output before motion

1 = Output during motion

2 = Output at block end

3 = No output to the PLC (therefore no block change delay)

4 = Output in accordance with the predefined output specification

1.3 NC machine data

Notice:

An auxiliary function output specification configured by MD22080
`$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 $MC_AUXFU_ASSIGN_SPEC[auxIndex]`
 or
 A group output specification configured by MD11110 `$MN_AUXFU_GROUP_SPEC[groupIndex]`, which has a higher priority.

22250	AUXFU_D_SYNC_TYPE	C04	H2			
-	Output time for D functions (see MD22200 for values)	BYTE	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	4	7/2	M

Description: Synchronization of the D auxiliary functions with regard to a simultaneously programmed axis motion.

0 = Output before motion

1 = Output during motion

2 = Output at block end

3 = No output to the PLC (therefore no block change delay)

4 = Output in accordance with the predefined output specification

Notice:

An auxiliary function output specification configured by MD22080
`$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 $MC_AUXFU_ASSIGN_SPEC[auxIndex]`
 or

A group output specification configured by MD11110 `$MN_AUXFU_GROUP_SPEC[groupIndex]`, which has a higher priority.

22252	AUXFU_DL_SYNC_TYPE	C04	H2			
-	Output time of DL functions	BYTE	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	4	7/2	M

Description: Synchronization of the auxiliary function with regard to a simultaneously programmed motion.

0 = Output before motion

1 = Output during motion

2 = Output at block end

3 = No output to the PLC (therefore no block change delay)

4 = Output in accordance with the predefined output specification

Notice:

An auxiliary function output specification configured by MD22080
`$MC_AUXFU_PREDEF_SPEC[preIndex], MD22035 $MC_AUXFU_ASSIGN_SPEC[auxIndex]`
 or

A group output specification configured by MD11110 `$MN_AUXFU_GROUP_SPEC[groupIndex]`, which has a higher priority.

22254	AUXFU_ASSOC_M0_VALUE	C01, C03, C10	H2,K1			
-	Additional M function to stop a program	DWORD	PowerOn			
-						
-	-	-1, -1, -1, -1, -1, -1, -1, -1...	-	-	7/2	M

Description: This machine data defines an additional, predefined M function, which behaves in the same way as M0. The value of the machine data corresponds to the number of the auxiliary M function.

Predefined M numbers, such as M0, M1, M2, M3, etc., are not allowed.

Restriction:

See MD10715 \$MN_M_NO_FCT_CYCLE

Related to:

MD10714 \$MN_M_NO_FCT_EOP,

MD10715 \$MN_M_NO_FCT_CYCLE,

MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,

MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,

MD10804 \$MN_EXTERN_M_NO_SET_INT

MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,

MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,

MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX

MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR

For nibbling:

MD26008 \$MC_NIBBLE_PUNCH_CODE

22256	AUXFU_ASSOC_M1_VALUE	C01, C03, C10	H2			
-	Additional M function for conditional stop	DWORD	PowerOn			
-						
-	-	-1, -1, -1, -1, -1, -1, -1... -1...	-	-	7/2	M

Description: This machine data defines an additional, predefined M function, which behaves in the same way as M1. The value of the machine data corresponds to the number of the auxiliary M function.

Predefined M numbers, such as M0, M1, M2, M3, etc., are not allowed.

Restriction:

See MD10715 \$MN_M_NO_FCT_CYCLE

Related to:

MD10714 \$MN_M_NO_FCT_EOP,

MD10715 \$MN_M_NO_FCT_CYCLE,

MD20094 \$MC_SPIND_RIGID_TAPPING_M_NR,

MD22254 \$MC_AUXFU_ASSOC_M0_VALUE

For external language mode:

MD10814 \$MN_EXTERN_M_NO_MAC_CYCLE,

MD10804 \$MN_EXTERN_M_NO_SET_INT

MD10806 \$MN_EXTERN_M_NO_DISABLE_INT,

MD10800 \$MN_EXTERN_CHAN_SYNC_M_NO_MIN,

MD10802 \$MN_EXTERN_CHAN_SYNC_M_NO_MAX

MD20095 \$MC_EXTERN_RIGID_TAPPING_M_NR

For nibbling:

MD26008 \$MC_NIBBLE_PUNCH_CODE

1.3 NC machine data

22400	S_VALUES_ACTIVE_AFTER_RESET	C04, C03, C05	-
-	S function active beyond RESET	BOOLEAN	PowerOn
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: 1: The last S values set in the main run are still active after a RESET. This also applies to the dynamic correction values ACC, VEOLIM in spindle mode.
 0: The various S values are equal to 0 after a RESET, and must therefore be reprogrammed.
 The dynamic correction values ACC and VEOLIM are reset to 100% for spindle mode if the axis-specific MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET and MD32320 \$MA_DYN_LIMIT_RESET_MASK do not specify anything else.
Note:
 The values for ACC and VEOLIM are also retained for spindle mode if MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET is not equal to zero or the axis-specific MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET is not equal to zero.

22410	F_VALUES_ACTIVE_AFTER_RESET	C04, C03, C05	M3,V1
-	F function active beyond RESET	BOOLEAN	PowerOn
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: 1: The last programmed F, FA, OVR and OVRA values are still active after RESET.
 This also applies to the dynamic correction values (ACC, VEOLIM, JERKLIM, ACCLIMA, VEOLIMA, JERKLIMA).
 0: The various values are set to their default values after reset.
 This does not apply to the dynamic correction values if the axis-specific MD32320 \$MA_DYN_LIMIT_RESET_MASK specifies anything else.
Note:
 The dynamic correction values are also retained if the axis-specific MD32320 \$MA_DYN_LIMIT_RESET_MASK is not equal to zero.
Related to:
 MD22240 \$MC_AUXFU_F_SYNC_TYPE Output time of the F functions

22420	FGROUP_DEFAULT_AXES	C11	-
-	Default setting for FGROUP command	BYTE	PowerOn
-			
-	8	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-

Description: Default setting for FGROUP command. You can specify up to 8 channel axes whose resulting velocity is equivalent to the programmed path feed.
 If all eight values are zero (default), the geo axis entered in MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB are active as the default setting for the FGROUP command as previously.

22430	FGROUP_PATH_MODE	EXP	-			
-	Response of the path velocity in singular situations	BYTE	Immediately			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1, 1...	0	2	3/3	M

Description: If the path of the FGROUP axes is small when compared to the non-FGROUP axes, then the latter must be very fast in order to be able to follow the path. If the distance is precisely 0, then they travel towards it with the program feedrate. This abrupt transition can be smoothed using the machine data.

Value 0: This abrupt transition is not modified. Compatible setting to the behavior before software release 6

Value 1: Above a threshold of the path ratio of \$MC_FGROUP_PATH_RATIO, the paths of the non-FGROUP axes are increasingly taken into account. However, this is only applicable in polynomial blocks with significantly changing path components. Compatible setting to the behavior before software release NCK.P7_91

Value 2: Same as 1, however, without restrictions. Recommended setting for mold building applications

.

Corresponds with:

MD22420 \$MC_FGROUP_DEFAULT_AXES, MD22440 \$MC_FGROUP_PATH_RATIO

22440	FGROUP_PATH_RATIO	EXP	-		
-	Path ratio when using the FGROUP singularity strategy	DOUBLE	Immediately		
-					
-	-	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	0. 1.e6	3/3	M

Description: Ratio of the path of non-FGROUP axes to the FGROUP axes, from which also the path of the first is taken into account for the reference of the path velocity.

Is only of significance for \$MC_FGROUP_PATH_MODE > 0. The value 0 has the effect as if all of the axes were in FGROUP. For higher values, the behavior approximates to that for \$MC_FGROUP_PATH_MODE = 0.

Corresponds with:

MD22420 \$MC_FGROUP_DEFAULT_AXES, MD22430 \$MC_FGROUP_PATH_MODE

22510	GCODE_GROUPS_TO_PLAIN	C04	K1,P3 pl,P3 sl		
-	G codes output at NCK-PLC interface on block change/RESET	BYTE	PowerOn		
-					
-	8	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	- -	7/2	M

Description: Specification of the G code group, the G codes of which are output to the NCK/PLC interface in case of block change/ reset.

The interface is updated after each block change and reset.

Notice:

It is not guaranteed that a PLC user program has at all times a block-synchronous relation between the active NC block and the G codes present.

Example: Path mode with very short blocks

1.3 NC machine data

22512	EXTERN_GCODE_GROUPS_TO_PLC	C11, C04	-
-	Send G codes of an external NC language to PLC	BYTE	PowerOn
-			
-	8	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-

Description: Specification of the G code group of external languages, the G codes of which are output at the NCK interface on block change/reset.

The interface is updated at each block change and after RESET.

Notice:

It is not guaranteed that a PLC user program has at all times a block-synchronous relation between the active NC block and the G codes present. (Example: Path mode with very short blocks).

22515	GCODE_GROUPS_TO_PLC_MODE	C04	-
-	Behavior of G group transfer to PLC	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0

Description: For setting the behavior, i.e. how the G groups are to be interpreted in the PLC with regard to data.

With the current behavior (bit 0 = 0), the G group is the array index of a 64-byte field (DBB 208 - DBB 271).

Maximally the 64th G group can be reached in this way.

With the new behavior (bit 0 = 1), the data storage in the PLC consists of max. 8 bytes (DBB 208 - DBB 215).

With this procedure, the array index of this byte array is identical with the index of the MD22510 \$MC_GCODE_GROUPS_TO_PLC[Index] and MD22512 \$MC_EXTERN_GCODE_GROUPS_TO_PLC[Index].

Each index (0 - 7) may only be set for one of the two machine data; the value 0 must be entered for the other MD.

Bit 0 (LSB) = 0:

Behavior as before, the 64-byte field is used for displaying the G codes

Bit 0 (LSB) = 1:

The user specifies for which G groups the first 8 bytes are to be used

22530	TOCARR_CHANGE_M_CODE	C04	H2,W1
-	M code at change of tool holder	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	-99999999 99999999 7/2 M

Description: The absolute value of this machine data indicates the number of the M code, which is output at the VDI interface when a tool holder is activated.

- If the MD is positive, the unchanged M code is always output.
- If the MD is negative, the number of the tool holder is added to the absolute value of the machine data and the number is output.

Special cases:

N M code is output, if the number of the M code to be output or the absolute value of this MD is set to one of the values 0 to 6, 17 or 30. It is not monitored whether an M code created in this way will conflict with other functions.

References:

/FB/, H2, Auxiliary Function Output to PLC

22532	GEOAX_CHANGE_M_CODE	C04	H2,K2			
-	M code at change of geo axes	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0, 0...	0	99999999	7/2	M

Description: Number of the M code, which is output at the VDI interface in the case of a switchover of the geometry axes.
No M code is output if this MD is set to one of the values 0 to 6, 17 or 30.
It is not monitored whether an M code created in this way will conflict with other functions.

22534	TRAFO_CHANGE_M_CODE	C04	M1,H2			
-	M code at change of transformation	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0, 0...	0	99999999	7/2	M

Description: Number of the M code that is output at the VDI interface in the case of a transformation changeover of the geometry axes.
No M code is output if this MD is set to one of the values 0 to 6, 17 or 30.
It is not monitored whether an M code created in this way will conflict with other functions.

22550	TOOL_CHANGE_MODE	C01, C11, C04, C09	W3,K1,W1			
-	New tool compensation for M function	BYTE	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	1	7/2	M

Description: The T function is used to select a tool in the program. The setting in this machine data determines whether the new tool is loaded immediately on execution of the T function:

MD22550 \$MC_TOOL_CHANGE_MODE = 0

The new tool is loaded directly with the programming of T or D. This setting is mainly used on turning machines. If a D is not programmed in the block by T, then the tool offset defined in MD20270 \$MC_CUTTING_EDGE_DEFAULT is active.

In this case, the function "Manual tools" is not enabled.

MD22550 \$MC_TOOL_CHANGE_MODE = 1

The new tool is prepared for loading on execution of the T function. This setting is used mainly on milling machines with a tool magazine in order to bring the new tool into the tool change position without interrupting the machining process. The M function entered in MD22560 \$MC_TOOL_CHANGE_M_CODE is used to remove the old tool from the spindle and load the new tool onto the spindle. According to DIN 66025, this tool change has to be programmed with M function M06.

Related to:

MD22560 \$MC_TOOL_CHANGE_M_CODE

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22560	TOOL_CHANGE_M_CODE	C01, C04, C09	H2,K1,W1			
-	M function for tool change	DWORD	PowerOn			
-						
-	-	6, 6, 6, 6, 6, 6, 6, 6...	6	99999999	7/2	M

Description: If the T function is only used to prepare a new tool for a tool change (this setting is used mainly on milling machines with a tool magazine, in order to bring the new tool into the tool change position without interrupting the machining process), another M function must be used to trigger the tool change.

The M function entered in TOOL_CHANGE_M_CODE triggers the tool change (remove old tool from the spindle and load new tool into the spindle). This tool change is required to be programmed with M function M06, in accordance with DIN 66025.

Related to:

MD22550 \$MC_TOOL_CHANGE_MODE

22562	TOOL_CHANGE_ERROR_MODE	C09	W1			
-	Response to tool change errors	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x1FF	7/2	M

Description: Behavior if faults/problems occur during programmed tool change.

Bit 0=0: Standard behavior: Stop on the faulty NC block

Bit 0=1: If a fault is detected in the block with the tool change preparation, the alarm relevant to the preparation command T is delayed until the corresponding tool change command (M06) has been interpreted in the program sequence. Until then, the alarm triggered by the preparation command is not output. The operator can take corrective actions in this block. When the program continues, the faulty NC block is re-interpreted, and the preparation command is automatically executed again internally.

The value = 1 is relevant only if the setting MD22550 \$MC_TOOL_CHANGE_MODE = 1 is used.

Bit 1 Only relevant with active tool management:

Bit 1=0: Standard behavior: Only tools with data assigned to a magazine are detected during tool change preparation.

Bit 1=1: Manual tools can be loaded.

A tool will also be loaded if its data are known in the NCK but have not been assigned to a magazine. In this case, the tool data is automatically assigned to the programmed tool holder.

The user is prompted to insert tools into or remove tools from the tool holder).

Bit 2 modifies the offset programming

Bit 2=0: active D no. > 0 and active T no.=0 gives offset 0

Active D no. > 0 and active D no.=0 gives total offset 0

Bit 2=1: active D no. > 0 and active T no.=0 lead to an alarm message

Active D no. > 0 and active D no.=0 lead to an alarm message

Bits 3 and 4 are only relevant with active tool management.

Function:

Control of the behavior of the init. block generation on program start if a disabled tool is on the spindle and this tool is to be activated.

See MD20112 \$MC_START_MODE_MASK, MD20110 \$MC_RESET_MODE_MASK

On RESET, this does not affect the behavior "Keep disabled tool on the spindle active".

Bit 3=0: Standard: If the tool on the spindle is disabled, generate a tool change command requesting a replacement tool. An alarm will be generated if there is no such replacement tool.

Bit 3=1: The disabled status of the spindle tool is ignored. The tool becomes active. The subsequent part program should be formulated so that no parts are machined with the disabled tool.

Bit 4=0: Standard: The system tries to activate the spindle tool or its replacement tool.

Bit 4=1: If the tool on the spindle is disabled, T0 is programmed in the start init block.

The combination of bits 3 and 4 produces the following statements:

0 / 0: Behavior as before, automatic change on NC start if a disabled tool is in the spindle

1 / 0: No automatic change

0 / 1: A T0 is automatically generated if a disabled tool is in the spindle at NC start

1 / 1: No statement

Bit 5: Reserved

Bit 6=0: Standard: If T0 or D0, only T0 or D0 is exactly programmed. This means that MD20270 \$MC_CUTTING_EDGE_DEFAULT and MD20272 \$MC_SUMCORR_DEFAULT determine the value of D and DL for the programming of T0.

Example: MD20270 \$MC_CUTTING_EDGE_DEFAULT=1, MD20272 \$MC_SUMCORR_DEFAULT=2, MD22550 \$MC_TOOL_CHANGE_MODE=0 (tool change with T programming)

N10 T0 ; T no. 0 has active numbers D1 and DL=2, which results in offset zero. If bit 2 is also set:

Programming of

- a) T0; for tool deselection
- b) D0; for offset deselection

generates an alarm, if

a) at least one of MD20270 \$MC_CUTTING_EDGE_DEFAULT and MD20272 \$MC_SUMCORR_DEFAULT is unequal to zero (The correct programming is T0 D0 DL=0).

b) MD20272 \$MC_SUMCORR_DEFAULT is unequal to zero (the correct programming is D0 DL=0).

Bit 6=1: Controls the NCK behavior when x, y, z are all programmed greater than zero, if at least one of MD20270 \$MC_CUTTING_EDGE_DEFAULT and MD20272 \$MC_SUMCORR_DEFAULT is unequal to zero.

a) Tx Dy --> T0:

With T0, D0 or D0 DL=0 is automatically programmed in the NCK; i.e. values in MD20270 \$MC_CUTTING_EDGE_DEFAULT and \$MC_SUMCORR_DEFAULT unequal to zero are treated as values equal to zero.

b) Tx Dy --> T0 Dy, or T0 DL=z, or T0 Dy DL=z, or T0 D0 DL=z, explicitly programmed values of D, DL are not influenced.

c) Dy DL=z --> D0

With D0, DL=0 is automatically programmed in the NCK; i.e. values in MD20272 \$MC_SUMCORR_DEFAULT unequal to zero are treated as values equal to zero.

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d) Dy DL=z --> D0 DL=z

Explicitly programmed values of DL are not influenced.

If bit 2 is also set:

Only T0 / D0 have to be programmed for tool/offset deselection, and this does not generate an alarm.

The statements relating to MD20272 \$MC_SUMCORR_DEFAULT or DL are valid only if the total offset function is active (see MD18080
\$MN_MM_TOOL_MANAGEMENT_MASK, bit 8).

Bit 7=0: When Tx is programmed, a check is made to see whether a tool with T number x is known in the TO unit of the channel. If not, the program is stopped in this block with alarm 17190

Bit 7=1: Only if tool basic functionality is active (MD20310

\$MC_TOOL_MANAGEMENT_MASK, bit 0,1=0) and (MD18102

\$MN_MM_TYPE_OF_CUTTING_EDGE=0):

When Tx is programmed, an unknown Tx is initially be ignored, and the alarm relating to the preparation command (Tx) is also ignored until the D selection is interpreted in the program sequence. Only then is alarm 17191, which has been triggered by the preparation command, output. This means that the operator can take corrective actions with the D selection in this block. When the program is continued, the incorrect NC block is re-interpreted, and the preparation command is automatically executed again internally.

(This is of interest for Cutting-Edge-Default=0 or =-2 and D0 programming, otherwise the D of Cutting-Edge-Default is deselected on tool change.)

This variant is justified for programming "Tool number=Location" (revolver as tool holder) without tool management. The revolver can now positioned on a location for which a tool has not (yet) been defined.

This bit has no meaning if bit 0=1 is set.

Bit 8=0: A tool that is located in a blocked magazine location is not taken into account for the tool selection. (Default setting)

Bit 8=1: A tool that is located in a blocked magazine location is also taken into account for the tool selection. (corresponds to the previous behavior).

22600	SERUPRO_SPEED_MODE		EXP	K1
-	Speed for block search run type 5		DWORD	Immediately
-				
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	3 2/2 M

Description:

This machine data specifies the search run mode: SERUPRO in more detail.

SERUPRO search run is activated with PI service _N_FINDBL mode parameter = 5.

SERUPRO means Search Run by Program test, i.e. traversing under program test from beginning of program to search target.

Note:

Program test does not move any axes/spindles.

\$MC_SERUPRO_SPEED_MODE= 0

Program test with the search run/dry run speed

Under program test, the axes/spindles are traversed at the following velocity/speed:

Axes: \$MC_SERUPRO_SPEED_FACTOR*dry run feed

Spindles: \$MC_SERUPRO_SPEED_FACTOR*programmed speed

Dynamic axis / spindle limitations are not taken into account.

\$MC_SERUPRO_SPEED_MODE= 1

Program test at programmed speed

Under program test, the axes/spindles are traversed at the following velocity/speed:

Axes: at the same velocity as dry run feed.

Spindles: at the programmed speed.

Dynamic axis / spindle limitations are taken into account.

`$MC_SERUPRO_SPEED_MODE= 2`

Program test at dry run speed

Under program test, the axes/spindles are traversed at the programmed velocity/speed.

Dynamic axis /spindle limitations are taken into account.

`$MC_SERUPRO_SPEED_MODE= 3`

Program test at search run speed

Under program test, the axes/spindles are traversed at the following velocity/speed:

Axes: `$MC_SERUPRO_SPEED_FACTOR*programmed feed`

Spindles: `$MC_SERUPRO_SPEED_FACTOR*programmed speed.`

Dynamic axis / spindle limitations are not taken into account.

Note:

With active revolutional feedrate (e.g. G95), the programmed F value is not multiplied by the factor `$MC_SERUPRO_SPEED_FACTOR` but only by the programmed spindle speed. Here again, this increases the effective path speed by the `$MC_SERUPRO_SPEED_FACTOR`.

Related to:

`SD42100 $SC_DRY_RUN_FEED, MD22601 $MC_SERUPRO_SPEED_FACTOR`

22601	SERUPRO_SPEED_FACTOR			EXP	K1
-	Speed factor for search run type 5			DOUBLE	Immediately
-					
-	-	10.0, 10.0, 10.0, 10.0, 10.0, 10.0, 10.0...	1.0	-	2/2 M

Description: SERUPRO means Search Run by Program test, i.e. traversing under program test from beginning of program to search target.

Note:

Program test does not move any axes / spindles.

The machine data is relevant only if the first two bits of MD22600

`$MC_SERUPRO_SPEED_MODE` are 0. The machine data has the following meaning:

Axes: MD specifies the factor by which the test run feedrate is multiplied.

Spindles: MD specifies the factor by which the programmed speed is multiplied.

Dynamic limitations of axes / spindles are always ignored.

Related to:

`SD42100 $SC_DRY_RUN_FEED, MD22600 $MC_SERUPRO_SPEED_MODE`

22620	START_MODE_MASK_PRT			EXP, C03	M3,K1
-	Initial setting on special starts			DWORD	Reset
-					
-	-	0x400, 0x400, 0x400, 0x400, 0x400, 0x400...	0	0xFFFF	7/2 M

Description: This machine data is activated via MD22621 `$MC_ENABLE_START_MODE_MASK_PRT`.

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If MD22621 \$MC_ENABLE_START_MODE_MASK_PRT is in its initial setting, MD22620 \$MC_START_MODE_MASK_PRT is inactive.

If MD22620 \$MC_START_MODE_MASK_PRT is activated for "search via program test" (abbr. SERUPRO), then MD22620 \$MC_START_MODE_MASK_PRT replaces MD20112 \$MC_START_MODE_MASK when "search via program test" is started.

This enables a behavior deviating from PLC start to be set at the start of the search. The meaning of the bit-by-bit assignment of MD22620 \$MC_START_MODE_MASK_PRT is the same as that in MD20112 \$MC_START_MODE_MASK.

22621	ENABLE_START_MODE_MASK_PRT		EXP, C03	M3,K1
-	Enables MD22620 \$MC_START_MODE_MASK_PRT		DWORD	Reset
-				
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x1 7/2 M

Description: MD22620 \$MC_START_MODE_MASK_PRT is activated via MD22621 \$MC_ENABLE_START_MODE_MASK_PRT.

If MD22621 \$MC_ENABLE_START_MODE_MASK_PRT is in its initial setting, MD22620 \$MC_START_MODE_MASK_PRT is inactive.

Bit0 = 1:

If a "search via program test" (English abbr. SERUPRO) is started from RESET (PI service _N_FINDBL mode parameter == 5), MD22620 \$MC_START_MODE_MASK_PRT replaces MD20112 \$MC_START_MODE_MASK.

This method can be used to set a start behavior differing from PLC start when the search is started.

22622	DISABLE_PLAIN_START		EXP	-
-	Enable part program start via PLC		DWORD	PowerOn
-				
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	-	- 2/2 M

Description: Allow part program start via PLC.

This machine data will ONLY be evaluated, if "Group-Serupro" mode is switched on.

"Group-Serupro" is switched on by means of "\$MC_SERUPRO_MODE BIT2".

BIT0 = 0

A part program can be started in this channel only via the PLC. Starting via the part program command "START" is interlocked.

BIT0 = 1

A part program can be started in this channel only by means of the part program command "START" from another channel. Starting via the PLC is interlocked.

22680	AUTO_IPTR_LOCK		EXP, C03	K1		
-	Disable interrupt pointer		DWORD	Reset		
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x3	7/2	M

Description: With MD22680 \$MC_AUTO_IPTR_LOCK program areas are defined in which the individually indicated coupling types are active. If a program cancelation is executed in a program range that is defined as such, it will not be the currently executed part program block that is stored in the interrupt pointer (OPI module InterruptionSearch), but the last block prior to activation of the coupling.

22700	TRACE_STARTTRACE_EVENT		EXP, C06	-		
-	Diagnostic data rec. starts with event TRACE_STARTTRACE_EVENT.		STRING	PowerOn		
NBUP						
-	-	...	-	-	2/2	M

Description: The machine data is used for diagnostics.
The recording of the diagnostic data does not start until the event (TRACE_STARTTRACE_EVENT) has occurred at the trace point (TRACE_STARTTRACE_TRACEPOINT) and in the correct step (TRACE_STARTTRACE_STEP).

22702	TRACE_STARTTRACE_STEP		EXP, C06	-		
-	Conditions for start of trace recording		STRING	PowerOn		
NBUP						
-	2	, , , , , , ...	-	-	2/2	M

Description: The machine data is only intended for diagnostic use.
See TRACE_STARTTRACE_EVENT
In the case of TRACE_STARTTRACE_EVENT BLOCK_CHANGE the string TRACE_STARTTRACE_STEP is interpreted as a file name and block number.
In the case of BSEVENTTYPE_SETALARM the string is interpreted as an alarm number.

22704	TRACE_STOPTRACE_EVENT		EXP, C06	-		
-	Conditions for stop of trace recording		STRING	PowerOn		
NBUP						
-	-	CLEARCANCELALAR M_M, CLEARCANCELALAR M_M...	-	-	2/2	M

Description: The machine data is only used for diagnostics.
The recording of the diagnostic data ends when the event (TRACE_STOPTRACE_EVENT) has occurred at the trace point (TRACE_STOPTRACE_TRACEPOINT) and in the correct step (TRACE_STOPTRACE_STEP).
(After reaching the stop condition, the previously recorded diagnostic data is stored in a file "NCSCTRyy.MPF" or for NCU-LINK in "NCxxTRyy.MPF" in the MPF directory.

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22706	TRACE_STOPTRACE_STEP	EXP, C06	-
-	CommandSequenzStep with which the recording ends	STRING	PowerOn
NBUP			
-	2 , , , , , ... - -	2/2	M

Description: The machine data is only intended for diagnostic use.

22708	TRACE_SCOPE_MASK	EXP, C06	-
-	Selects the contents of the trace file	STRING	PowerOn
NBUP			
-	- ... - -	2/2	M

Description: The machine data is only intended for diagnostic purposes.
Specific trace contents are selected with the MD datum.
The entry SETALARM records the alarm environment and the block change in the main run is also logged by means of BLOCK_CHANGE.

22710	TRACE_VARIABLE_NAME	-	-
-	Definition of trace data	STRING	PowerOn
NBUP			
-	10 "BL_NR", "TR_POINT", "EV_TYPE", "EV_SRC", "CS_ASTEP"...	-	2/2 M

Description: The machine data is only intended for diagnostic purposes.
The MD datum defines which data are recorded in the trace file.

22712	TRACE_VARIABLE_INDEX	EXP, C06	-
-	Index for trace recording data	DWORD	PowerOn
NBUP			
-	10 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0xFFFF	2/2 M

Description: The machine data is only intended for diagnostic use.
The MD data, together with TRACE_VARIABLE_NAME, determines which data are recorded in the trace file.
It enables access to an array element.
E.g. use as an axis index when accessing axis data.

22714	MM_TRACE_DATA_FUNCTION	EXP, C02, C06	-
-	Activating diagnostics	DWORD	PowerOn
NBUP			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0xFFFF	2/2 M

Description: The machine data is only intended for diagnostic purposes.
Activating diagnostics
An internal ring buffer records important events.
After a trigger event, with the 'Cancel alarm' key set as default,
the ring buffer is briefly freezed, read, and converted into an ASCII file
in the part program directory. The file name for the 1st channel
is ncsctr01.mpf and for the 7th channel it is ncsctr07.mpf.

The data in the ring buffer is referred to as dynamic data in the following. In addition to the trigger event, other up-to-date data is read from the NCK and transferred to the ASCII file. These recordings do NOT have a history and are referred to as static data in the following.

Bit no. Significance when bit is set

```
-----
0 (LSB) Recording of dynamic data (see TRACE_VARIABLE_NAME)
1 Recording of block control static data
2 Recording of alarm data static data
3 Recording of process data static data
4 Recording of command sequence static data
5 Recording of tool management static data
6 Recording of the NCK version file. Static data
7 Recording of the statuses of the current block
    Various statuses of the axes and the SPARPI. Static data
8 Recording of various statuses of the channel. Static data
9 Error statuses in the NCK memory management are scanned during trace
generation.

    An error renames the trace file. Static data
    Possible names and their meaning:
        NCFIER.MPF     Error in the file system
        NCSLER.MPF     Error during string creation
        NCFIER.MPF     Error on New/Delete
10 All block changes in the interpreter are recorded. Dynamic data.
11 Axial VDI signals are recorded. Dynamic data.
    Only in conjunction with MD18794 $MN_MM_TRACE_VDI_SIGNAL
12 OEM traces are activated. Dynamic data.
13 Synchronized actions are recorded. Dynamic data.
    NOTICE: Filled in applications with intensive use of
    these trace points, other events are ignored!
    That is why this bit should remain at 0 in these cases.
14 Not assigned.
15 Recording of station commands. Dynamic data.
    Note: Most important output of the NCK module NCSC!
16 Recording of gantry commands
17 Recording of changes in the drive's status
18 Recording of the processing of the Event-Queue and generation of com-
mand sequences
19 Recording of event destructor call
```

22800	TRACE_COMPRESSOR_OUTPUT	EXP, C01	-
-	Activation of trace output for compressor	BYTE	PowerOn
NBUP			
-	0, 0, 0, 0, 0, 0, 0, 0...	-	-

Description: A trace output of the compressor can be activated with this machine data. With this, the polynomials created by the compressor can be output in an internal file. If this MD is active, the NCK works like a preprocessor, i.e. there is also no program execution.

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The following values are possible for this MD:

- 0: Trace output not active.
- 1: Polynomials created by the compressor are output.
- 2: The following are also output:
 - Type of continuousness of the block transitions generated by the compressor
 - Compression rate (number of compressed blocks)
 - Corner detection

22900	STROKE_CHECK_INSIDE			EXP, C01, C11	-
-	Direction (inside/outside) in which prot. zone 3 is effective			BOOLEAN	PowerOn
-					
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2 M

Description: This MD defines whether protection zone 3 is a protection zone inside or outside.

Meaning:

- 0: Protection zone 3 is a protection zone inside, i.e. the protection zone must not entered inwardly.
- 1: Protection zone 3 is a protection zone outside

22910	WEIGHTING_FACTOR_FOR_SCALE			EXP, C01, C11	-
-	Input resolution for scaling factor			BOOLEAN	PowerOn
-					
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2 M

Description: Definition of the unit for the scaling factor P and for the axial scaling factors I, J, K.

Meaning:

- 0 Scale factor in 0.001
- 1 Scale factor in 0.00001

Related to:

SD43120 \$SA_DEFAULT_SCALE_FACTOR_AXIS,
SD42140 \$SC_DEFAULT_SCALE_FACTOR_P

22914	AXES_SCALE_ENABLE			EXP, C01, C11	-
-	Activation for axial scaling factor (G51)			BOOLEAN	PowerOn
-					
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2 M

Description: This MD enables axial scaling.

Meaning:

- 0: Axial scaling not possible
- 1: Axial scaling possible -> MD DEFAULT_SCALE_FACTOR_AXIS is active

Related to:

SD43120 \$SA_DEFAULT_SCALE_FACTOR_AXIS

22920	EXTERN_FIXED_FEEDRATE_F1_ON			EXP, C01, C11	-	
-	Activation of fixed feedrates F1 - F9			BOOLEAN	PowerOn	
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: This MD is used to activate the fixed feedrates set in SD42160 \$SC_EXTERN_FIXED_FEEDRATE_F1_F9[].

Meaning:

0: no fixed feedrates with F1 - F9

1: the feedrates set in SD42160 \$SC_EXTERN_FIXED_FEEDRATE_F1_F9[] become active when F1 - F9 are programmed.

22930	EXTERN_PARALLEL_GEOAX			EXP, C01, C11	-	
-	Assignment of a parallel channel axis to the geometry axis			BYTE	PowerOn	
-	-	-	-	-	-	-
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/2	M

Description: Assignment table of the axes positioned parallel to the geometry axes.

This table can be used to assign channel axes positioned parallel to the geometry axes. The parallel axes can then be activated as geometry axes in ISO mode using the G functions of plane selection (G17 - G19) and the axis name of the parallel axis. The axis is then replaced by the axis defined via MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB[].

Prerequisite:

The channel axes used must be active. (list position assigned in AXCONF_MACHAX_USED). Entering zero deactivates the corresponding parallel geometry axis:

24000	FRAME_ADD_COMPONENTS			C03	K2	
-	Frame components for G58 and G59			BOOLEAN	PowerOn	
-	-	-	-	-	-	-
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: Additive programmable frame components can be separately programmed and modified.

0: Additive translations which have been programmed with ATRANS are stored in the frame together with the absolute translation (prog. with TRANS). G58 and G59 are not possible.

1: The sum of the additive translations are stored in the fine offset of the programmable frame. The absolute and the additive translations can be changed independently of one another.

G58 and G59 are possible.

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24002	CHBFRAME_RESET_MASK	C03	K2
-	Active channel-specific base frames after reset	DWORD	Reset
-			
-	- 0xFFFF, 0xFFFF, 0xFFFF, 0xFFFF, 0xFFFF...	0	0xFFFF 7/2 M

Description: Bit mask for the reset setting of the channel-specific base frames which are included in the channel.

The following apply:

If MD20110 \$MC_RESET_MODE_MASK bit0 = 1 and BIT14 = 1

the entire base frame is determined on reset by chaining the base frame field elements, whose bit is 1 in the bit mask.

If MD20110 \$MC_RESET_MODE_MASK bit0 = 1 and BIT14 = 0

the entire base frame is deselected on reset.

24004	CHBFRAME_POWERON_MASK	C03	K2
-	Reset channel-specific base frames after power on	DWORD	PowerOn
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0xFFFF 7/2 M

Description: This machine data defines whether channel-specific base frames are reset in the data management on Power On.

That is

- Offsets and rotations are set to 0,
- Scalings are set to 1.
- Mirror image machining is disabled.

The selection can be made separately for individual base frames.

Bit 0 means base frame 0, bit 1 base frame 1 etc.

Value=0: Base frame is retained on Power On

Value=1: Base frame is reset in the data management on Power On.

Related to:

MD10615 \$MN_NCBFRAME_POWERON_MASK

24006	CHSFRAME_RESET_MASK	C03	K2
-	Active system frames after reset	DWORD	Reset
-			
-	- 0x1, 0x1, 0x1, 0x1, 0x1, 0x1, 0x1, 0x1...	0	0x00000FFF 7/2 M

Description: Bit mask used for the reset setting of the channel-specific system frames included in the channel.

Bit 0: System frame for actual value setting and scratching is active after reset.

Bit 1: System frame for external work offset is active after reset.

Bit 2: Reserved, for TCARR and PAROT see MD20150 \$MC_GCODE_RESET_VALUES[] .

Bit 3: Reserved, for TOROT and TOFRAME see MD20150 \$MC_GCODE_RESET_VALUES[] .

Bit 4: System frame for workpiece reference points is active after reset.

Bit 5: System frame for cycles is active after reset.

Bit 6: Reserved; reset behavior dependent on MD20110 \$MC_RESET_MODE_MASK.

Bit 7: System frame \$P_ISO1FR (ISO G51.1 Mirror) is active after reset.

Bit 8: System frame \$P_ISO2FR (ISO G68 2DROT) is active after reset.

Bit 9: System frame \$P_ISO3FR (ISO G68 3DROT) is active after reset.

Bit 10: System frame \$P_ISO4FR (ISO G51 Scale) is active after reset.

Bit 11: System frame \$P_RELFR is active after reset.

Related to:

MD28082 \$MC_MM_SYSTEM_FRAME_MASK

24007	CHSFRAME_RESET_CLEAR_MASK	C03	K2			
-	Deletion of system frames after reset	DWORD	Reset			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x00000FFF	7/2	M

Description: Bit mask used to delete channel-specific system frames from the data management on reset.

Bit 0: System frame for actual value setting and scratching is deleted on reset.

Bit 1: System frame for external work offset is deleted on reset.

Bit 2: Reserved, for TCARR and PAROT, see MD20150 \$MC_GCODE_RESET_VALUES[] .

Bit 3: Reserved, for TOROT and TOFRAME, see MD20150 \$MC_GCODE_RESET_VALUES[] .

Bit 4: System frame for workpiece reference points is deleted on reset.

Bit 5: System frame for cycles is deleted on reset.

Bit 6: Reserved; reset behavior depends on MD20110 \$MC_RESET_MODE_MASK.

Bit 7: System frame \$P_ISO1FR (ISO G51.1 Mirror) is deleted on reset.

Bit 8: System frame \$P_ISO2FR (ISO G68 2DROT) is deleted on reset.

Bit 9: System frame \$P_ISO3FR (ISO G68 3DROT) is deleted on reset.

Bit 10: System frame \$P_ISO4FR (ISO G51 Scale) is deleted on reset.

Bit 11: System frame \$P_RELFR is deleted on reset.

24008	CHSFRAME_POWERON_MASK	C03	K2			
-	Reset channel system frames after power on	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x00000FFF	7/2	M

Description: This machine data defines whether channel-specific system frames are reset in the data management on Power On. That is offsets and rotations are set to 0, scalings to 1. Mirroring is disabled.

The selection can be made separately for individual system frames.

Bit 0: System frame for set actual value and scratching is deleted after Power On.

Bit 1: System frame for external work offset is deleted after Power On.

Bit 2: System frame for TCARR and PAROT is deleted after Power On.

Bit 3: System frame for TOROT and TOFRAME is deleted after Power On.

Bit 4: System frame for work piece reference points deleted after Power On.

Bit 5: System frame for cycles retained after Power On.

Bit 6: System frame for transformations deleted after Power On.

Bit 7: System frame \$P_ISO1FR (ISO G51.1 Mirror) is deleted after power ON.

Bit 8: System frame \$P_ISO2FR (ISO G68 2DROT) is deleted after power ON.

Bit 9: System frame \$P_ISO3FR (ISO G68 3DROT) is deleted after power ON.

Bit 10: System frame \$P_ISO4FR (ISO G51 Scale) is deleted after power ON.

Bit 11: System frame \$P_RELFR is deleted after power ON.

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Related to:

MD28082 \$MC_MM_SYSTEM_FRAME_MASK

24010	PFRAME_RESET_MODE	C03	K2
-	Reset mode for programmable frame	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 1	7/2 M

Description: 0: Programmable frame is deleted at reset.

1: Programmable frame remains active at reset.

24020	FRAME_SUPPRESS_MODE	C03	K2
-	Positions for frame suppression	DWORD	PowerOn
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0x0000003	7/2 M

Description: Bit mask for configuring the positions for frame suppressions (SUPA, G153, G53).

The following rule applies:

Bit 0: Positions for display (OPI) without frame suppression

Bit 1: Position variables without frame suppression

24030	FRAME_ACS_SET	C03	K2
-	Adjustment of Szs coordinate system	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 1	7/2 M

Description: 0: Szs results from the WCS transformed with \$P_CYCFRAME and \$P_PFRAME.

1: Szs results from the WCS transformed with the \$P_CYCFRAME.

24040	FRAME_ADAPT_MODE	C03	K2
-	Adaptation of active frames	DWORD	PowerOn
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0x0000007	7/2 M

Description: Bit mask for adapting the active frames or axis configuration

The following applies:

Bit 0:

Rotations in active frames that rotate coordinate axes for which there are no geometry axes are deleted from the active frames.

Bit 1:

Shear angles in active frames are orthogonalized.

Bit 2:

Scalings of all geometry axes in the active frames are set to value 1.

24050	FRAME_SAA_MODE	C03	-
-	Saving and activating of data management frames	DWORD	PowerOn
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0x0000003	7/2 M

Description: Bit mask for saving and activating data handling frames.

The following applies:

Bit 0:

Data handling frames are only activated by programming the bit masks \$P_CHBFRMASK, \$P_NCBFRMASK and \$P_CHSFRMASK. G500..G599 only activate the relevant settable frame. The reset behavior is independent of this.

Bit 1:

Data handling frames are not written implicitly by system functions such as TOROT, PAROT, ext. work offset, transformations.

24080	USER_FRAME_POWERON_MASK	N01	-			
-	Parameterize properties for settable frame	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x1	7/2	M

Description: Setting the following bits activates certain properties of the settable frame:

Bit 0 = 0: default behavior.

Bit 0 = 1: if MD20152 \$MC_GCODE_RESET_MODE[7] = 1, the last active settable frame is selected again according to G code group 8 after power up of the control.

24100	TRAFO_TYPE_1	C07	F2,TE4,M1,K1,W1			
-	Definition of transformation 1 in channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This MD specifies the first available transformation in each channel.

The 4 low-value bits identify the specific transformation of a specific transformation group. The transformation group is identified by a number starting with the 5th bit.

Meaning:

0 No transformation

16 and higher

5-axis transformation with turnable tool

32 and higher

5-axis transformation with turnable workpiece

48 and higher

5-axis transformation with turnable tool and turnable workpiece

72

Generic 5-axis transformation. Type and kinematic data are determined by an associated, orientable tool carrier, see MD24582 \$MC_TRAFO5_TCARR_NO_1 and MD24682 \$MC_TRAFO5_TCARR_NO_2

The 4 low-value bits have the following meaning for a 5-axis transformation:

0 Axis sequence AB

1 Axis sequence AC

2 Axis sequence BA

3 Axis sequence BC

4 Axis sequence CA

5 Axis sequence CB

8 Generic orientation transformation (3- 5 axes)

1.3 NC machine data

256 and higher
TRANSMIT transformation
512 and higher
TRACYL transformation
1024 and higher
TRAANG transformation
2048
TRACLG: centerless transformation
From 4096 to 4098
OEM transformation
8192 and higher
TRACON: cascaded transformations
Example:
A 5-axis transformation with turnable tool and axis sequence CA (i.e. C axis turns A axis) has number 20 (= 16 + 4)
Notice:
Not all combinations of group numbers and axis sequence numbers are allowed.
An error message is output if a number for a non-existent transformation is entered.
Related to:
MD24200 \$MC_TRAFO_TYPE_2, MD24300 \$MC_TRAFO_TYPE_3, ... MD24460
\$MC_TRAFO_TYPE_8
References:
/FB/, F2, "5-Axis Transformation"

24110	TRAFO_AXES_IN_1	C07	F2,TE4,M1,K1,W1			
-	Axis assignment for the 1st transformation in the channel	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at input point of 1st transformation
The index input at the nth position states which axis is mapped internally from the transformation to axis n.
Not relevant:
No transformation
Releated to:
MD24200 \$MC_TRAFO_TYPE_2, MD24300 \$MC_TRAFO_TYPE_3, ...
MD24460 \$MC_TRAFO_TYPE_8
References:
/FB/, F2, "5-Axis Transformation"

24120	TRAFO_GEOAX_ASSIGN_TAB_1	C07	F2,TE4,TE4,M1,K1,W1			
-	Assignment of the geometry axes to channel axes for transformation 1	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 1.

Not relevant:

No transformation

Related to:

MD20050 \$MC_AXCONF_GEOAX_ASSIGN_TAB, if no transformation is active.

References:

/FB/, K2, "Coordinate Systems, Axis Types, Axis Configurations, Workpiece-Related Actual Value System, External Work Offset"

24130	TRAFO_INCLUDES_TOOL_1	C07	-			
-	Tool handling with 1st active transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This machine data states for each channel whether the tool is handled during the 1st transformation or externally.
 This machine data is evaluated only with specific transformations.
 It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation.
 In standard transformations, only the "inclined-axis transformation" fulfills this condition.
 If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).
 The method of operation of protection zones and working area limitations varies correspondingly.

24200	TRAFO_TYPE_2	C07	F2,M1			
-	Definition of the 2nd transformation in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This MD states the second available transformation in each channel.
 Same as TRAFO_TYPE_1, but for the second available transformation in the channel.
References:
 /FB/, F2, "5-Axis Transformation"

24210	TRAFO_AXES_IN_2	C07	F2,M1			
-	Axis assignment for transformation 2	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0..	0	20	7/7	M

Description: TRAFO_AXES_IN_2(n)
 Axis assignment at input of 2nd to 8th transformation.
 Same meaning as for TRAFO_AXES_IN_1.

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24220	TRAFO_GEOAX_ASSIGN_TAB_2	C07	F2,M1
-	Assignment of geometry axes to channel axes for transformation 2	BYTE	NEW CONF
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 2.
Otherwise the meaning corresponds to TRAFO GEOAX ASSIGN TAB 1.

24230	TRAFO_INCLUDES_TOOL_2	C07	-
-	Tool handling with active 2nd transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description:	This machine data states for each channel whether the tool is handled during the 2nd transformation or externally. This machine data is evaluated only with specific transformations. It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation. In standard transformations, only "inclined-axis transformation" fulfills this condition. If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP). The method of operation of protection zones and working area limitations varies correspondingly.
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24300	TRAFO_TYPE_3	C07	M1
-	Definition of the 3rd transformation in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-
-	-	-	7/7
-	-	-	M

Description: This MD states the third available transformation in each channel.
Same as TRAFO_TYPE_1, but for the third available transformation in the channel.
References:
/FB/, F2, "5-Axis Transformation"

24310	TRAFO_AXES_IN_3	C07	M1
-	Axis assignment for transformation 3	BYTE	NEW CONF
-			
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20 7/7 M

Description: Axis assignment at the input point of the 3rd transformation in the channel. Meaning is the same as TRAFO_AXES_IN_1, but for the third available transformation in the channel.

24320	TRAFO_GEOAX_ASSIGN_TAB_3	C07	M1			
-	Assignment of geometry axes to channel axes for transformation 3	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 3.
 Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

24330	TRAFO_INCLUDES_TOOL_3	C07	-			
-	Tool handling with active 3rd transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This machine data states for each channel whether the tool is handled during the 3rd transformation or externally.
 This machine data is evaluated only with specific transformations.
 It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation. In standard transformations, only "inclined-axis transformation" fulfills this condition.
 If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).
 The method of operation of protection zones and working area limitations varies correspondingly.

24400	TRAFO_TYPE_4	C07	M1			
-	Definition of the 4th transformation in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This MD states the fourth available transformation in each channel.
 Same as TRAFO_TYPE_1, but for the fourth available transformation in the channel.
References:
 /FB/, F2, "5-Axis Transformation"

24410	TRAFO_AXES_IN_4	C07	F2,M1			
-	Axis assignment for the 4th transformation in the channel	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input point of the 4th transformation in the channel.
 Meaning is the same as TRAFO_AXES_IN_1, but for the fourth available transformation in the channel.

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24420	TRAFO_GEOAX_ASSIGN_TAB_4	C07	M1
-	Assignment of geometry axes to channel axes for transformation 4	BYTE	NEW CONF
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 4. Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB 1.

24426	TRAFO_INCLUDES_TOOL_4	C07	-
-	Tool handling with active 4th transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: This machine data states for each channel whether the tool is handled during the 4th transformation or externally.

This machine data is evaluated only with specific transformations.

It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation. In standard transformations, only "inclined-axis transformation" fulfills this condition.

If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).

The method of operation of protection zones and working area limitations varies correspondingly.

24430	TRAFO_TYPE_5	C07	M1
-	Type of transformation 5 in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-

Description: Type of transformation available as the fifth in the channel. See MD24100 \$MC_TRAFO TYPE 1 for explanation.

24432	TRAFO_AXES_IN_5	C07	F2
-	Axis assignment for transformation 5	BYTE	NEW CONF
-			
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20 7/7 M

Description: Axis assignment at the input point of the 5th transformation. See TRAFO AXES IN 1 for explanation.

24434	TRAFO_GEOAX_ASSIGN_TAB_5	C07	M1			
-	Assignment of geometry axes to channel axes for transformation 5	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description:

This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 5.

Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

24436	TRAFO_INCLUDES_TOOL_5	C07	-			
-	Tool handling with active 5th transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description:

This machine data states for each channel whether the tool is handled during the 5th transformation or externally.

This machine data is evaluated only with specific transformations.

It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation. In standard transformations, only "inclined-axis transformation" fulfills this condition.

If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).

The method of operation of protection zones and working area limitations varies correspondingly.

24440	TRAFO_TYPE_6	C07	-			
-	Type of transformation 6 in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description:

Type of transformation available as the sixth in the channel. See MD24100 \$MC_TRAFO_TYPE_1 for explanation.

24442	TRAFO_AXES_IN_6	C07	-			
-	Axis assignment for transformation 6	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description:

Axis assignment at the input point of the 6th transformation. See TRAFO_AXES_IN_1 for explanation.

1.3 NC machine data

24444	TRAFO_GEOAX_ASSIGN_TAB_6	C07	-		
-	Assignment of geometry axes to channel axes for transformation 6	BYTE	NEW CONF		
-					
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20	7/7	M

Description:

This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 6.

Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

24446	TRAFO_INCLUDES_TOOL_6	C07	-			
-	Tool handling with active 6th transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description:

This machine data states for each channel whether the tool is handled during the 6th transformation or externally.

This machine data is evaluated only with specific transformations.

It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation. In standard transformations, only "inclined-axis transformation" fulfills this condition.

If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).

The method of operation of protection zones and working area limitations varies correspondingly.

24450	TRAFO_TYPE_7	C07	-			
-	Type of transformation 7 in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description:

Type of transformation available as the seventh in the channel. See MD24100 \$MC_TRAFO_TYPE_1 for explanation.

24452	TRAFO_AXES_IN_7	C07	-			
-	Axis assignment for transformation 7	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description:

Axis assignment at the input point of the 7th transformation. See TRAFO_AXES_IN_1 for explanation.

24454	TRAFO_GEOAX_ASSIGN_TAB_7	C07	-			
-	Assignment of geometry axes to channel axes for transformation 7	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 7.
 Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

24456	TRAFO_INCLUDES_TOOL_7	C07	-			
-	Tool handling with active 7th transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This machine data states for each channel whether the tool is handled during the 7th transformation or externally.
 This machine data is evaluated only with specific transformations.
 It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation.
 In standard transformations, only "inclined-axis transformation" fulfills this condition.
 If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).
 The method of operation of protection zones and working area limitations varies correspondingly.

24460	TRAFO_TYPE_8	C07	F2,TE4,M1			
-	Type of transformation 8 in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: Type of transformation available as the eighth in the channel. See MD24100 \$MC_TRAFO_TYPE_1 for explanation.

24462	TRAFO_AXES_IN_8	C07	F2			
-	Axis assignment for transformation 8	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input point of the 8th transformation. See TRAFO_AXES_IN_1 for explanation.

1.3 NC machine data

24464	TRAFO_GEOAX_ASSIGN_TAB_8	C07	-
-	Assignment of geometry axes to channel axes for transformation 8	BYTE	NEW CONF
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 8. Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB 1.

24466	TRAFO_INCLUDES_TOOL_8	C07	-
-	Tool handling with 8th active transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: This machine data states for each channel whether the tool is handled during the 8th transformation or externally.
This machine data is evaluated only with specific transformations.
It is evaluated on the condition that the orientation of the tool with reference to the Basic Coordinate System cannot be changed by the transformation.
In standard transformations, only "inclined-axis transformation" fulfills this condition.
If this machine data is set, the Basic Coordinate System (BCS) refers to the tool reference point even with active transformations. Otherwise, it refers to the tool tip (Tool Center Point - TCP).
The method of operation of protection zones and working area limitations varies correspondingly.

24470	TRAFO_TYPE_9	C07	M1
-	Type of transformation 9 in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-
			-
			7/7
			M

Description: Type of transformation available as the ninth in the channel. See MD24100 \$MC_TRAFO TYPE 1 for explanation.

24472	TRAFO_AXES_IN_9	C07	-			
-	Axis assignment for transformation 9	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input point of the 9th transformation. See TRAFO AXES IN 1 for explanation.

24474	TRAFO_GEOAX_ASSIGN_TAB_9	C07	-			
-	Assignment of geometry axes to channel axes for transformation 9	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 9.

24476	TRAFO_INCLUDES_TOOL_9	C07	-			
-	Treatment of tool with active 9th transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: Same as TRAFO_INCLUDES_TOOL_1, but for the 9th transformation.

24480	TRAFO_TYPE_10	C07	F2,M1			
-	Transformation 10 in channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: Same as TRAFO_TYPE_1, but for the tenth available transformation in the channel.

24482	TRAFO_AXES_IN_10	C07	F2,M1			
-	Axis assignment for transformation 10	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input of the 10th transformation. See TRAFO_AXES_IN_1 for explanation.

24484	TRAFO_GEOAX_ASSIGN_TAB_10	C07	M1			
-	Assignment of geometry axes to channel axes f. transformation 10	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Assignment table of geometry axes with transformation 10
Same as AXCONF_GEOAX_ASSIGN_TAB, but only effective when transformation 10 is active.

24486	TRAFO_INCLUDES_TOOL_10	C07	-			
-	Treatment of tool with active 10th transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: Same as TRAFO_INCLUDES_TOOL_1, but for the 10th transformation.

1.3 NC machine data

24500	TRAFO5_PART_OFFSET_1	C07	F2,M1
mm	Offset vector of 5-axis transformation 1	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/7 M

Description: This machine data designates an offset of the workpiece carrier for the first (MD24500 \$MC_TRAFO5_PART_OFFSET_1) or second (MD24600 \$MC_TRAFO5_PART_OFFSET_2) 5-axis transformation of a channel, and has a specific meaning for the different machine types:

Machine type 1 (two-axis swivel head for tool):
 Vector from machine reference point to zero point of workpiece table. This will generally be a zero vector if both coincide.

Machine type 2 (two-axis rotary table for workpiece):
 Vector from the second rotary joint of workpiece rotary table to zero point of table.

Machine type 3 (single-axis rotary table for workpiece and single-axis swivel head for tool):
 Vector from rotary joint of workpiece table to zero point of table.

MD irrelevant:
 if the "5-Axis Transformation" option is not installed.

24510	TRAFO5_ROT_AX_OFFSET_1	C07	F2,M1
degrees	Position offset of rotary axes 1/2/3 for 5-axis transformation 1	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/7 M

Description: This machine data designates the angular offset of the first or second rotary axis in degrees for the first 5-axis transformation of a channel.

MD irrelevant:
 if the "5-Axis Transformation" option is not installed.

24520	TRAFO5_ROT_SIGN_IS_PLUS_1	C07	F2,M1
-	Sign of rotary axis 1/2/3 for 5-axis transformation 1	BOOLEAN	NEW CONF
-			
-	3 TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	- 7/7 M

Description: This machine data designates the sign with which the two rotary axes are included in the first 5-axis transformation of a channel.

MD = 0 (FALSE) :
 Sign is reversed.

MD = 1 (TRUE) :
 Sign is not reversed and the traversing direction is defined according to MD32100 \$MA_AX_MOTION_DIR.

This machine data does not mean that the rotational direction of the rotary axis concerned is to be reversed, but specifies whether its motion is in the mathematically positive or negative direction when the axis is moving in the positive direction.

The result of a change to this machine data is not therefore a change in the rotational direction, but a change in the compensatory motion of the linear axes.

However, if a directional vector and thus, implicitly, a compensatory motion is specified, the result is a change in the rotational direction of the rotary axis concerned.

On a real machine, therefore, the machine data may be set to FALSE (or zero) only if the rotary axis is turning in an anti-clockwise direction when moving in a positive direction.

MD irrelevant:

If the "5-Axis Transformation" option is not installed.

24530	TRAFO5_NON_POLE_LIMIT_1	C07	F2
degrees	Definition of pole range for 5-axis transformation 1	DOUBLE	NEW CONF
-			
-	-	2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-

Description: This MD designates a limit angle for the fifth axis of the first 5-axis transformation with the following properties: if the path runs below this angle past the pole, the traverse will pass through the pole.

For the 5-axis transformation, the two orientation axes of the tool form a coordinate system of length and width circles on a spherical surface. If orientation programming (that is the orientation vector lies in a plane) leads the path so close past the pole that the angle defined by the MD is undershot then there is a deviation from the defined interpolation such that the interpolation runs through the pole.

Alarm 14112 is output if this modification of the path gives a deviation greater than a tolerance defined by MD24540 TRAFO5\$MC_TRAFO5_POLE_LIMIT_1.

MD irrelevant:

If the "5-Axis Transformation" option is not installed.

Also irrelevant with programming in the machine coordinate system ORIMKS.

Related to:

MD: TRAFO5_POLE_LIMIT_n

24540	TRAFO5_POLE_LIMIT_1	C07	F2,M1
degrees	End angle tolerance with interpolation through pole for 5-axis transf.	DOUBLE	NEW CONF
-			
-	-	2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-

Description: This MD designates an end angle tolerance for the fifth axis of the first 5-axis transformation with the following properties:

With the interpolation through the pole point, only the fifth axis moves, the fourth axis retains its starting position. If a motion is programmed that does not run exactly through the pole point but is to run near the pole within the area given by MD: TRAFO5_NON_POLE_LIMIT_n then there is a deviation from the defined path as the interpolation runs exactly through the pole point. This results in a deviation in the position of the end point of the fourth axis (the polar axis) from the programmed value.

This MD defines the angle by which the polar axis may deviate from the programmed value with 5-axis transformation when switching from the programmed interpolation to the interpolation through the pole point.

Alarm 14112 is output if there is a greater deviation and the interpolation is not executed.

MD irrelevant:

If the "5-Axis Transformation" option is not installed.

1.3 NC machine data

Also irrelevant with programming in the machine coordinate system ORIMKS.

Related to:

MD2.... \$MC_TRAFO5_NON_POLE_LIMIT_n

24542	TRAFO5_POLE_TOL_1	C07	-
degrees	End angle tolerance for tool orientation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	7/7 M

Description: End angle tolerance for interpolation through the pole for the 1st 5/6-axis transformation.

This MD is evaluated only by the generic 5/6-axis transformation.

If the programmed end orientation lies within the body cone and within the tolerance cone specified by this MD, the pole axis does not move and retains its starting positions. The other rotary axis, however, moves to the programmed angle.

This results in the end orientation deviating from the programmed orientation.

Another function of this MD is the handling of the programmed end orientation with

non-orthogonal kinematics. As a rule, not all tool orientations can be set with

these machine kinematics.

Alarm 14112 is output if an orientation is programmed that lies outside the settable range of the orientation cone (the programmed orientation path is not possible).

However, if the programmed orientation still lies within the range defined by MD \$MC_TRAFO5_POLE_TOL,

an alarm is not output, and the programmed orientation is accepted.

However, the programmed orientation is corrected so that the orientation remains

stationary at the edge of the settable range.

The maximum active value of this MD is the value of MD TRAFO5_POLE_LIMIT_1, which is used to define the body cone.

24550	TRAFO5_BASE_TOOL_1	C07	F2,M1,W1
mm	Vector of base tool on activation of 5-axis transformation 1	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	7/7 M

Description: This MD specifies the vector of the base tool which takes effect when the first transformation is activated without a length compensation being selected. Programmed length compensations have an additive effect with respect to the base tool.

MD irrelevant:

if the "5-Axis Transformation" option is not installed.

24558	TRAFO5_JOINT_OFFSET_PART_1	C07	F2,M1,W1
mm	Vector of kinematic table offset	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0,0.0, 0.0 , 0.0...	-

Description: This machine data is only evaluated for generic 5-axis transformations with rotatable workpiece and rotatable tool (TRAFO_TYPE = 56, mixed kinematics). It indicates the part of the vector between table and turning head assigned to the table.

Only the sum of this MD and MD TRAFO5_JOINT_OFFSET is entered in the transformation equations.

A difference results only when reading the whole tool length using the function GETTCOR. In this case, only the MD TRAFO5_JOINT_OFFSET is considered.

On a machine with mixed kinematics, this machine data can be used to assign the machine data of the 5-axis transformation and the parameters of the orientable tool holder uniquely to one another as follows:

Orientable tool holder 5-axis transformation (1st transformation)

1 TRAFO5_JOINT_OFFSET_1

2 TRAFO5_BASE_TOOL_1

3 TRAFO5_JOINT_OFFSET_PART_1

4 TRAFO5_PART_OFFSET_1

24560	TRAFO5_JOINT_OFFSET_1	C07	F2,W1
mm	Vector of the kinem.offset of the 1st 5-axis transf. in channel	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0,0.0, 0.0 , 0.0...	-

Description: This machine data designates the vector between first and second rotary joint for the first transformation of a channel and has a specific meaning for the various machine types:

Machine type 1 (two-axis swivel head for tool) and:

Machine type 2 (two-axis rotary table for workpiece):

Vector between first and second rotary joint of tool rotary head or workpiece rotary table.

Machine type 3 (single-axis rotary table for workpiece and single-axis swivel head for tool):

Vector from machine reference point to joint of workpiece table.

MD irrelevant:

if the "5-Axis Transformation" option is not installed. The same applies for 3-axis and 4-axis transformations.

24561	TRAFO6_JOINT_OFFSET_2_3_1	C07	F2
mm	Vector of kinematic offset	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0,0.0, 0.0 , 0.0...	-

Description: In the case of 6-axis transformations, defines the offset between the 2nd and third rotary axes for the 1st transformation of each channel.

1.3 NC machine data

24562	TRAFO5_TOOL_ROT_AX_OFFSET_1	C07	M1
mm	Offset of swivel point of 1st rotary axis on 5-axis transform. 1	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	- 7/7 M

Description: In the case of a 5-axis transformation with a swiveling linear axis, the value indicates the offset of the rotary axis which swivels the linear axis with reference to machine zero for the 1st transformation.

MD irrelevant for:

other 5-axis transformations

Related to:

MD24662 \$MC_TRAFO5_TOOL_ROT_AX_OFFSET_2

24564	TRAFO5_NUTATOR_AX_ANGLE_1	C07	M1
degrees	Nutating head angle in 5-axis transformation	DOUBLE	NEW CONF
-			
-	- 45.0, 45.0, 45.0, 45.0, 45.0, 45.0, 45.0...	-89. 89.	7/7 M

Description: Angle between the second rotary axis and the axis corresponding to it in the rectangular coordinate system

MD irrelevant for: Transformation type other than "universal milling head".

Related to:

MD2.... \$MC_TRAFO_TYPE_n...

24566	TRAFO5_NUTATOR_VIRT_ORIAX_1	C07	M1
-	Virtual orientation axes	BOOLEAN	NEW CONF
-			
-	- FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	- 7/7 M

Description: The MD has the following values:

0: The axis angles of the orientation axes are machine axis angles.

1: Virtual orientation axes are defined that form a rectangular coordinate system and the axis angles are rotations around these virtual axes.

24570	TRAFO5_AXIS1_1	C07	F2,M1,W1
-	Direction of 1st rotary axis	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	- 7/7 M

Description: The MD indicates the vector that describes the direction of the first rotary axis in the general 5-axis transformation (TRAFO_TYPE_* = 24).

The vector can have any magnitude.

Example:

Both with (0, 1, 0) and with (0, 7.21, 0), the same axis is described (in the direction of the 2nd geometry axis, i.e. usually Y).

Valid for the first transformation of a channel.

24572	TRAFO5_AXIS2_1	C07	F2,M1,W1			
-	Direction of 2nd rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0 , 0.0,0.0, 0.0 , 0.0...	-	-	7/7	M

Description: Indicates the vector that describes the direction of the second rotary axis in the general 5-axis transformation (TRAFO_TYPE_* = 24, 40, 56).

The vector can have any magnitude except zero.

Example:

Both with (0, 1, 0) and with (0, 7.21, 0), the same axis is described (in the direction of the 2nd geometry axis, i.e. usually Y).

Valid for the first transformation of a channel.

24573	TRAFO5_AXIS3_1	C07	F2			
-	Direction of the 3rd rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0 , 0.0,0.0, 0.0 , 0.0...	-	-	7/7	M

Description: Indicates the vector which defines the direction of the third rotary axis in the case of the general 6-axis transformation (TRAFO_TYPE_* = 24, 40, 56, 57).

The vector may have any value except zero.

Example:

The same axis is defined with both (0, 1, 0) and (0, 7.21, 0) (in the direction of the 2nd geometry axis, that is as a rule Y).

Valid for the first orientation transformation of a channel.

24574	TRAFO5_BASE_ORIENT_1	C07	F2,M1			
-	Vector of the tool base orientation for 5-axis transformation	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0 , 0.0,0.0, 0.0 , 0.0...	-	-	7/7	M

Description: Indicates the vector of the tool orientation in the general 5-axis transformation (TRAFO_TYPE_* = 24, 40, 56) if this is not defined on the transformation call or read from a programmed tool.

The vector can have any magnitude except zero.

24576	TRAFO6_BASE_ORIENT_NORMAL_1	C07	F2			
-	Normal tool vector in 6-axis transformation	DOUBLE	NEW CONF			
-						
-	3	0.0, 1.0 , 0.0,0.0, 1.0 , 0.0...	-	-	7/7	M

Description: Indicates a vector that is perpendicular to the tool orientation (TRAFO5_BASE_ORIENTATION_1) in the case of the general 6-axis transformation (TRAFO_TYPE_* = 24, 40, 56, 57).

If TRAFO6_BASE_ORIENT_NORMAL_1 and TRAFO5_BASE_ORIENTATION_1 are neither orthogonal nor parallel, then the two vectors are orthogonalized by modifying the normal vector. The two vectors must not be parallel.

The vector may have any value other than zero.

Valid for the first orientation transformation of a channel.

1.3 NC machine data

24580	TRAFO5_TOOL_VECTOR_1	C07	F2
-	Direction of orientation vector for the first 5-axis transf.	BYTE	NEW CONF
-			
-	- 2, 2, 2, 2, 2, 2, 2...	0 2	7/2 M

Description: Indicates the direction of the orientation vector for the first 5-axis transformation for each channel.
 0: Tool vector in x direction
 1: Tool vector in y direction
 2: Tool vector in z direction

24582	TRAFO5_TCARR_NO_1	C07	F2
-	TCARR number for the 1st 5-axis transformation	DWORD	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0...	- -	7/7 M

Description: If the value of this machine data is not zero and if MD2.... \$MC_TRAFO_TYPE_..., which points to the first orientation transformation, has the value 72, then the kinematics data (offsets etc.) that parameterize the first 5-axis transformation, will not be read from the machine data, but from the data of the orientable tool carrier to which this machine data refers.

24585	TRAFO5_ORIAX_ASSIGN_TAB_1	C07	F2,M1
-	Orientation axis / channel axis assignment transformation 1	BYTE	NEW CONF
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0 0 20	7/2 M	

Description: Assignment table of the orientation axes for 5-axis transformation 1
 Only active with active 5-axis transformation 1.

24590	TRAFO5_ROT_OFFSET_FROM_FR_1	C01, C07	F2
-	Offset of transformation rotary axes from WO.	BOOLEAN	NEW CONF
-			
-	- FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	- -	7/2 M

Description: The programmable offset for orientation axes is automatically accepted from the work offset active for the orientation axes on switch-on of an orientation transformation.

24594	TRAFO7_EXT_ROT_AX_OFFSET_1	C07	F2
degrees	Position offset of the external rotary axes for 7-axis transformation 1	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	- -	7/7 M

Description: This machine data designates the angular offset of the external rotary axis in degrees for the first 7-axis transformation of a channel.
 MD irrelevant:
 if the "5-Axis Transformation" option is not installed.

24595	TRAFO7_EXT_AXIS1_1	C07	F2
-	Direction of the 1st external rotary axis	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	- - 7/7 M

Description: The MD indicates the vector that describes the direction of the first external rotary axis in the general 5/6-axis transformation (TRAFO_TYPE_* = 24). The vector can have any magnitude.

Example:

Both with (0, 1, 0) and with (0, 7.21, 0), the same axis is described (in the direction of the 2nd geometry axis, i.e. usually Y).

Valid for the first transformation of a channel.

24600	TRAFO5_PART_OFFSET_2	C07	M1
mm	Offset vector of the 2nd 5-axis transformation in the channel	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	- - 7/7 M

Description: This machine data designates an offset of the workpiece carrier for the first (MD24500 \$MC_TRAFO5_PART_OFFSET_1) or second (MD24600 \$MC_TRAFO5_PART_OFFSET_2) 5-axis transformation of a channel, and has a specific meaning for the different machine types:

Machine type 1 (two-axis swivel head for tool):

Vector from machine reference point to zero point of workpiece table. This will generally be a zero vector if both coincide.

Machine type 2 (two-axis rotary table for workpiece):

Vector from second joint of workpiece rotary table to zero point of table.

Machine type 3 (single-axis rotary table for workpiece and single-axis swivel head for tool):

Vector from joint of workpiece table to zero point of table.

MD irrelevant:

if the "5-Axis Transformation" option is not installed.

24610	TRAFO5_ROT_AX_OFFSET_2	C07	M1
degrees	Position offset of rotary axes 1/2/3	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	- - 7/7 M

Description: Indicates the offset for each channel of the rotary axes in degrees for the second orientation transformation.

24620	TRAFO5_ROT_SIGN_IS_PLUS_2	C07	F2,M1
-	Sign of rotary axis 1/2/3 for 5-axis transformation 2	BOOLEAN	NEW CONF
-			
-	3	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	- - 7/7 M

Description: This machine data designates the sign with which the two rotary axes are included in the second 5-axis transformation of a channel.

MD = 0 (FALSE):

Sign is reversed.

1.3 NC machine data

MD = 1 (TRUE) :

Sign is not reversed and the traversing direction is defined according to MD32100 \$MA_AX_MOTION_DIR.

This machine data does not mean that the rotational direction of the rotary axis concerned is to be reversed, but specifies whether its motion is in the mathematically positive or negative direction when the axis is moving in the positive direction.

The result of a change to this data is not therefore a change in the rotational direction, but a change in the compensatory motion of the linear axes. However, if a directional vector and thus, implicitly, a compensatory motion is specified, the result is a change in the rotational direction of the rotary axis concerned.

On a real machine, therefore, the machine data may be set to FALSE (or zero) only if the rotary axis is turning in an anti-clockwise direction when moving in a positive direction.

MD irrelevant:

If the "5-Axis Transformation" option is not installed.

24630	TRAFO5_NON_POLE_LIMIT_2	C07	F2,M1
degrees	Definition of pole range for 5-axis transformation 2	DOUBLE	NEW CONF
-			
-	-	2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	7/7 M

Description: This MD designates a limit angle for the fifth axis of the second 5-axis transformation with the following properties: if the path runs past the pole below this angle, the traverse passes through the pole.

In a 5-axis transformation, the two orientation axes of the tool form a coordinate system of length and width circles on a spherical surface. If orientation programming (that is the orientation vector lies in a plane) leads the path so closely past the pole that the angle defined by this MD is undershot, then there is a deviation from the defined interpolation such that the interpolation runs through the pole.

Alarm 14112 is output if this modification of the path results in a deviation greater than a tolerance defined by MD24640 \$MC_TRAFO5_POLE_LIMIT_2.

MD irrelevant:

If the "5-Axis Transformation" option is not installed.

Also irrelevant with programming in the machine coordinate system ORIMKS.

Related to:

MD2.... \$MC_TRAFO5_POLE_LIMIT_...

24640	TRAFO5_POLE_LIMIT_2	C07	F2,M1
degrees	End angle tolerance for tool orientation	DOUBLE	NEW CONF
-			
-	-	2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	7/7 M

Description: This MD designates an end angle tolerance for the fifth axis of the second 5-axis transformation with the following properties:

With the interpolation through the pole point, only the fifth axis moves, the fourth axis retains its starting position. If a motion is programmed that does not run exactly through the pole point but is to run near the pole within the area given by MD: TRAFO5_NON_POLE_LIMIT_n then there is a deviation from the defined path as the interpolation runs exactly through the pole point. This results in a deviation in the position of the end point of the fourth axis (the polar axis) from the programmed value.

This MD defines the angle by which the polar axis may deviate from the programmed value with 5-axis transformation when switching from the programmed interpolation to the interpolation through the pole point.

An error message (alarm 14112) is output if there is a greater deviation and the interpolation is not executed.

MD irrelevant:

If the "5-Axis Transformation" option is not installed.

Also irrelevant with programming in the machine coordinate system ORIMKS.

Related to:

MD24530 \$MC_TRAFO5_NON_POLE_LIMIT_1

24642	TRAFO5_POLE_TOL_2	C07	-
degrees	End angle tolerance for pole interpolation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	7/7 M

Description: End angle tolerance for interpolation through the pole for the 2nd 5/6-axis transformation.

This MD is evaluated only by the generic 5/6-axis transformation.

If the programmed end orientation lies within the body cone and within the tolerance cone specified by this MD, the pole axis does not move and retains its starting positions.

However, the other rotary axis moves to the programmed angle.

This results in the end orientation deviating from the programmed orientation.

Another function of this MD is the handling of the programmed end orientation with non-orthogonal kinematics. As a rule, not all tool orientations can be set with these machine kinematics.

Alarm 14112 is output if an orientation is programmed that lies outside the settable range of the orientation cone (the programmed orientation path is not possible).

However, if the programmed orientation still lies within the range defined by MD \$MC_TRAFO5_POLE_TOL, an alarm is not output, and the programmed orientation is accepted.

However, the programmed orientation is corrected so that the orientation remains stationary at the edge of the settable range.

The maximum active value of this MD is the value of MD TRAFO5_POLE_LIMIT_1, which is used to define the body cone.

Machine and setting data

1.3 NC machine data

24650	TRAFO5_BASE_TOOL_2	C07	M1,W1
mm	Vector of base tool on activation of 5-axis transformation 2	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	- - 7/7 M

Description: This MD indicates the vector of the base tool which takes effect when the second transformation is activated without a length compensation being selected. Programmed length compensations have an additive effect with respect to the base tool.

MD irrelevant:

if the "5-Axis Transformation" option is not installed.

24658	TRAFO5_JOINT_OFFSET_PART_2	C07	M1,W1
mm	Vector of kinematic table offset	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	- - 7/7 M

Description: Same as MD24558 \$MC_TRAFO5_JOINT_OFFSET_PART_1, but for the second transformation.

24660	TRAFO5_JOINT_OFFSET_2	C07	W1
mm	Vector of the kinem.offset of the 2nd 5-axis transformation	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	- - 7/7 M

Description: This machine data designates the vector between first and second rotary joint for the first transformation of a channel and has a specific meaning for the various machine types:

Machine type 1 (two-axis swivel head for tool) and:

Machine type 2 (two-axis rotary table for workpiece):

Vector between first and second rotary joint of tool rotary head or workpiece rotary table.

Machine type 3 (single-axis rotary table for workpiece and single-axis swivel head for tool):

Vector from machine reference point to joint of workpiece table.

MD irrelevant:

if the "5-Axis Transformation" option is not installed. The same applies for 3-axis and 4-axis transformations.

24661	TRAFO6_JOINT_OFFSET_2_3_2	C07	-
mm	Vector of kinematic offset	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	- - 7/7 M

Description: As TRAFO6_JOINT_OFFSET_2_3_1 but for the second transformation.

24662	TRAFO5_TOOL_ROT_AX_OFFSET_2			C07	M1
mm	Offset swivel point of 2nd 5-axis transformation (swivelled linear axis)			DOUBLE	NEW CONF
-					
-	3	0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7 M

Description: In the case of 5-axis transformation with swiveled linear axis, the value indicates the offset of the rotary axis which swivels the linear axis with reference to machine zero for the 2nd transformation.

MD irrelevant for:

other 5-axis transformations

Related to:

MD24562 \$MC_TRAFO5_TOOL_ROT_AX_OFFSET_1

24664	TRAFO5_NUTATOR_AX_ANGLE_2			C07	M1
degrees	Nutating head angle			DOUBLE	NEW CONF
-					
-	-	45.0, 45.0, 45.0, 45.0, 45.0, 45.0...	-89.	89.	7/7 M

Description: Angle between the second rotary axis and the axis corresponding to it in the rectangular coordinate system

MD irrelevant for:

Transformation type other than "universal milling head"

Related to:

MD24564 \$MC_TRAFO5_NUTATOR_AX_ANGLE_1

24666	TRAFO5_NUTATOR_VIRT_ORIAX_2			C07	M1
-	Virtual orientation axes			BOOLEAN	NEW CONF
-					
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7 M

Description: The MD has the following values:

0: The axis angles of the orientation axes are machine axis angles.

1: Virtual orientation axes are defined that form a rectangular coordinate system and the axis angles are rotations around these virtual axes.

24670	TRAFO5_AXIS1_2			C07	F2,M1
-	Direction of 1st rotary axis			DOUBLE	NEW CONF
-					
-	3	0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7 M

Description: As for TRAFO5_AXIS1_1 but for the second orientation transformation of a channel.

24672	TRAFO5_AXIS2_2			C07	M1
-	Direction of 2nd rotary axis			DOUBLE	NEW CONF
-					
-	3	0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7 M

Description: As for TRAFO5_AXIS2_1 but for the second transformation of a channel.

Machine and setting data

1.3 NC machine data

24673	TRAFO5_AXIS3_2	C07	-			
-	Direction of the 3rd rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	-	7/7	M

Description: As TRAFO5_AXIS3_1 but for the second orientation transformation of a channel.

24674	TRAFO5_BASE_ORIENT_2	C07	F2,M1			
-	Basic tool orientation	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	-	7/7	M

Description: As for TRAFO5_BASE_ORIENT_1 but for the second transformation of a channel.

24676	TRAFO6_BASE_ORIENT_NORMAL_2	C07	-			
-	Normal tool vector	DOUBLE	NEW CONF			
-						
-	3	0.0, 1.0 , 0.0, 0.0, 1.0 , 0.0...	-	-	7/7	M

Description: As TRAFO6_BASE_ORIENT_NORMAL_1 but for the second orientation transformation

24680	TRAFO5_TOOL_VECTOR_2	C07	F2			
-	Direction of orientation vector	BYTE	NEW CONF			
-						
-	-	2, 2, 2, 2, 2, 2, 2... 0	2	7/2	M	

Description: Indicates the direction of the orientation vector for the second 5-axis transformation for each channel.

- 0: Tool vector in x direction
- 1: Tool vector in y direction
- 2: Tool vector in z direction

24682	TRAFO5_TCARR_NO_2	C07	F2			
-	TCARR number for the 2nd 5-axis transformation	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: Same as TRAFO5_TCARR_NO_1, but for the second orientation transformation.

24685	TRAFO5_ORIAX_ASSIGN_TAB_2	C07	F2			
-	Orientation axis / channel axis assignment transformation 1	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/2	M

Description: Assignment table of the orientation axes for 5-axis transformation 2
Only active with active 5-axis transformation 2.

24690	TRAFO5_ROT_OFFSET_FROM_FR_2			C01, C07	-	
-	Offset of transformation rotary axes from WO.			BOOLEAN	NEW CONF	
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: Same as TRAFO5_ROT_OFFSET_FROM_FR_1, but for the 2nd transformation of a channel

24694	TRAFO7_EXT_ROT_AX_OFFSET_2			C07	F2	
degrees	Position offset of the external rotary axes for 7-axis transformation 2			DOUBLE	NEW CONF	
-	-	-	-	-	-	
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: This machine data designates the angular offset of the external rotary axis in degrees for the second 7-axis transformation of a channel.

MD irrelevant:

if the "5-Axis Transformation" option is not installed.

24695	TRAFO7_EXT_AXIS1_2			C07	F2	
-	Direction of the 1st external rotary axis			DOUBLE	NEW CONF	
-	-	-	-	-	-	
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: The MD indicates the vector that describes the direction of the second external rotary axis in the general 5/6-axis transformation (TRAFO_TYPE_* = 24). The vector can have any magnitude.

Example:

Both with (0, 1, 0) and with (0, 7.21, 0), the same axis is described (in the direction of the 2nd geometry axis, i.e. usually Y).

Valid for the first transformation of a channel.

24700	TRAANG_ANGLE_1			C07	M1	
degrees	Angle between Cartesian axis and real (inclined) axis			DOUBLE	NEW CONF	
-	-	-	-	-	-	
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: Indicates for the first agreed TRAANG transformation of the channel the angle of the inclined axis in degrees between the 1st machine axis and the 1st basic axis while TRAANG is active. The angle is measured positively clockwise.

Related to:

MD24750 \$MC_TRAANG_ANGLE_2

1.3 NC machine data

24710	TRAANG_BASE_TOOL_1	C07	M1
mm	Vector of base tool for 1st TRAANG transformation	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-

Description: Indicates a basic offset of the tools zero for the 1st TRAANG transformation. The offset is referenced to the geometry axes valid when TRAANG is active. The basic offset is included with and without selection of the tool length compensation. Programmed length corrections have an additive effect with respect to the basic tool.

The index i takes the values 0, 1, 2 for the 1st to 3rd geometry axes.

Related to:

MD24760 \$MC_TRAANG_BASE_TOOL_2

24720	TRAANG_PARALLEL_VELO_RES_1	C07	M1
-	Velocity margin for 1st TRAANG transformation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0 , 0.0...	1.0

Description: Indicates the axis velocity reserve for jog, positioning and oscillating movements for each channel for the first TRAANG transformation which is held ready on the parallel axis (see MD2.... \$MC_TRAFO_AXES_IN_...[1]) for the compensating movement.

Velocity reserve to be provided for jog, positioning and oscillating movements on the parallel axis to handle the compensating movement as a consequence of the inclined axis.

0.0 means that the control or the transformation itself determines the reserve according to the angle of the inclined axis and the velocity capacity of the inclined and parallel axes. - The criterion for this is that the same velocity limit has to be maintained in the direction of the parallel axis and the (virtual) axis at right-angles to it.

>0.0 means that a fixed reserve has been set (MD24720
\$MC_TRAANG_PARALLEL_VELO_RES_1 * MD32000 \$MA_MAX_AX_VELO of the parallel axis). The velocity capacity in the virtual axis is determined by this. The lower MD24720 \$MC_TRAANG_PARALLEL_VELO_RES_1 has been set, the lower it is

Related to:

MD24771 \$MC_TRAANG_PARALLEL_ACCEL_RES_2

24721	TRAANG_PARALLEL_ACCEL_RES_1	C07	M1
-	Acceleration margin of parallel axis for the 1st TRAANG transf.	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0 , 0.0...	1.0

Description: Indicates the acceleration margin for jog, positioning and oscillating movements for each channel for the first TRAANG transformation which is held ready on the parallel axis (see MD2.... \$MC_TRAFO_AXES_IN_...[1]) for the compensating movement.

Related to:

MD24720 \$MC_TRAANG_PARALLEL_VELO_RES_1

24750	TRAANG_ANGLE_2	C07	M1
degrees	Angle between Cartesian axis and real (inclined) axis	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates for the second agreed TRAANG transformation of the channel the angle of the inclined axis in degrees between the 1st machine axis and the 1st basic axis while TRAANG is active. The angle is measured positively clockwise.

Related to:

MD24700 \$MC_TRAANG_ANGLE_1

24760	TRAANG_BASE_TOOL_2	C07	M1
mm	Vector of base tool for 2nd TRAANG transformation	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates a basic offset of the tools zero for the 2nd TRAANG transformation. The offset is referenced to the geometry axes valid when TRAANG is active. The basic offset is included with and without selection of the tool length compensation. Programmed length corrections have an additive effect with respect to the basic tool.

The index i takes the values 0, 1, 2 for the 1st to 3rd geometry axes.

Related to:

MD24710 \$MC_TRAANG_BASE_TOOL_1

24770	TRAANG_PARALLEL_VELO_RES_2	C07	M1
-	Velocity margin for 2nd TRAANG transformation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	0.0

Description: Indicates the axis velocity reserve for jog, positioning and oscillating movements for each channel for the second TRAANG transformation which is held ready on the parallel axis (see MD2.... \$MC_TRAFO_AXES_IN_...[1]) for the compensating movement.

Related to:

MD24771 \$MC_TRAANG_PARALLEL_ACCEL_RES_2

24771	TRAANG_PARALLEL_ACCEL_RES_2	C07	M1
-	Acceler. margin of parallel axis for the 2nd TRAANG transform.	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	0.0

Description: Indicates the axis acceleration margin for jog, positioning and oscillating movements which is held ready on the parallel axis (see MD2.... \$MC_TRAFO_AXES_IN_...[1]) for the compensatory movement; MD setting applies to the second TRAANG transformation for each channel.

Related to:

\$MC_TRAANG_PARALLEL_RES_1

1.3 NC machine data

24800	TRACYL_ROT_AX_OFFSET_1	C07	M1,K2
degrees	Offset of rotary axis for the 1st TRACYL transformation	DOUBLE	NEW CONF
-			
-	- 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/7 M

Description: Indicates the offset of the rotary axis for the first agreed TRACYL transformation in degrees in relation to the neutral position while TRACYL is active.

Related to:

MD24850 \$MC_TRACYL_ROT_AX_OFFSET_2

24805	TRACYL_ROT_AX_FRAME_1	C07	M1
-	Rotary axis offset TRACYL 1	BYTE	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0...	0 2	7/7 M

Description: 0: axial rotary axis offset is not considered.

1: axial rotary axis offset is considered.

2: axial rotary axis offset is considered until Szs.

Szs frames include transformed axial rotary axis offsets.

24806	TRACYL_BASE_TOOL_COMP_1	C07	M1,K2
-	Compensation of the BASE_TOOL in the TRACYL frame 1	BYTE	NEW CONF
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0x0 0x7	7/7 M

Description: Using this bit-coded machine data, components of the basic tool can be compensated using the transformation frame

so that for the transformation selection, no change is obtained in the WCS component.

Bit0: \$MC_TRACYL_BASE_TOOL_1[0] is compensated via \$P_TRAFRAME.

Bit1: \$MC_TRACYL_BASE_TOOL_1[1] is compensated via \$P_TRAFRAME.

Bit2: \$MC_TRACYL_BASE_TOOL_1[2] is compensated via \$P_TRAFRAME .

This function is only available if the system frame \$P_TRAFRAME has been configured using MD28082

\$MC_MM_SYSTEM_FRAME_MASK bit6.

24808	TRACYL_DEFAULT_MODE_1	C07	M1
-	TRACYL mode selection	BYTE	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0...	0 1	7/7 M

Description: Default setting of TRACYL type 514:

0: without groove side offset (i.e. TRACYL type 514 - equals 512)

1: with groove side offset (i.e. TRACYL type 514 - equals 513)

MD2.... \$MC_TRAFO_TYPE_... = 514 can be used to decide, via the selection parameters, whether calculation is made with or without groove side offset. The parameter defines the variable to be selected if no selection is made in the call parameters.

If MD24808 \$MC_TRACYL_DEFAULT_MODE_1 = 1, it is sufficient to program TRACYL(30) in the part program instead of TRACYL(30,1,1).

24810	TRACYL_ROT_SIGN_IS_PLUS_1	C07	M1
-	Sign of rotary axis for 1st TRACYL transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: Indicates the sign with which the rotary axis is taken into account in the TRACYL transformation for the first agreed TRACYL transformation.

Related to:

MD24860 \$MC_TRACYL_ROT_SIGN_IS_PLUS_2

24820	TRACYL_BASE_TOOL_1	C07	M1
mm	Vector of base tool for 1st TRACYL transformation	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates a basic offset of the tools zero for the 1st TRACYL transformation. The offset is referenced to the geometry axes valid when TRACYL is active. The basic offset is included with and without selection of the tool length compensation. Programmed length corrections have an additive effect with respect to the basic tool.

The index i takes the values 0, 1, 2 for the 1st to 3rd geometry axes.

Related to:

MD24870 \$MC_TRACYL_BASE_TOOL_2

24850	TRACYL_ROT_AX_OFFSET_2	C07	M1
degrees	Offset of rotary axis for the 2nd TRACYL transformation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates the offset of the rotary axis in degrees in relation to the neutral position for the 2nd agreed TRACYL transformation for each channel.

MD irrelevant:

If no TRACYL is active

Related to:

MD24800 \$MC_TRACYL_ROT_AX_OFFSET_1

24855	TRACYL_ROT_AX_FRAME_2	C07	M1,K2
-	Rotary axis offset TRACYL 2	BYTE	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0

Description: 0: axial rotary axis offset is not considered.

1: axial rotary axis offset is considered.

2: axial rotary axis offset is considered until SZS.

SZS frames include transformed axial rotary axis offsets.

1.3 NC machine data

24856	TRACYL_BASE_TOOL_COMP_2	C07	M1,K2
-	Compensation of the BASE_TOOL in the TRACYL frame 2	BYTE	NEW CONF
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0x0	0x7 7/7 M

Description: Using this bit-coded machine data, components of the base tool can be compensated using the transformation frame so that for the transformation selection, no change is obtained in the WCS component.

Bit0: \$MC_TRACYL_BASE_TOOL_2[0] is compensated via \$P_TRAFRAME.
 Bit1: \$MC_TRACYL_BASE_TOOL_2[1] is compensated via \$P_TRAFRAME.
 Bit2: \$MC_TRACYL_BASE_TOOL_2[2] is compensated via \$P_TRAFRAME.
 This function is only available if the system frame \$P_TRAFRAME was configured using MD28082
 \$MC_MM_SYSTEM_FRAME_MASK bit6.

24858	TRACYL_DEFAULT_MODE_2	C07	M1
-	TRACYL mode selection	BYTE	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0... 0	1	7/7 M

Description: Default setting of TRACYL type 514 for the 2nd TRACYL:
 0: without groove side offset (i.e. TRACYL type 514 - equals 512)
 1: with groove side offset (i.e. TRACYL type 514 - equals 513)
 MD2.... \$MC_TRAFO_TYPE_... = 514 can be used to decide, via the selection parameters, whether calculation is made with or without groove side offset. The parameter defines the variable to be selected if no selection is made in the call parameters.
 If MD24858 \$MC_TRACYL_DEFAULT_MODE_2 = 1, it is sufficient to program TRACYL(30,2) in the part program instead of TRACYL(30,2,1).

24860	TRACYL_ROT_SIGN_IS_PLUS_2	C07	-
-	Sign of rotary axis for 2nd TRACYL transformation	BOOLEAN	NEW CONF
-			
-	- TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	- 7/7 M

Description: Indicates the sign with which the rotary axis is taken into account in the TRACYL transformation for the 2nd agreed TRACYL transformation for each channel.

Related to:

MD24810 \$MC_TRACYL_ROT_SIGN_IS_PLUS_1

24870	TRACYL_BASE_TOOL_2	C07	M1
mm	Vector of base tool for 2nd TRACYL transformation	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/7 M

Description: Indicates a basic offset of the tools zero for the 2nd TRACYL transformation. The offset is referenced to the geometry axes valid when TRACYL is active.

The basic offset is included with and without selection of the tool length compensation. Programmed length corrections have an additive effect with respect to the basic tool.

The index i takes the values 0, 1, 2 for the 1st to 3rd geometry axes.

Related to:

MD24820 \$MC_TRACYL_BASE_TOOL_1

24900	TRANSMIT_ROT_AX_OFFSET_1	C07	M1
degrees	Offset of rotary axis for the 1st TRANSMIT transformation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-
-	-	7/7	M

Description: Indicates the offset of the rotary axis for the first agreed TRANSMIT transformation in degrees in relation to the neutral position while TRANSMIT is active.

Related to:

MD24950 \$MC TRANSMIT ROT AX OFFSET 2

24905	TRANSMIT_ROT_AX_FRAME_1	C07	M1,K2
-	Rotary axis offset TRANSMIT 1	BYTE	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0
			2
			7/7
			M

Description: 0: axial rotary axis offset is not considered.

1: axial rotary axis offset is considered.

? axial rotary axis offset is considered until Szs

SZS frames include transformed rotations around the rotary axis.

24906	TRANSMIT_BASE_TOOL_COMP_1	C07	M1,K2
-	Compensation of the BASE_TOOL in the TRANSMIT frame 1	BYTE	NEW CONF
-			
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0x0 0x7 7/7 M

Description: Using this bit-coded machine data, components of the basic tool can be combined into the configuration for the system.

so that for the transformation selection, no change is obtained in the WCS component.

Bit0: SMC TRANSMIT BASE TOOL 1[0] is compensated via SP TRAFRAME.

Bit1: SMC TRANSMIT BASE TOOL 1[1] is compensated via SP TRAFERAME

Bit2: SMC TRANSMIT BASE TOOL; 1[2] is compensated via SP TRAFRAME

This function is only available if the system frame \$P_TRAFRAME has been configured using MD28082.

\$MC MM SYSTEM FRAME MASK bit6

1.3 NC machine data

24910	TRANSMIT_ROT_SIGN_IS_PLUS_1	C07	M1
-	Sign of rotary axis for 1st TRANSMIT transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: Indicates the sign with which the rotary axis is taken into account in the TRANSMIT transformation for the first agreed TRANSMIT transformation for each channel.

Related to:

MD24960 \$MC_TRANSMIT_ROT_SIGN_IS_PLUS_2

24911	TRANSMIT_POLE_SIDE_FIX_1	C07	M1
-	Restriction of working range in front of / behind the pole, 1. TRANSMIT	BYTE	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: Restriction of the working area in front of/behind pole or no restriction, i.e. traversal through the pole.

The assigned values have the following meanings:

- 1: Working area of linear axis for positions $>= 0$,
(if tool length compensation parallel to linear axis equals 0)
- 2: Working area of linear axis for positions $<= 0$,
(if tool length compensation parallel to linear axis equals 0)
- 0: No restriction of working area. Traversal through pole.

24920	TRANSMIT_BASE_TOOL_1	C07	M1
mm	Vector of base tool for 1st TRANSMIT transformation	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates a basic offset of the tools zero for the 1st TRANSMIT transformation. The offset is referenced to the geometry axes valid when TRANSMIT is active. The basic offset is included with and without selection of the tool length compensation. Programmed length corrections have an additive effect with respect to the basic tool.

The index i takes the values 0, 1, 2 for the 1st to 3rd geometry axes.

Related to:

MD24970 \$MC_TRANSMIT_BASE_TOOL_2

24950	TRANSMIT_ROT_AX_OFFSET_2	C07	M1
degrees	Offset of rotary axis for the 2nd TRANSMIT transformation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates the offset of the rotary axis for the second agreed TRANSMIT transformation in degrees in relation to the neutral position while TRANSMIT is active.

Related to:

MD24900 \$MC_TRANSMIT_ROT_AX_OFFSET_1

24955	TRANSMIT_ROT_AX_FRAME_2	C07	M1			
-	Rotary axis offset TRANSMIT 2	BYTE	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	2	7/7	M

Description: 0: axial rotary axis offset is not considered.
 1: axial rotary axis offset is considered.
 2: axial rotary axis offset is considered until SZS.
 SZS frames include transformed rotations around the rotary axis.

24956	TRANSMIT_BASE_TOOL_COMP_2	C07	M1,K2			
-	Compensation of the BASE_TOOL in the TRANSMIT frame 2	BYTE	NEW CONF			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0x0	0x7	7/7	M

Description: Using this bit-coded machine data, components of the basic tool can be compensated using the transformation frame so that for the transformation selection, no change is obtained in the WCS component
 Bit0: \$MC_TRANSMIT_BASE_TOOL_2[0] is compensated via \$P_TRAFRAME.
 Bit1: \$MC_TRANSMIT_BASE_TOOL_2[1] is compensated via \$P_TRAFRAME.
 Bit2: \$MC_TRANSMIT_BASE_TOOL_2[2] is compensated via \$P_TRAFRAME.
 This function is only available if the system frame \$P_TRAFRAME was configured using MD28082
 \$MC_MM_SYSTEM_FRAME_MASK bit6.

24960	TRANSMIT_ROT_SIGN_IS_PLUS_2	C07	M1			
-	Sign of rotary axis for 2nd TRANSMIT transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: Indicates the sign with which the rotary axis is taken into account in the TRANSMIT transformation for the second agreed TRANSMIT transformation for each channel.
Related to:
 MD24910 \$MC_TRANSMIT_ROT_SIGN_IS_PLUS_1

24961	TRANSMIT_POLE_SIDE_FIX_2	C07	M1			
-	Restriction of working range before/behind the pole, 2. TRANSMIT	BYTE	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	2	7/7	M

Description: Restriction of working area in front of/behind pole or no restriction, i.e. traversal through pole.
 The assigned values have the following meanings:
 1: Working area of linear axis for positions >=0,
 (if tool length compensation parallel to linear axis equals 0)
 2: Working area of linear axis for positions <=0,
 (if tool length compensation parallel to linear axis equals 0)
 0: No restriction of working area. Traversal through pole.

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24970	TRANSMIT_BASE_TOOL_2	C07	M1
mm	Vector of base tool for 2nd TRANSMIT transformation	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Indicates a basic offset of the tools zero for the 2nd TRANSMIT transformation. The offset is referenced to the geometry axes valid when TRANSMIT is active. The basic offset is included with and without selection of the tool length compensation. Programmed length corrections have an additive effect with respect to the basic tool.

The index i takes the values 0, 1, 2 for the 1st to 3rd geometry axes.

Related to:

MD24920 \$MC_TRANSMIT_BASE_TOOL_1

24995	TRACON_CHAIN_1	C07	M1
-	Transformation grouping	DWORD	NEW CONF
-			
-	4	0, 0, 0, 0, 0, 0, 0, 0 0, 0, 0, 0...	20

Description: Transformation chain of the first concatenated transformation.

In the table, the numbers of the transformations which are to be concatenated are given in the order in which the transformation has to be executed from BCS into MCS.

Example:

A machine can be operated optionally either as a 5-axis machine or as a transmit machine. A linear axis is not arranged at a right-angles to the other linear axes (inclined axis).

5 transformations must be set via the machine data, e.g.

```
TRAFO_TYPE_1 = 16      (5-axis transformation)
TRAFO_TYPE_2 = 256     (Transmit)
TRAFO_TYPE_3 = 1024    (Inclined axis)
TRAFO_TYPE_4 = 8192    (Concatenated transformation)
TRAFO_TYPE_5 = 8192    (Concatenated transformation)
```

If the 4th transformation concatenates the 5-axis transformation / inclined axis and the 5th transformation concatenates the transmit / inclined axis, then (1, 3, 0, 0) is entered in the first table TRACON_CHAIN_1, and (2, 3, 0, 0) in the table TRACON_CHAIN_2. The entry 0 means no transformation.

The order in which the transformations are assigned (TRAFO_TYPE_1 to TRAFO_TYPE_20) is arbitrary. The linked transformations do not have to be the last. However, they must always stand behind all the transformations which occur in a transformation chain. In the previous example, this means that, e.g. the third and fourth transformations must not be switched.

However, it would be possible to define a further, sixth transformation, if this does not go into a linked transformation.

Transformations cannot be linked with one another at will.

The following limitations apply in SW version 5:

The first transformation in the chain must be an orientation transformation (3-, 4-, 5-axis transformation, nutator) transmit or peripheral curve transformation. The second transformation must be an inclined axis transformation.

No more than two transformations may be linked.

24996	TRACON_CHAIN_2	C07	M1
-	Transformation grouping	DWORD	NEW CONF
-			
-	4	0, 0, 0, 0, 0, 0, 0, 0 0, 0, 0, 0...	20 7/7 M

Description: Transformation chain of the first concatenated transformation.

In the table, the numbers of the transformations which are to be concatenated are given in the order in which the transformation has to be executed from BCS into MCS.

Example:

A machine can be operated optionally either as a 5-axis machine or as a transmit machine. A linear axis is not arranged at a right-angles to the other linear axes (inclined axis).

Transformation chain of the second concatenated transformation.

Example: 5 transformations must be set via the machine data

```
TRAFO_TYPE_1 = 16      (5-axis transformation)
TRAFO_TYPE_2 = 256     (Transmit)
TRAFO_TYPE_3 = 1024    (Inclined axis)
TRAFO_TYPE_4 = 8192    (Concatenated transformation)
TRAFO_TYPE_5 = 8192    (Concatenated transformation)
```

If the 4th transformation concatenates the 5-axis transformation / inclined axis and the 5th transformation concatenates the transmit / inclined axis, then (1, 3, 0, 0) is entered in the first table TRACON_CHAIN_1, and (2, 3, 0, 0) in the table TRACON_CHAIN_2. The entry 0 means no transformation.

The order in which the transformations are assigned (TRAFO_TYPE_1 to TRAFO_TYPE_20) is arbitrary. The concatenated transformations do not have to be the last. However, they must always follow all the transformations which occur in a transformation chain. In the previous example, this means that, e.g. the third and fourth transformations must not be switched.

However, it would be possible to define a further, sixth transformation, if this does not go into a concatenated transformation.

Transformations cannot be concatenated with one another at will.

The following limitations apply in SW version 5:

The first transformation in the chain must be an orientation transformation (3-, 4-, 5-axis transformation, nutator) transmit or peripheral curve transformation.

The second transformation must be an inclined axis transformation.

No more than two transformations may be concatenated.

24997	TRACON_CHAIN_3	C07	M1
-	Transformation grouping	DWORD	NEW CONF
-			
-	4	0, 0, 0, 0, 0, 0, 0, 0 0, 0, 0, 0...	20 7/7 M

Description: Transformation chain of the third concatenated transformation.

See TRACON_CHAIN_1 for documentation.

Machine and setting data

1.3 NC machine data

24998	TRACON_CHAIN_4	C07	M1
-	Transformation grouping	DWORD	NEW CONF
-			
-	4	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20 7/7 M

Description: Transformation chain of the fourth concatenated transformation.
See TRACON_CHAIN_1 for documentation.

25100	TRAFO_TYPE_11	C07	F2
-	Definition of the 11th transformation in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0...	- - 7/7 M

Description: This MD defines for each channel, which transformation is available as 11th transformation in the channel.
Other than that it has the same meaning as TRAFO_TYPE_1.

25102	TRAFO_AXES_IN_11	C07	F2
-	Axis assignment for transformation 11	BYTE	NEW CONF
-			
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: Axis assignment at the input of the 11th transformation.
See TRAFO_AXES_IN_1 for explanation.

25104	TRAFO_GEOAX_ASSIGN_TAB_11	C07	F2
-	Assignment of geometry axes to channel axes for transformation 11	BYTE	NEW CONF
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 11.
Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25106	TRAFO_INCLUDES_TOOL_11	C07	M1,F2
-	Tool handling with 11th active transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	- - 7/7 M

Description: This MD defines for each channel, whether the tool is treated in the 11th transformation or externally.
Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25110	TRAFO_TYPE_12	C07	F2
-	Definition of the 12th transformation in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0...	- - 7/7 M

Description: This MD defines for each channel, which transformation is available as 12th transformation in the channel.

Other than that it has the same meaning as TRAFO_TYPE_1.

25112	TRAFO_AXES_IN_12			C07	F2	
-	Axis assignment for transformation 12			BYTE	NEW CONF	
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input of the 12th transformation.

See TRAFO_AXES_IN_1 for explanation.

25114	TRAFO_GEOAX_ASSIGN_TAB_12			C07	F2	
-	Assignment of geometry axes to channel axes for transformation 12			BYTE	NEW CONF	
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 12.

Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25116	TRAFO_INCLUDES_TOOL_12			C07	M1,F2	
-	Tool handling with 12th active transformation			BOOLEAN	NEW CONF	
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This MD defines for each channel, whether the tool is treated in the 12th transformation or externally.

Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25120	TRAFO_TYPE_13			C07	F2	
-	Definition of the 13th transformation in the channel			DWORD	NEW CONF	
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This MD defines for each channel, which transformation is available as 13th transformation in the channel.

Other than that it has the same meaning as TRAFO_TYPE_1.

25122	TRAFO_AXES_IN_13			C07	F2	
-	Axis assignment for transformation 13			BYTE	NEW CONF	
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input of the 13th transformation.

See TRAFO_AXES_IN_1 for explanation.

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25124	TRAFO_GEOAX_ASSIGN_TAB_13	C07	F2
-	Assignment of geometry axes to channel axes for transformation 13	BYTE	NEW CONF
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 13.
Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB 1.

25126	TRAFO_INCLUDES_TOOL_13	C07	M1,F2
-	Tool handling with 13th active transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: This MD defines for each channel, whether the tool is treated in the 13th transformation or externally.

Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25130	TRAFO_TYPE_14	C07	F2
-	Definition of the 14th transformation in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-

Description: This MD defines for each channel, which transformation is available as 14th transformation in the channel.
Other than that it has the same meaning as TRAFO_TYPE_1.

25132	TRAFO_AXES_IN_14	C07	F2			
-	Axis assignment for transformation 14	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input of the 14th transformation.

See TRAFO_AXES_IN_1 for explanation.

25134	TRAFO_GEOAX_ASSIGN_TAB_14	C07	F2
-	Assignment of geometry axes to channel axes for transformation 14	BYTE	NEW CONF
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 14.
Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB 1.

25136	TRAFO_INCLUDES_TOOL_14	C07	M1,F2			
-	Tool handling with 14th active transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This MD defines for each channel, whether the tool is treated in the 14th transformation or externally.
 Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25140	TRAFO_TYPE_15	C07	F2			
-	Definition of the 15th transformation in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This MD defines for each channel, which transformation is available as 15th transformation in the channel.
 Other than that it has the same meaning as TRAFO_TYPE_1.

25142	TRAFO_AXES_IN_15	C07	F2			
-	Axis assignment for transformation 15	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input of the 15th transformation.
 See TRAFO_AXES_IN_1 for explanation.

25144	TRAFO_GEOAX_ASSIGN_TAB_15	C07	F2			
-	Assignment of geometry axes to channel axes for transformation 15	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 15.
 Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25146	TRAFO_INCLUDES_TOOL_15	C07	M1,F2			
-	Tool handling with 15th active transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This MD defines for each channel, whether the tool is treated in the 15th transformation or externally.
 Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

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25150	TRAFO_TYPE_16	C07	F2
-	Definition of the 16th transformation in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-
			-
			7/7
			M

Description: This MD defines for each channel, which transformation is available as 16th transformation in the channel.
Other than that it has the same meaning as TRAFO TYPE 1.

25152	TRAFO_AXES_IN_16	C07	F2
-	Axis assignment for transformation 16	BYTE	NEW CONF
-			
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0 20 7/7 M

Description: Axis assignment at the input of the 16th transformation.
See TRAFO_AXES_IN_1 for explanation.

25154	TRAFO_GEOAX_ASSIGN_TAB_16	C07	F2
-	Assignment of geometry axes to channel axes for transformation 16	BYTE	NEW CONF
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20 7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 16.
Otherwise the meaning corresponds to TRAFO GEOAX ASSIGN TAB 1.

25156	TRAFO_INCLUDES_TOOL_16	C07	M1,F2
-	Tool handling with 16th active transformation	BOOLEAN	NEW CONF
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-

Description: This MD defines for each channel, whether the tool is treated in the 16th transformation or externally.
Other than that it has the same meaning as TRAFO INCLUDES TOOL 1.

25160	TRAFO_TYPE_17	C07	F2
-	Definition of the 17th transformation in the channel	DWORD	NEW CONF
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-

Description: This MD defines for each channel, which transformation is available as 17th transformation in the channel.
Other than that it has the same meaning as TRAFO_TYPE_1.

25162	TRAFO_AXES_IN_17			C07	F2
-	Axis assignment for transformation 17			BYTE	NEW CONF
-					
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7 M

Description: Axis assignment at the input of the 17th transformation.
See TRAFO_AXES_IN_1 for explanation.

25164	TRAFO_GEOAX_ASSIGN_TAB_17			C07	F2
-	Assignment of geometry axes to channel axes for transformation 17			BYTE	NEW CONF
-					
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 17.
Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25166	TRAFO_INCLUDES_TOOL_17			C07	M1,F2
-	Tool handling with 17th active transformation			BOOLEAN	NEW CONF
-					
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7 M

Description: This MD defines for each channel, whether the tool is treated in the 17th transformation or externally.
Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25170	TRAFO_TYPE_18			C07	F2
-	Definition of the 18th transformation in the channel			DWORD	NEW CONF
-					
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7 M

Description: This MD defines for each channel, which transformation is available as 18th transformation in the channel.
Other than that it has the same meaning as TRAFO_TYPE_1.

25172	TRAFO_AXES_IN_18			C07	F2
-	Axis assignment for transformation 18			BYTE	NEW CONF
-					
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7 M

Description: Axis assignment at the input of the 18th transformation.
See TRAFO_AXES_IN_1 for explanation.

1.3 NC machine data

25174	TRAFO_GEOAX_ASSIGN_TAB_18	C07	F2
-	Assignment of geometry axes to channel axes for transformation 18	BYTE	NEW CONF
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20	7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 18.
Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25176	TRAFO_INCLUDES_TOOL_18	C07	M1,F2
-	Tool handling with 18th active transformation	BOOLEAN	NEW CONF
-			
-	- TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	7/7 M

Description: This MD defines for each channel, whether the tool is treated in the 18th transformation or externally.
Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25180	TRAFO_TYPE_19	C07	F2
-	Definition of the 19th transformation in the channel	DWORD	NEW CONF
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	-	7/7 M

Description: This MD defines for each channel, which transformation is available as 19th transformation in the channel.
Other than that it has the same meaning as TRAFO_TYPE_1.

25182	TRAFO_AXES_IN_19	C07	F2
-	Axis assignment for transformation 19	BYTE	NEW CONF
-			
-	20 1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20	7/7 M

Description: Axis assignment at the input of the 19th transformation.
See TRAFO_AXES_IN_1 for explanation.

25184	TRAFO_GEOAX_ASSIGN_TAB_19	C07	F2
-	Assignment of geometry axes to channel axes for transformation 19	BYTE	NEW CONF
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	20	7/7 M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 19.
Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25186	TRAFO_INCLUDES_TOOL_19	C07	M1,F2			
-	Tool handling with 19th active transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This MD defines for each channel, whether the tool is treated in the 19th transformation or externally.
 Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

25190	TRAFO_TYPE_20	C07	F2			
-	Definition of the 20th transformation in the channel	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This MD defines for each channel, which transformation is available as 20th transformation in the channel.
 Other than that it has the same meaning as TRAFO_TYPE_1.

25192	TRAFO_AXES_IN_20	C07	F2			
-	Axis assignment for transformation 20	BYTE	NEW CONF			
-						
-	20	1, 2, 3, 4, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Axis assignment at the input of the 20th transformation.
 See TRAFO_AXES_IN_1 for explanation.

25194	TRAFO_GEOAX_ASSIGN_TAB_20	C07	F2			
-	Assignment of geometry axes to channel axes for transformation 20	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: This MD states the channel axes on which the axes of the cartesian coordinate system are mapped for active transformation 20.
 Otherwise the meaning corresponds to TRAFO_GEOAX_ASSIGN_TAB_1.

25196	TRAFO_INCLUDES_TOOL_20	C07	M1,F2			
-	Tool handling with 20th active transformation	BOOLEAN	NEW CONF			
-						
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This MD defines for each channel, whether the tool is treated in the 20th transformation or externally.
 Other than that it has the same meaning as TRAFO_INCLUDES_TOOL_1.

Machine and setting data

1.3 NC machine data

25200	TRAFO5_PART_OFFSET_3	C07	F2
mm	Offset vector of 5-axis transformation 3	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/7 M

Description: This machine data designates an offset of the workpiece holder for the 3rd 5-axis transformation of a channel and has a special meaning for each of the various machine types:
 Other than that it has the same meaning as TRAFO5_PART_OFFSET_1.

25210	TRAFO5_ROT_AX_OFFSET_3	C07	F2
degrees	Position offset of rotary axes 1/2/3 for 5-axis transformation 3	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	- 7/7 M

Description: This machine data designates the angular offset of the first or second rotary axis in degrees for the 3rd 5-axis transformation of a channel.
 Other than that it has the same meaning as TRAFO5_ROT_AX_OFFSET_1.

25220	TRAFO5_ROT_SIGN_IS_PLUS_3	C07	F2
-	Sign of rotary axis 1/2/3 for 5-axis transformation 3	BOOLEAN	NEW CONF
-			
-	3 TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	- 7/7 M

Description: This machine data designates the sign with which the two rotary axes enter the 3rd 5-axis transformation of a channel.
 Other than that it has the same meaning as TRAFO5_ROT_SIGN_IS_PLUS_1.

25230	TRAFO5_NON_POLE_LIMIT_3	C07	F2
degrees	Definition of pole range for 5-axis transformation 3	DOUBLE	NEW CONF
-			
-	- 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-	- 7/7 M

Description: This machine data designates a limit angle for the fifth axis of the 3rd 5-axis transformation.
 Other than that it has the same meaning as TRAFO5_NON_POLE_LIMIT_1.

25240	TRAFO5_POLE_LIMIT_3	C07	F2
degrees	End angle tolerance with interpolation through pole for 5-axis transf.	DOUBLE	NEW CONF
-			
-	- 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-	- 7/7 M

Description: This machine data designates an end angle tolerance for the fifth axis of the 3rd 5-axis transformation with the following properties:
 Other than that it has the same meaning as TRAFO5_POLE_LIMIT_1.

25242	TRAFO5_POLE_TOL_3	C07	-
degrees	End angle tolerance for tool orientation	DOUBLE	NEW CONF
-			
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: End angle tolerance for interpolation through the pole for 5/6-axis transformation 3.

Other than that it has the same meaning as TRAFO5_POLE_TOL_1.

25250	TRAFO5_BASE_TOOL_3	C07	F2
mm	Vector of base tool on activation of 5-axis transformation 3	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This MD indicates the vector of the base tool which takes effect when the third transformation is activated without a length compensation being selected. Programmed length compensations have an additive effect with respect to the base tool.

MD irrelevant:

if the "5-axis transformation" option is not installed.

25258	TRAFO5_JOINT_OFFSET_PART_3	C07	F2
mm	Vector of kinematic table offset	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This machine data is only evaluated in generic 5-axis transformations with rotatable workpiece and rotatable tool (TRAFO_TYPE = 56, mixed kinematics). Other than that it has the same meaning as TRAFO5_JOINT_OFFSET_PART_1.

25260	TRAFO5_JOINT_OFFSET_3	C07	F2
mm	Vector of the kinem.offset of the 3rd 5-axis transf. in channel	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This machine data designates the vector from the first to the second rotary joint for the 3rd transformation of a channel.

Other than that it has the same meaning as TRAFO5_JOINT_OFFSET_1.

25261	TRAFO6_JOINT_OFFSET_2_3_3	C07	-
mm	Vector of kinematic offset	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: In the case of 6-axis transformations, defines the offset between the 2nd and third rotary axes for the 3rd transformation of each channel.

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25262	TRAFO5_TOOL_ROT_AX_OFFSET_3	C07	F2
mm	Offset of swivel point of the rotary axis on the 3rd 5-axis transformation	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	- 7/7 M

Description: In the case of 5-axis transformation with swiveling linear axis, the value indicates the offset of the rotary axis which swivels the linear axis with reference to machine zero for the 3rd transformation.
Other than that it has the same meaning as >TRAFO5_TOOL_ROT_AX_OFFSET_1.

25264	TRAFO5_NUTATOR_AX_ANGLE_3	C07	F2
degrees	Nutating head angle in 5-axis transformation	DOUBLE	NEW CONF
-			
-	- 45.0, 45.0, 45.0, 45.0, -89. 45.0, 45.0, 45.0...	89.	7/7 M

Description: Angle between the second rotary axis and the axis corresponding to it in the rectangular coordinate system
Other than that it has the same meaning as TRAFO5_NUTATOR_AX_ANGLE_1.

25266	TRAFO5_NUTATOR_VIRT_ORIAX_3	C07	-
-	Virtual orientation axes	BOOLEAN	NEW CONF
-			
-	- FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	- 7/7 M

Description: it has the same meaning as TRAFO5_NUTATOR_VIRT_ORIAX_1.

25270	TRAFO5_AXIS1_3	C07	F2
-	Direction of 1st rotary axis	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	- 7/7 M

Description: The MD designates the vector that describes the direction of the first rotary axis with the general 5-axis transformation (TRAFO_TYPE_* = 24).
Other than that it has the same meaning as TRAFO5_AXIS1_1.

25272	TRAFO5_AXIS2_3	C07	F2
-	Direction of 2nd rotary axis	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	- 7/7 M

Description: The MD designates the vector that describes the direction of the second rotary axis with the general 5-axis transformation (TRAFO_TYPE_* = 24, 40, 56).
Other than that it has the same meaning as TRAFO5_AXIS2_1.

25273	TRAFO5_AXIS3_3	C07	-			
-	Direction of the 3rd rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: The MD designates the vector that describes the direction of the third rotary axis with the general 6-axis transformation (TRAFO_TYPE_* = 24, 40, 56, 57). Other than that it has the same meaning as TRAFO5_AXIS3_1.

25274	TRAFO5_BASE_ORIENT_3	C07	-			
-	Vector of the tool base orientation for 5-axis transformation	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: Indicates the vector of the tool orientation in the general 5-axis transformation (TRAFO_TYPE_* = 24, 40, 56) if this is not defined on the transformation call or not read from a programmed tool. Other than that it has the same meaning as TRAFO5_BASE_ORIENT_1.

25276	TRAFO6_BASE_ORIENT_NORMAL_3	C07	-			
-	Normal tool vector in 6-axis transformation	DOUBLE	NEW CONF			
-						
-	3	0.0, 1.0, 0.0, 0.0, 1.0, 0.0...	-	-	7/7	M

Description: Indicates the vector that stands vertically on the tool orientation (TRAFO5_BASE_ORIENTATION_1) in general 6-axis transformation (TRAFO_TYPE_* = 24, 40, 56, 57). Other than that it has the same meaning as TRAFO6_BASE_ORIENT_NORMAL_1.

25280	TRAFO5_TOOL_VECTOR_3	C07	F2			
-	Direction of orientation vector for the first 5-axis transf.	BYTE	NEW CONF			
-						
-	-	2, 2, 2, 2, 2, 2, 2...	0	2	7/2	M

Description: Indicates the direction of the orientation vector for the first 5-axis transformation for each channel. Other than that it has the same meaning as TRAFO5_TOOL_VECTOR_1.1.

25282	TRAFO5_TCARR_NO_3	C07	-			
-	TCARR number for the 3rd 5-axis transformation	DWORD	NEW CONF			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: It has the same meaning as TRAFO5_TCARR_NO_1.

25285	TRAFO5_ORIAX_ASSIGN_TAB_3	C07	F2			
-	Orientation axis / channel axis assignment transformation 3	BYTE	NEW CONF			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/2	M

Description: Assignment table of the orientation axes for 5-axis transformation 3
Other than that it has the same meaning as TRAFO5_ORIAX_ASSIGN_TAB_1.

Machine and setting data

1.3 NC machine data

25290	TRAFO5_ROT_OFFSET_FROM_FR_3	C01, C07	-
-	Offset of transformation rotary axes from WO.	BOOLEAN	NEW CONF
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: It has the same meaning as TRAFO5_ROT_OFFSET_FROM_FR_1.

25294	TRAFO7_EXT_ROT_AX_OFFSET_3	C07	F2
degrees	Position offset of the external rotary axes for 7-axis transformation 3	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This machine data designates the angular offset of the external rotary axis in degrees for the third 7-axis transformation of a channel.

MD irrelevant:

if the "5-Axis Transformation" option is not installed.

25295	TRAFO7_EXT_AXIS1_3	C07	F2
-	Direction of the 1st external rotary axis	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: The MD indicates the vector that describes the direction of the first external rotary axis in the third general 5/6-axis transformation (TRAFO_TYPE_* = 24).

The vector can have any magnitude.

Example:

Both with (0, 1, 0) and with (0, 7.21, 0), the same axis is described (in the direction of the 2nd geometry axis, i.e. usually Y).

Valid for the first transformation of a channel.

25300	TRAFO5_PART_OFFSET_4	C07	F2
mm	Offset vector of 5-axis transformation 4	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This machine data designates an offset of the workpiece holder for the 4th 5-axis transformation of a channel and has a special meaning for each of the various machine types:

Other than that it has the same meaning as TRAFO5_PART_OFFSET_1.

25310	TRAFO5_ROT_AX_OFFSET_4	C07	F2
degrees	Position offset of rotary axes 1/2/3 for 5-axis transformation 4	DOUBLE	NEW CONF
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: This machine data designates the angular offset of the first or second rotary axis in degrees for the 4th 5-axis transformation of a channel.

Other than that it has the same meaning as TRAFO5_ROT_AX_OFFSET_1.

25320	TRAFO5_ROT_SIGN_IS_PLUS_4	C07	F2			
-	Sign of rotary axis 1/2/3 for 5-axis transformation 4	BOOLEAN	NEW CONF			
-						
-	3	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: This machine data designates the sign with which the two rotary axes enter the 4th 5-axis transformation of a channel.
 Other than that it has the same meaning as TRAFO5_ROT_SIGN_IS_PLUS_1.

25330	TRAFO5_NON_POLE_LIMIT_4	C07	F2			
degrees	Definition of pole range for 5-axis transformation 4	DOUBLE	NEW CONF			
-						
-	-	2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-	-	7/7	M

Description: This machine data designates a limit angle for the fifth axis of the 4th 5-axis transformation.
 Other than that it has the same meaning as TRAFO5_NON_POLE_LIMIT_1.

25340	TRAFO5_POLE_LIMIT_4	C07	F2			
degrees	End angle tolerance with interpolation through pole for 5-axis transf.	DOUBLE	NEW CONF			
-						
-	-	2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0, 2.0...	-	-	7/7	M

Description: This machine data designates an end angle tolerance for the fifth axis of the 4th 5-axis transformation with the following properties:
 Other than that it has the same meaning as TRAFO5_POLE_LIMIT_1.

25342	TRAFO5_POLE_TOL_4	C07	-			
degrees	End angle tolerance for tool orientation	DOUBLE	NEW CONF			
-						
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: End angle tolerance for interpolation through the pole for 5/6-axis transformation 4.
 Other than that it has the same meaning as TRAFO5_POLE_TOL_1.

25350	TRAFO5_BASE_TOOL_4	C07	F2			
mm	Vector of base tool on activation of 5-axis transformation 4	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: This MD indicates the vector of the base tool which takes effect when the first transformation is activated without a length compensation being selected. Programmed length compensations have an additive effect with respect to the base tool.

MD irrelevant:

if the "5-axis transformation" option is not installed.

1.3 NC machine data

25358	TRAFO5_JOINT_OFFSET_PART_4	C07	F2
mm	Vector of kinematic table offset	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	-

Description: This machine data is only evaluated in generic 5-axis transformations with rotatable workpiece and rotatable tool (TRAFO_TYPE = 56, mixed kinematics). Other than that it has the same meaning as TRAFO5_JOINT_OFFSET_PART_1.

25360	TRAFO5_JOINT_OFFSET_4	C07	F2
mm	Vector of the kinem.offset of the 4th 5-axis transf. in channel	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	-

Description: This machine data designates the vector from the first to the second rotary joint for the 4th transformation of a channel. Other than that it has the same meaning as TRAFO5_JOINT_OFFSET_1.

25361	TRAFO6_JOINT_OFFSET_2_3_4	C07	-
mm	Vector of kinematic offset	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	-

Description: In the case of 6-axis transformations, defines the offset between the 2nd and third rotary axes for the 4th transformation of each channel.

25362	TRAFO5_TOOL_ROT_AX_OFFSET_4	C07	F2
mm	Offset of swivel point of the rotary axis on the 4th 5-axis transformation	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0 , 0.0, 0.0, 0.0 , 0.0...	-	-

Description: In the case of a 5-axis transformation with a swiveling linear axis, the value indicates the offset of the rotary axis which swivels the linear axis with reference to machine zero for the 4th transformation. Other than that it has the same meaning as >TRAFO5_TOOL_ROT_AX_OFFSET_1.

25364	TRAFO5_NUTATOR_AX_ANGLE_4	C07	F2
degrees	Nutating head angle in 5-axis transformation	DOUBLE	NEW CONF
-			
-	- 45.0, 45.0, 45.0, 45.0, 45.0, 45.0, 45.0...	-89.	89.

Description: Angle between the second rotary axis and the axis corresponding to it in the rectangular coordinate system
Other than that it has the same meaning as TRAFO5_NUTATOR_AX_ANGLE_1.

25366	TRAFO5_NUTATOR_VIRT_ORIAX_4	C07	-			
-	Virtual orientation axes	BOOLEAN	NEW CONF			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: it has the same meaning as TRAFO5_NUTATOR_VIRT_ORIAX_1.

25370	TRAFO5_AXIS1_4	C07	F2			
-	Direction of 1st rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: The MD designates the vector that describes the direction of the first rotary axis with the general 5-axis transformation (TRAFO_TYPE_* = 24).
Other than that it has the same meaning as TRAFO5_AXIS1_1.

25372	TRAFO5_AXIS2_4	C07	F2			
-	Direction of 2nd rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: The MD designates the vector that describes the direction of the second rotary axis with the general 5-axis transformation (TRAFO_TYPE_* = 24, 40, 56).
Other than that it has the same meaning as TRAFO5_AXIS2_1.

25373	TRAFO5_AXIS3_4	C07	-			
-	Direction of the 3rd rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: The MD designates the vector that describes the direction of the third rotary axis with the general 6-axis transformation (TRAFO_TYPE_* = 24, 40, 56, 57).
Other than that it has the same meaning as TRAFO5_AXIS3_1.

25374	TRAFO5_BASE_ORIENT_4	C07	-			
-	Vector of the tool base orientation for 5-axis transformation	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: Indicates the vector of the tool orientation in the general 5-axis transformation (TRAFO_TYPE_* = 24, 40, 56) if this is not defined on the transformation call or not read from a programmed tool.
Other than that it has the same meaning as TRAFO5_BASE_ORIENT_1.

1.3 NC machine data

25376	TRAFO6_BASE_ORIENT_NORMAL_4	C07	-		
-	Normal tool vector in 6-axis transformation	DOUBLE	NEW CONF		
-					
-	3 0.0, 1.0 , 0.0, 0.0, 1.0 , 0.0...	-	-	7/7	M

Description: Indicates the vector that stands vertically on the tool orientation (TRAFO5_BASE_ORIENTATION_1) in general 6-axis transformation (TRAFO_TYPE_* = 24, 40, 56, 57).
Other than that it has the same meaning as TRAFO6_BASE_ORIENT_NORMAL_1.

25380	TRAFO5_TOOL_VECTOR_4	C07	F2		
-	Direction of orientation vector for the first 5-axis transf.	BYTE	NEW CONF		
-					
-	- 2, 2, 2, 2, 2, 2, 2...	0	2	7/2	M

Description: Indicates the direction of the orientation vector for the first 5-axis transformation for each channel.
Other than that it has the same meaning as TRAFO5_TOOL_VECTOR_1.1.

25382	TRAFO5_TCARR_NO_4	C07	-		
-	TCARR number for the 4th 5-axis transformation	DWORD	NEW CONF		
-					
-	- 0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: It has the same meaning as TRAFO5_TCARR_NO_1.

25385	TRAFO5_ORIAX_ASSIGN_TAB_4	C07	F2		
-	Orientation axis / channel axis assignment transformation 4	BYTE	NEW CONF		
-					
-	3 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/2	M

Description: Assignment table of the orientation axes for 5-axis transformation 4
Other than that it has the same meaning as TRAFO5_ORIAX_ASSIGN_TAB_1.

25390	TRAFO5_ROT_OFFSET_FROM_FR_4	C01, C07	-		
-	Offset of transformation rotary axes from WO.	BOOLEAN	NEW CONF		
-					
-	- FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: It has the same meaning as TRAFO5_ROT_OFFSET_FROM_FR_1.

25394	TRAFO7_EXT_ROT_AX_OFFSET_4	C07	F2		
degrees	Position offset of the external rotary axes for 7-axis transformation 4	DOUBLE	NEW CONF		
-					
-	3 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: This machine data designates the angular offset of the external rotary axis in degrees for the fourth 7-axis transformation of a channel.
MD irrelevant:
if the "5-Axis Transformation" option is not installed.

25395	TRAFO7_EXT_AXIS1_4	C07	F2			
-	Direction of the 1st external rotary axis	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: The MD indicates the vector that describes the direction of the first external rotary axis in the fourth general 5/6-axis transformation (TRAFO_TYPE_* = 24).

The vector can have any magnitude.

Example:

Both with (0, 1, 0) and with (0, 7.21, 0), the same axis is described (in the direction of the 2nd geometry axis, i.e. usually Y).

Valid for the first transformation of a channel.

25495	TRACON_CHAIN_5	C07	M1			
-	Transformation grouping	DWORD	NEW CONF			
-						
-	4	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Transformation chain of the 5th concatenated transformation.

See TRACON_CHAIN_1 for documentation.

25496	TRACON_CHAIN_6	C07	M1			
-	Transformation grouping	DWORD	NEW CONF			
-						
-	4	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Transformation chain of the 6th concatenated transformation.

See TRACON_CHAIN_1 for documentation.

25497	TRACON_CHAIN_7	C07	M1			
-	Transformation grouping	DWORD	NEW CONF			
-						
-	4	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Transformation chain of the 7th concatenated transformation.

See TRACON_CHAIN_1 for documentation.

25498	TRACON_CHAIN_8	C07	M1			
-	Transformation grouping	DWORD	NEW CONF			
-						
-	4	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	7/7	M

Description: Transformation chain of the 8th concatenated transformation.

See TRACON_CHAIN_1 for documentation.

1.3 NC machine data

26000	PUNCHNIB_ASSIGN_FASTIN	C01, C09	N4
-	Hardware assignment for input byte for stroke control	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0... - - 7/2 M		

Description: Assignment of the high-speed input byte for "punching and nibbling"

Bit 0-7: Number of the input byte used

Bit 8-15: Free

Bit 16-23: Inversion mask for writing the hardware byte

Bit 24-31: Free

This data defines which input byte is to be used for the signal "travel active".

= 1:

On-board inputs (4 high-speed NCK outputs) are used.

2, 3, 4, 5

The external digital NCK inputs are used

128-129:

Comparator byte (results from high-speed analog inputs or VDI specification)

Related to:

MD26006 \$MC_NIBBLE_PUNCH_INMASK[n]

References:

/FB/, A4, Digital and Analog NCK I/Os

The signal is high active as default from software 3.2. That is there is wire break monitoring. If the signal is low active then, e.g., the MD must be set to the value MD ="H 0001 0001" for the outboard inputs.

26002	PUNCHNIB_ASSIGN_FASTOUT	C01, C09	N4
-	Hardware assignment for output byte for stroke control	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0... - - 7/2 M		

Description: This data defines which output byte is to be used for the stroke control.

Number of the high-speed output byte for "punching and nibbling"

Bit 0-7: Number of the output byte used

Bit 8-15: Free

Bit 16-23: Inversion mask for writing the hardware byte

Bit 24-31: Free

Possible inputs:

1:

840D on-board outputs (4 high-speed + 4 bits via VDI specification)

2, 3, 4, 5

External digital outputs (high-speed NCK O/I or VDI specification)

Related to:

MD26004 \$MC_NIBBLE_PUNCH_OUTMASK[n]

References:

/FB/, A4, Digital and Analog NCK I/Os

26004	NIBBLE_PUNCH_OUTMASK			C01, C09	N4
-	Mask for fast output bits			BYTE	PowerOn
-					
-	8	1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/2 M

Description: Mask for high-speed output bits for punching and nibbling.

Byte 1: Contains the bit for stroke release

Bytes 2-8: Currently free

Special cases:

Only NIBBLE_PUNCH_OUTMASK[0] is significant.

This is used to define the output bit for the signal "Release stroke".

Related to:

MD26002 \$MC_PUNCHNIB_ASSIGN_FASTOUT

26006	NIBBLE_PUNCH_INMASK			C01, C09	N4
-	Mask for fast input bits			BYTE	PowerOn
-					
-	8	1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/2 M

Description: This data can define up to 8 byte masks for the output of the high-speed bits.

The standard assignment of this data is as follows:

NIBBLE_PUNCH_INMASK[0]=1:

2° = first bit for the first punch interface (SPIF1)

NIBBLE_PUNCH_INMASK[1]=4:

Second punch interface (SPIF2), not available as standard

NIBBLE_PUNCH_INMASK[2]=0

...

NIBBLE_PUNCH_INMASK[7]=0

Note:

-

Special cases:

Only NIBBLE_PUNCH_INMASK[0] is relevant. This is used to define the input bit for the signal "Stroke active".

Related to:

MD26000 \$MC_PUNCHNIB_ASSIGN_FASTIN

26008	NIBBLE_PUNCH_CODE			C09	H2,K1
-	Definition of M functions			DWORD	PowerOn
-					
-	8	0, 23, 22, 25, 26, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/2 M

Description: This data defines the special M functions for punching and nibbling.

Standard value

Example

NIBBLE_PUNCH_CODE[0] = 0 20 End punching, nibbling with M20

NIBBLE_PUNCH_CODE[1] = 23 23 End punching, nibbling with M23

NIBBLE_PUNCH_CODE[2] = 22 22 Start nibbling

1.3 NC machine data

NIBBLE_PUNCH_CODE[3] = 25	25	Start punching
NIBBLE_PUNCH_CODE[4] = 26	26	Activate dwell time
NIBBLE_PUNCH_CODE[5] = 122	122	Start nibbling with pretension, stroke control at servo level
NIBBLE_PUNCH_CODE[6] = 125	125	Start punching with pretension, stroke control at servo level
NIBBLE_PUNCH_CODE[7] = 0	0	Not used (in preparation)

Special cases:

If MD26012 \$MC_PUNCHNIB_ACTIVATION = 2 (M functions are interpreted directly by the software), then MD26008 \$MC_NIBBLE_PUNCH_CODE[0] = 20 has to be set.

Related to:

MD26012 \$MC_PUNCHNIB_ACTIVATION

26010	PUNCHNIB_AXIS_MASK	C09	N4
-	Definition of punching and nibbling axes	DWORD	PowerOn
-			
-	- 7, 0, 0, 0, 0, 0, 0, 0...	- -	7/2 M

Description: Defines the axes involved in punching and nibbling. That is all the axes defined here must be at rest during punching and nibbling.

Related to:

MD26016 \$MC_PUNCH_PARTITION_TYPE

26012	PUNCHNIB_ACTIVATION	C09	K1
-	Activation of punching and nibbling functions	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	- -	7/2 M

Description: This MD defines the ways in which punching and nibbling functions can be activated:

PUNCHNIB_ACTIVATION = 0

None of the punching or nibbling functions can be activated. The automatic path segmentation is the only exception - if it is enabled via MD26014 \$MC_PUNCH_PATH_SPLITTING.

PUNCHNIB_ACTIVATION = 1

The functions are activated via language commands. If M functions are to be used, then they must be programmed using macros.

PUNCHNIB_ACTIVATION = 2

The M functions are interpreted directly by the software. Language commands can still be used.

Note:

This option is intended only as a temporary solution.

Related to:

MD26014 \$MC_PUNCH_PATH_SPLITTING

MD26008 \$MC_NIBBLE_PUNCH_CODE[n]

26014	PUNCH_PATH_SPLITTING	C09	N4
-	Activation of automatic path segmentation	DWORD	PowerOn
-			
-	-	2, 2, 2, 2, 2, 2, 2...	-

Description: Activation data for automatic path segmentation.

Value Significance

0 =

Automatic path segmentation only active with punching and nibbling.

1 =

Automatic path segmentation can also be activated without punching and nibbling functions;

that is, it is programmable and be used NC internally

2 =

Automatic path segmentation can only be used NC internally;

that is it cannot be programmed.

26016	PUNCH_PARTITION_TYPE	C09	N4
-	Behavior of individual axes with automatic path segmentation	DWORD	PowerOn
-			
-	-	1, 0, 0, 0, 0, 0, 0...	-

Description: This machine data defines how single axes that are also nibbling axes within the meaning of MD26010 \$MC_PUNCHNIB_AXIS_MASK are to behave.

In this case, there are the following options for the behavior of the single axes during automatic path segmentation and stroke control:

PUNCH_PARTITION_TYPE = 0

No special behavior during automatic path segmentation. If the single axes are programmed together with path axes in one block, then their total traversing path is split up corresponding to the path axes. That is the pure geometric relationship between the single axes and path axes is identical to the undivided motion. If the single axes are programmed without the path axes but with SPN=<value>, then the path is divided according to the programmed SPN value.

PUNCH_PARTITION_TYPE = 1

In this case, the path of the single axes, if they are programmed together with path axes, are generally traversed in the first section (that is independently of the currently active type of interpolation).

PUNCH_PARTITION_TYPE = 2

In this case, the single axes behave with linear interpolation in the same way as with PUNCH_PARTITION_TYPE = 1, and with all other types of interpolation in the same way as with PUNCH_PARTITION_TYPE = 0.

Related to:

MD26010 \$MC_PUNCHNIB_AXIS_MASK

1.3 NC machine data

26018	NIBBLE_PRE_START_TIME	C09	N4
s	Delay time for nibbling/punching with G603	DOUBLE	PowerOn
-			
-	- 0., 0., 0., 0., 0., 0., 0....	- -	7/2 M

Description: To minimize any dead times due to the reaction time of the punching unit, it is possible to release the stroke before reaching the in-position window of the axes. The reference time for this is the interpolation end. Since there is normally a delay of some interpolation cycles after reaching the interpolation end (depending on the machine dynamics) until the axes actually come into position, the prestart time is a delay time with respect to reaching the interpolation end.

The function is therefore coupled to G603 (block change at the end of interpolation).

The time can be set via the machine data NIBBLE_PRE_START_TIME).

Example:

With an interpolation cycle of 5 ms, a stroke shall be released 2 cycles after reaching the interpolation end. In this case, the value 0.010 s must be selected for NIBBLE_PRE_START_TIME. If a value that is not integrally divisible by the set interpolation time is selected, then the stroke is initiated in the interpolation cycle following the set time.

26020	NIBBLE_SIGNAL_CHECK	C09	N4
-	Alarm on chattering punching signal	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0...	- -	7/2 M

Description: When stroke active signal is set, for example by punch overshoots between the strokes, then the interpolation is stopped. It is also possible to generate the message "unclean punch signal" as a function of machine data NIBBLE_SIGNAL_CHECK.

0: No error message when the punching signal is irregular

1: Alarm, when the punching signal is irregular between strokes

27100	ABSBLOCK_FUNCTION_MASK	N01	K1,P1
-	Parameterize basic blocks with absolute values	DWORD	PowerOn
-			
-	- 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0 0x1	7/2 M

Description: Parameterization of the "basic blocks with absolute values" function

Bit 0 = 1 :

The position values of the transverse axis are always displayed as diameter values.

Transverse axes can be applied using MD20100 \$MC_DIAMETER_AX_DEF or MD30460 \$MA_BASE_FUNCTION_MASK, bit 2.

27200	MMC_INFO_NO_UNIT			EXP, -	-
-	HMI info (without physical unit)			DOUBLE	PowerOn
-					
-	80	45., 2., 0., 1., 0., - 1., 0., 1., 100., 1., 1., 0., 0., 0., 0....	-	-	0/2 M

Description: -

27201	MMC_INFO_NO_UNIT_STATUS			EXP, -	-
-	HMI status info (without physical unit)			BYTE	PowerOn
-					
-	80	1, 1...	-	-	0/2 M

Description: -

27202	MMC_INFO_POSN_LIN			EXP, -	-
mm	HMI info (linear positions)			DOUBLE	PowerOn
-					
-	50	0., 0., 1., 1., 0., 0., 100., 0., 0., 1000., 1., 1....	-	-	0/2 M

Description: -

27203	MMC_INFO_POSN_LIN_STATUS			EXP, -	-
-	HMI status info (linear positions)			BYTE	PowerOn
-					
-	50	1, 1...	-	-	0/2 M

Description: -

27204	MMC_INFO_VELO_LIN			EXP, -	-
mm/min	HMI info (linear velocities)			DOUBLE	PowerOn
-					
-	16	10., 10., 2000., 10000., 300., 1000., 1000., 10., 0., 0., 0., 0....	-	-	0/2 M

Description: -

27205	MMC_INFO_VELO_LIN_STATUS			EXP, -	-
-	HMI status info (linear velocities)			BYTE	PowerOn
-					
-	16	1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	0/2 M

Description: -

Machine and setting data

1.3 NC machine data

27206	MMC_INFO_CUT_SPEED		EXP, -	-
m/min	HMI info (cutting speed)		DOUBLE	PowerOn
-				
-	5	100., 0., 0., 0., 0., 100., 0., 0., 0., 0....	-	-

Description: -

27207	MMC_INFO_CUT_SPEED_STATUS		EXP, -	-
-	HMI status info (cutting speed)		BYTE	PowerOn
-				
-	5	1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0...	-	-

Description: -

27208	MMC_INFO_REV_FEED		EXP, -	-
mm/rev	HMI info (feed)		DOUBLE	PowerOn
-				
-	10	1., 0.100, 1., 1., 0., 0., 0., 0., 0., 0....	-	-

Description: -

27209	MMC_INFO_REV_FEED_STATUS		EXP, -	-
-	HMI status info (feed)		BYTE	PowerOn
-				
-	10	1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0...	-	-

Description: -

27400	OEM_CHAN_INFO		A01, A11	-
-	OEM version information		STRING	PowerOn
-				
-	3	, , , , , , ...	-	-

Description: A version information freely available to the user
(is indicated in the version screen)

27850	PROG_NET_TIMER_MODE		C09	-
-	Impact of the program runtime net counter		DWORD	Reset
-				
-	-	0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00...	0x00	0x03

Description: The program run time is measured using system variables and can be read out.
It provides a means of outputting the current progress of the processing of a part program. This MD can be used to make the following settings on a channel-specific basis:

Bit 0 = 0

\$AC_ACT_PROG_NET_TIME is not deleted on a jump to the start of the program with GOTOS

Bit 0 = 1
\$AC_ACT_PROG_NET_TIME is deleted on a jump to the start of the program with GOTOS, the value is saved in \$AC_OLD_PROG_NET_TIMES, and the program counter \$AC_OLD_PROG_NET_TIME_COUNT is incremented.

Bit 1 = 0
\$AC_ACT_PROG_NET_TIME ceases to be increased if override = 0 is set; in other words, the program run time is measured without the time for which the override was set to 0.

Bit 1 = 1
\$AC_ACT_PROG_NET_TIME is increased if override = 0; in other words, the program run time is measured with the time for which the override was set to 0.

Bits 2 to 31
Reserved

27860	PROCESSTIMER_MODE	C09	K1			
-	Activation and impact of program runtime measurement	DWORD	Reset			
-						
-	-	0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00...	0	0x7FF	7/2	M

Description: Timers are provided as system variables under the function program runtime. While the NCK-specific timers are always activated (for time measurements since the last control power on), the channel-specific timers have to be started via this machine data.

Meaning:

Bit 0 = 0

No measurement of total operating time for any part program

Bit 0 = 1

Measurement of total operating time is active for all part programs (\$AC_OPERATING_TIME)

Bit 1 = 0

No measurement of current program runtime

Bit 1 = 1

Measurement of current program runtime is active (\$AC_CYCLE_TIME)

Bit 2 = 0

No measurement of tool operating time

Bit 2 = 1

Measurement of tool operating time is active (\$AC_CUTTING_TIME)

Bit 3

Reserved

Bits 4,5 only when bit 0, 1, 2 = 1:

Bit 4 = 0 No measurement with active dry run feed

Bit 4 = 1 Measurement also with active dry run feed

Bit 5 = 0 No measurement with program test

Bit 5 = 1 Measurement also with program test

Bit 6 only when Bit 1 = 1:

Bit 6 = 0

Delete \$AC_CYCLE_TIME also with start by ASUB and PROG_EVENTS

1.3 NC machine data

```

Bit 6 = 1
$AC_CYCLE_TIME is not deleted on start by ASUB and PROG_EVENTS.

Bit 7 only when bit 2 = 1:
Bit 7 = 0 $AC_CUTTING_TIME counts only with active tool
Bit 7 = 1 $AC_CUTTING_TIME counts irrespective of tool
Bits 8 only when bit 1 = 1
Bit 8 = 0
    $AC_CYCLE_TIME is not deleted on jumping to program start with GOTOS
Bit 8 = 1
    $AC_CYCLE_TIME is deleted on jumping to program start with GOTOS.

Bit 9 only when bits 0, 1 = 1:
Bit 9 = 0
    $AC_OPERATING_TIME, $AC_CYCLE_TIME: No measurement with override = 0.
Bit 9 = 1
    $AC_OPERATING_TIME, $AC_CYCLE_TIME: Measurement also with override = 0.

Bits 10 to 31
Reserved

```

27880	PART_COUNTER	C09	K1			
-	Activation of workpiece counter	DWORD	Reset			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0xFFFF	7/2	M

Description: The part counters can be configured with this machine data.

Note: with bit 0 = 1 and \$AC_REQUIRED_PARTS smaller than 0 all workpiece counts

activated in this MD are frozen at the status reached.

Meaning of the individual bits:

Bits 0 - 3:Activating \$AC_REQUIRED_PARTS

Bit 0 = 1:Counter \$AC_REQUIRED_PARTS is activated

Further significance of bits 1-3 only when bit 0 =1 and \$AC_REQUIRED_PARTS > 0:

Bit 1 = 0:Alarm/VDI output if \$AC_ACTUAL_PARTS corresponds to \$AC_REQUIRED_PARTS

Bit 1 = 1:Alarm/VDI output if \$AC_SPECIAL_PARTS corresponds to \$AC_REQUIRED_PARTS

Bit 2Reserved!

Bit 3Reserved!

Bits 4 - 7:Activating \$AC_TOTAL_PARTS

Bit 4 = 1:Counter \$AC_TOTAL_PARTS is active

Further meaning of bits 5-7 only when bit 4 =1 and \$AC_REQUIRED_PARTS > 0:

Bit 5 = 0:Counter \$AC_TOTAL_PARTS is incremented by 1 with a VDI output of M02/M30

Bit 5 = 1:Counter \$AC_TOTAL_PARTS is incremented by 1 with output of the M command from MD PART_COUNTER_MCODE[0]

Bit 6 = 0:\$AC_TOTAL_PARTS also active with program test/block search

Bit 7 = 1:counter \$AC_TOTAL_PARTS is incremented by 1 when jumping back with GOTOS

Bits 8 - 11:Activating \$AC_ACTUAL_PARTS

Bit 8 = 1:Counter \$AC_ACTUAL_PARTS is active
Further significance of bits 9-11 only when bit 8 =1 and \$AC_REQUIRED_PARTS > 0:
Bit 9 = 0:Counter \$AC_ACTUAL_PARTS is incremented by 1 with a VDI output of M02/M30
Bit 9 = 1:Counter \$AC_ACTUAL_PARTS is incremented by 1 with output of the M command from MD PART_COUNTER_MCODE[1]
Bit 10 = 0:\$AC_ACTUAL_PARTS also active with program test/block search
Bit 10 = 1:No machining \$AC_ACTUAL_PARTS with program test/block search
Bit 11 = 1:counter \$AC_ACTUAL_PARTS is incremented by 1 when jumping back with GOTOS
Bit 12 - 15:Activating \$AC_SPECIAL_PARTS

Bit 12 = 1:Counter \$AC_SPECIAL_PARTS is active
Further significance of bits 13-15 only when bit 12 =1 and \$AC_REQUIRED_PARTS > 0:
Bit 13 = 0:Counter \$AC_SPECIAL_PARTS is incremented by 1 with a VDI output of M02/M30
Bit 13 = 1:Counter \$AC_SPECIAL_PARTS is incremented by 1 with output of the M command from MD PART_COUNTER_MCODE[2]
Bit 14 = 0:\$AC_SPECIAL_PARTS also active with program test/block search
Bit 14 = 1:No machining \$AC_SPECIAL_PARTS with program test/block search
Bit 15 = 1:counter \$AC_SPECIAL_PARTS is incremented by 1 when jumping back with GOTOS
Related to:
MD27882 \$MC_PART_COUNTER_MCODE

27882	PART_COUNTER_MCODE	C09	K1			
-	Workpiece counting with user-defined M command	BYTE	PowerOn			
-						
-	3	2, 2, 2, 2, 2, 2, 2, 2, 2, 2, ...	0	99	7/2	M

Description: If part counting is activated via MD27880 \$MC_PART_COUNTER, the count pulse can be triggered by a special M command.

Only then are the values defined here taken into account:

Meaning:

The part counters are incremented by 1 in the NST signal output of the M command described, where:

MD27882 \$MC_PART_COUNTER_MCODE[0] for \$AC_TOTAL_PARTS

MD27882 \$MC_PART_COUNTER_MCODE[1] for \$AC_ACTUAL_PARTS

MD27882 \$MC_PART_COUNTER_MCODE[2] for \$AC_SPECIAL_PARTS

27900	REORG_LOG_LIMIT	EXP, C02	-			
-	Percentage of IPO buffer for enabling log file	BYTE	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	-	-	0/0	M

Description: The machine data defines the percentage of the IPO buffer above which data in the REORG LOG memory can be released in stages, if the block preparation has been interrupted due to an overflow of the REORG LOG data memory.

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The released data are no longer available to the REORG function (References: /FB /, K1, "Mode Groups, Channels, Program Operation Mode").

A consequence of this status is that a further REORG command is canceled with an error message.

If the status of "non-reorganizability" occurs, warning 15110 is output. The output of the warning can be suppressed by enabling the highest significant bit. The bit is set by adding the value 128 to the input value in REORG_LOG_LIMIT.

In addition to the instructions of the NC blocks, the size of the IPO buffer and the REORG data memory also affect the frequency of data release.

Related to:

MD28000 \$MC_MM_REORG_LOG_FILE_MEM

(memory size for REORG)

MD28060 \$MC_MM_IPO_BUFFER_SIZE

(number of blocks in the IPO buffer)

27920	TIME_LIMIT_NETTO_INT_TASK	EXP, C01	-
s	Runtime limit of interpreter subtask	DOUBLE	PowerOn
-			
-	-	0.005, 0.005, 0.005, 0.005, 0.005, 0.005...	0.001 0.100 7/0 M

Description: With MD27920 \$MC_TIME_LIMIT_NETTO_INT_TASK, the maximum runtime of the interpreter subtask is set. The interpreter subtask is started from the preprocessing task. If the interpreter task does not end on its own within the time set with MD27920 \$MC_TIME_LIMIT_NETTO_INT_TASK, it will be stopped and continued after a preprocessing cycle.

28000	MM_REORG_LOG_FILE_MEM	EXP, C02	V2,K1
-	Memory space for REORG (DRAM)	DWORD	PowerOn
-			
-	-	50, 50, 50, 50, 50, 50, 50, 50...	1 500 7/2 M

Description: Definition of the size (in kbyte) of the dynamic memory for the REORG-LOG data. The size of the memory determines the quantity of the data available for the function REORG.

References:

/FB/, K1, "Mode Groups, Channel, Program Operation"

28010	MM_NUM_REORG_LUD_MODULES	EXP, C02	V2,K1
-	Number of blocks for local user variables in REORG (DRAM)	DWORD	PowerOn
-			
-	-	8, 8, 8, 8, 8, 8, 8, 8... 0	SLMAXNUMBE ROF_USERMO DULES 7/2 M

Description: Defines the number of additional LUD data blocks available for the function REORG (see Description of Functions, Channels, Mode Groups, Program Operation (K1)).

This value can be 0 if the function REORG is not used. The CNC always opens 12 LUD data blocks, of which 8 are used for NC programs and 4 for the ASUBs.

An LUD data block is needed for each NC program and ASUB in which a local user variable is defined. This value may have to be increased for the function REORG if a large IPO buffer is present and a large number of short NC programs in which LUD variables are defined are active (prepared NC blocks of the programs are located in the IPO buffer).

An LUD data block is needed for each of these programs. The size of the reserved memory is affected by the number of LUDs per NC program and their individual memory requirements. The LUD data blocks are stored in the dynamic memory.

The memory requirement for managing the blocks for local user variables with REORG can be determined as follows:

The size of the LUD blocks depends on the number of active LUDs and their data type. The memory for the LUD blocks is limited by the MD28000 \$MC_MM_REORG_LOG_FILE_MEM (memory size for REORG).

28020	MM_NUM_LUD_NAMES_TOTAL	C02	V2,K1			
-	Number of local user variables (DRAM)	DWORD	PowerOn			
-						
-	-	2000, 2000, 2000, 2000, 2000, 2000, 2000...	2000	32000	7/2	M

Description: Defines the number of variables for the local user data (LUD) which are permitted to exist in the active sections of the program. Approximately 150 bytes of memory per variable are reserved for the names of the variables and the variable values. The memory required for the variable value is equal to the size of the data type. If the total of the local user variables from the active main program and the related subprograms is larger than the defined limit, the variables which are over the limit are not accepted during execution of the program. Dynamic memory is used for the variable names and variable values.

Overview of the memory used by the data types:

Data type	Memory used
REAL	8 bytes
INT	4 bytes
BOOL	1 byte
CHAR	1 byte
STRING	1 byte per character, 200 characters per string are possible
AXIS	4 bytes
FRAME	400 bytes

28040	MM_LUD_VALUES_MEM	C02	V2,K1			
-	Memory space for local user variables (DRAM)	DWORD	PowerOn			
-						
-	-	250, 250, 250, 250, 250, 250, 250, 250...	250	32000	7/2	M

Description: This MD defines the amount of memory space available for LUD variables. The maximum number of available LUDs is given by one of the limit values of MD28020 \$MC_MM_NUM_LUD_NAMES_TOTAL or MD28040 \$MC_MM_LUD_VALUES_MEM.

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The memory defined here is subdivided into $(MD28040 \$MC_MM_LUD_VALUES_MEM * 1024) / MD18242 \$MN_MM_MAX_SIZE_OF_LUD_VALUE$ blocks, and allocated to part programs which request memory. Each part program that contains at least one definition of an LUD variable or call parameters uses at least one such block.

It should be remembered that several part programs requiring memory can be open simultaneously in the NCK. The number depends on the type of programming, the program length, and the size of the internal NCK block memory upwards of $(MD28060 \$MC_MM_IPO_BUFFER_SIZE, MD28070 \$MC_MM_NUM_BLOCKS_IN_PREP)$.

Related to:

MD28020 \$MC_MM_NUM_LUD_NAMES_TOTAL
(number of local user variables (DRAM))

28050	MM_NUM_R_PARAM	C02	K1
-	Number of channel-specific R variables (SRAM)	DWORD	PowerOn
-			
-	-	100, 100, 100, 100, 100, 100, 100, 100...	0 32535 7/2 M

Description: Defines the number of R variables available in the channel. A maximum of 32535 R variables are available per channel. This machine data reserves 8 bytes of buffered user memory per R variable.

R variables have a considerably lower management overhead in comparison to LUD and GUD variables.

Attention:

The buffered data are lost when this machine data is changed!

28060	MM_IPO_BUFFER_SIZE	C02	B1,K1
-	Number of NC blocks in IPO buffer (DRAM)	DWORD	PowerOn
-			
-	-	10, 10, 10, 10, 10, 10, 10, 10...	2 1000 7/2 M

Description: Defines the number of blocks for the interpolation buffer. This buffer contains prepared NC blocks available for the interpolation. A number of kbytes of the dynamic user memory are reserved for each NC block. The data also limits the number of blocks for look ahead consideration of speed limitation for the LookAhead function.

MD28060 \$MC_MM_IPO_BUFFER_SIZE is set by the system.

Related to:

MD28070 \$MC_MM_NUM_BLOCKS_IN_PREP
(number of blocks for block preparation)

28070	MM_NUM_BLOCKS_IN_PREP	EXP, C02	B1,K1
-	Number of blocks for block preparation (DRAM)	DWORD	PowerOn
-			
-	-	50, 50, 50, 50, 50, 50, 50, 50...	20 500 7/2 M

Description: Defines the number of NC blocks available for NC block preparation. This figure is determined mainly by the system software and is used largely for optimization. Approximately 10 Kbytes of dynamic memory is reserved per NC block.

Related to:

MD28060 \$MC_MM_IPO_BUFFER_SIZE
(number of NC blocks with IPO buffer)

28080	MM_NUM_USER_FRAMES	C11, C02	K1,K2			
-	Number of settable frames (SRAM)	DWORD	PowerOn			
-						
-	-	5, 5, 5, 5, 5, 5, 5, 5...	5	100	7/2	M

Description: Defines the number of predefined user frames. Approximately 400 bytes of backup memory are reserved per frame.

The standard system configuration provides four frames for G54 to G57 and one frame for G500.

Special cases:

The backup data are lost if this machine data is altered!

28081	MM_NUM_BASE_FRAMES	C02	M5,K2			
-	Number of base frames (SRAM)	DWORD	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	16	7/2	M

Description: Number of channel-specific base frames per channel.

The value corresponds to the number of field elements for the predefined field \$P_CHBFR[].

Buffered memory is reserved for this.

28082	MM_SYSTEM_FRAME_MASK	C02	M5,K2,W1			
-	System frames (SRAM)	DWORD	PowerOn			
-						
-	-	0x21, 0x21, 0x21, 0x21, 0x21, 0x21, 0x21...	0	0x00000FFF	7/2	M

Description: Bit mask for configuring channel-specific system frames included in the channel.

Bit 0: System frame for setting actual value and scratching

Bit 1: System frame for external work offset

Bit 2: System frame for TCARR and PAROT

Bit 3: System frame for TOROT and TOFRAME

Bit 4: System frame for workpiece reference points

Bit 5: System frame for cycles

Bit 6: System frame for transformations

Bit 7: System frame \$P_ISO1FR for ISO G51.1 Mirror

Bit 8: System frame \$P_ISO2FR for ISO G68 2DROT

Bit 9: System frame \$P_ISO3FR for ISO G68 3DROT

Bit 10: System frame \$P_ISO4FR for ISO G51 Scale

Bit 11: System frame \$P_RELFR for relative coordinate systems

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28083	MM_SYSTEM_DATAFRAME_MASK	C02	-
-	System frames (SRAM)	DWORD	PowerOn
-			
-	- 0xF9F, 0xF9F, 0xF9F, 0xF9F, 0xF9F, 0xF9F...	0 0x0000FFF	7/2 M

Description: Bit mask for configuring channel-specific system frames in the data storage (SRAM).

Bit 0: System frame for setting actual value and scratching

Bit 1: System frame for external work offset

Bit 2: System frame for TCARR and PAROT

Bit 3: System frame for TOROT and TOFRAME

Bit 4: System frame for workpiece reference points

Bit 5: System frame for cycles

Bit 6: System frame for transformations

Bit 7: System frame \$P_ISO1FR for ISO G51.1 Mirror

Bit 8: System frame \$P_ISO2FR for ISO G68 2DROT

Bit 9: System frame \$P_ISO3FR for ISO G68 3DROT

Bit 10: System frame \$P_ISO4FR for ISO G51 Scale

Bit 11: System frame \$P_RELFR for relative coordinate systems

28085	MM_LINK_TOA_UNIT	C02, C09	FBW,S7
-	Assignment of a TO unit to a channel (SRAM)	DWORD	PowerOn
-			
-	- 1, 2, 3, 4, 5, 6, 7, 8...	1 10	7/2 M

Description: The T0 area covers all tool, magazine, ... data blocks known to the NCK. The maximum number of units in the TO area is equal to the number of channels.

If MD28085 \$MC_MM_LINK_TOA_UNIT = default setting, then each channel is assigned a TO unit individually.

If MD28085 \$MC_MM_LINK_TOA_UNIT = i, the channel is assigned TO unit i. This enables one TO unit to be assigned to multiple channels.

Notice

The upper limit does not indicate that this value is always practical or free of conflicts. If one channel (the first) is active in a system with a maximum of 2 channels, and the other is not, the MD on channel 1 can formally be given the value 2, but the NCK cannot work with it. This setting would mean that channel 1 did not have any blocks for tool offsets, as the channel with ID=2 did not exist.

The NCK detects this conflict at Power On and restart, and responds by automatically changing the (incorrect) value to the default value of the MD.

28090	MM_NUM_CC_BLOCK_ELEMENTS	EXP, C02	TE1, TE7, TE8, K1
-	Number of block elements for compile cycles (DRAM)	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0 130	7/1 M

Description: The input value defines the number of block elements that can be used for compile cycles.

In the case of software version 2, approximately 1.2KB of dynamic memory is required per block element.

28100	MM_NUM_CC_BLOCK_USER_MEM	EXP, C02	TE1,TE7,TE8,K1			
-	Size of block memory for compile cycles (DRAM), in KB	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	64000	7/1	M

Description: The value defines the total capacity of block memory available to the user in the dynamic memory area for the compile cycles. The memory is allocated in staggered blocks of 128 bytes.

28105	MM_NUM_CC_HEAP_MEM	EXP, C02	TE7			
-	Heap memory in kbytes for compile-cycle applications (DRAM)	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	64000	7/2	M

Description: Size of the heap memory in kbytes which can be used by the compile cycle user.

Dynamic memory is reserved.

The memory is allocated in subdivisions of 128 byte blocks.

The start address and the size of the reserved memory is made available via a binding, the management lies in the hands of the CC user.

28150	MM_NUM_VDIVAR_ELEMENTS	C02	A2,P3 pl,P3 sl			
-	Number of elements for writing PLC variables	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	32000	7/2	M

Description: The MD defines the number of elements which the user has available for writing PLC variables (\$A_DBx=...). This number also applies to block search, but not to synchronized actions.

The memory requirement is ca. 24 bytes per element.

One element is needed for each write action when writing PLC variables in quick succession.

If more writing actions are to be performed than elements are available, block transport must be guaranteed (trigger preprocessing stop, if required) However, the number of elements can be reduced if the accessing actions are made separately (block transport has already been accomplished). Writing accesses (var=\$A_DBx) are unlimited.

28160	MM_NUM_LINKVAR_ELEMENTS	C02	B3			
-	Number of elements for writing NCU-link variables	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	32000	7/2	M

Description: Defines the number of elements which the user has available for programming link variables (\$A_DLx=...). This number also applies to block search, but not to synchronized actions.

The memory requirement is approx. 24 bytes per element.

One element is needed for each write action when writing NCU-link variables in quick succession.

However, the number of elements can be reduced if the accessing actions are made separately (block transport has already been accomplished).

If more writing actions are to be performed than elements are available, block transport must be guaranteed (trigger preprocessing stop, if required).

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28180	MM_MAX_TRACE_DATAPOINTS	EXP, C02, C06	-			
-	Length of the trace data buffer	DWORD	PowerOn			
NBUP						
-	-	100, 100, 100, 100, 100, 100, 100, 100...	0	20000	2/2	M

Description: MM_MAX_TRACE_DATAPOINTS defines the size of an internal data buffer which contains the trace recordings.

28200	MM_NUM_PROTECT_AREA_CHAN	C02, C06, C09	A3			
-	Number of files for channel-specific protection zones (SRAM)	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	10	7/2	M

Description: This machine data defines how many blocks are set up for channel-specific protection zones.

Related to:

MD28210 \$MC_MM_NUM_PROTECT_AREA_ACTIVE
(number of simultaneously active protection zones)

MD18190 \$MN_MM_NUM_PROTECT_AREA_NCK
(number of files for machine-related protection zones (SRAM))

References:

/FB/, A3, "Axis/Contour Tunnel Monitoring, Protection Zones"

28210	MM_NUM_PROTECT_AREA_ACTIVE	C11, C02, C06, C09	A3			
-	Number of simultaneously active protection zones in one channel	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	10	7/2	M

Description: This machine data defines the number of protection zones that may be activated simultaneously for each channel.

It is not practical to enter a numerical value higher than MD18190
\$MN_MM_NUM_PROTECT_AREA_NCK + MD28200 \$MC_MM_NUM_PROTECT_AREA_CHAN.

Related to:

MD28200 \$MC_MM_NUM_PROTECT_AREA_CHAN
(Number of blocks for channel-specific protection zones)

MD18190 \$MN_MM_NUM_PROTECT_AREA_NCK
(Number of files for machine-related protection zones (SRAM))

References:

/FB1/ Function Manual Basic Functions; Axis Monitoring, Protection Zones (A3)

28212	MM_NUM_PROTECT_AREA_CONTOUR	C11, C02, C06, C09	A3			
-	Elements for active protection zones (DRAM)	DWORD	PowerOn			
-						
-	-	30, 30, 30, 30, 30, 30, 30, 30...	0	50	7/2	M

Description: This machine data defines for each channel how many internal contour elements in total are held available for active protection zones.

Dynamic memory is used.

The MD affects the memory requirements for the activated protection zones.

This machine data is active only if MD28210 \$MC_MM_NUM_PROTECT_AREA_ACTIVE is not equal to 0.

28240	MM_NUM_SYNC_DIAG_ELEMENTS	N05, C02	-			
-	Number of diagnostic elements for expressions in synchronized actions	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	32000	7/2	M

Description: The values of the variables and machine data during diagnostics of the motion-synchronous actions are saved to memory elements for storage in the control. A motion-synchronous action uses up to the number of elements for as many variables as are set with \$MC_MAXNUM_SYNC_DIAG_VAR.

The following are assigned:

- 1 element for each variable
- 1 element for each index

Example:

```
WHEN $R1 == 1 DO $R2 = $R[AC_MARKER[1]]
```

R1 = 2 elements, variable with written value 1 element, index "1" an element

R2 = 2 elements, variable with written value 1 Element, index "2" an element

AC_MARKER = 2 elements, variable with read value 1 element, index "1" an element

R = 2 elements, variable with written value 1 element, index "1" an element

Total 8 elements.

28241	MAXNUM_SYNC_DIAG_VAR	N05	-			
-	Maximum number of diagnostics variables per synchronized action	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	10000	7/2	M

Description: Maximum number of diagnostics variables per synchronized action.

28250	MM_NUM_SYNC_ELEMENTS	C02, -	2.8,6.1			
-	Number of elements for expressions in synchronized actions	DWORD	PowerOn			
-						
-	-	159, 159, 159, 159, 159, 159, 159, 159...	0	32000	7/2	M

Description: The expressions of the motion-synchronous actions are stored in memory elements in the control. A motion-synchronous action occupies at least 4 elements.

It occupies:

- 1 element for each operand in the condition
- >= 1 element for each action
- 2 elements for each assignment
- 1 element for each further operand in complex expressions.

One element is ca 64 bytes.

The option "Synchronous actions stage 2" is required if the MD is to be changed beyond its default value.

References:

Programming Guide, Advanced

1.3 NC machine data

28251	MM_NUM_SAFE_SYNC_ELEMENTS	C02, -	-
-	Number of elements for expressions in Safety synchr. actions	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0	32000 7/2 M

Description: The expressions of motion-synchronous actions are stored in memory elements of the control. A motion-synchronous action assigns at least 4 elements.

Assignments:

Each operand in the condition:1 element

Each action:>= 1 element

Each assignment:2 elements

Each additional operand in complex expressions:1 element

Also see:

MD28250 \$MC_MM_NUM_SYNC_ELEMENTS

28252	MM_NUM_FCTDEF_ELEMENTS	C02	2.4,2.8,6.1
-	Number of FCTDEF elements	DWORD	PowerOn
-			
-	- 3, 3, 3, 3, 3, 3, 3, 3...	0	100 7/2 M

Description: Defines the number of FCTDEF elements.

28253	MM_NUM_SYNC_STRINGS	C02, -	-
-	Number of strings for expressions in synchronized actions	DWORD	PowerOn
-			
-	- 200, 200, 200, 200, 200, 200, 200...	0	32000 7/2 M

Description: The expressions of motion-synchronous actions are saved in memory elements for storage in the control. Elements have to be reserved specifically for strings within expressions.

28254	MM_NUM_AC_PARAM	C02	-
-	Dimension of \$AC_PARAM.	DWORD	PowerOn
-			
-	- 50, 50, 50, 50, 50, 50, 50, 50...	0	20000 7/2 M

Description: Panel size of \$AC_PARAM.

28255	MM_BUFFERED_AC_PARAM	C02	2.3,6.1
-	\$AC_PARAM[] is stored in SRAM.	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0...	0	1 7/2 M

Description: \$AC_PARAM[] is stored in SRAM.

28256	MM_NUM_AC_MARKER	C02	2.3,6.1
-	Dimension of \$AC_MARKER	DWORD	PowerOn
-			
-	- 8, 8, 8, 8, 8, 8, 8, 8...	0	20000 7/2 M

Description: Number of channel-specific markers \$AC_MARKER for motion-synchronous actions.

DRAM or SRAM is required depending on MD28257 \$MC_MM_BUFFERED_AC_MARKER.

28257	MM_BUFFERED_AC_MARKER	C02	2.3,6.1			
-	\$AC_MARKER[] is stored in SRAM.	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0, 0...	0	1	7/2	M

Description: \$AC_MARKER [] is stored in SRAM.

28258	MM_NUM_AC_TIMER	C02	2.3,2.4,6.1			
-	Number of time variables \$AC_TIMER (DRAM)	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0, 0...	0	10000	7/2	M

Description: Number of channel-specific time variables \$AC_TIMER for motion-synchronous actions (DRAM)

28260	NUM_AC_FIFO	C01	2.3,2.4,6.1			
-	Number of FIFO variable for synchronized actions	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0, 0...	0	10	7/2	M

Description: Number of FIFO variables \$AC_FIFO1 - \$AC_FIFO10 for motion-synchronous actions.

FIFO variables are used for product tracking. A piece of information (e.g. the product length) for each part on a conveyor belt can be temporarily stored in each FIFO variable.

FIFO variables are stored in R variables.

MD28262 \$MC_START_AC_FIFO defines the number of the R variable as from which the FIFO variables can be stored. All R variables with lower numbers can be used freely in the part program.

R variables above the FIFO range cannot be written from the part program.

The number of R variables must set via MD28050 \$MC_MM_NUM_R_PARAM so that all FIFO variables can be accommodated from the start of the R variables:

MD28050 \$MC_MM_NUM_R_PARAM = MD28262 \$MC_START_AC_FIFO + MD28260
\$MC_NUM_AC_FIFO * (MD28264 \$MC_LEN_AC_FIFO + 6)

The FIFO variables bear the names \$AC_FIFO1 to \$AC_FIFOn.

They are stored as arrays.

The indices 0 - 5 have special meanings:

n= 0:

A new value is stored in the FIFO when writing with index 0.

The oldest element is read and removed from the FIFO when writing with index 0.

n=1: Access to the first element read in

n=2: Access to the last element 1 read in

n=3: Sum of all FIFO elements

n=4: Number of elements available in the FIFO

n=5: Current write index relative to FIFO start

n=6: 1st element read in

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28262	START_AC_FIFO	C01	2.3,2.4,6.1
-	FIFO variables store from R variable	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0, 0... 0 32535 7/2 M		

Description: Number of the R variable as from which FIFO variables are stored. All R variables with lower numbers can be used freely in the part program. R variables above the FIFO range cannot be written from the part program.

The number of R variables must be set via MD28050 \$MC_MM_NUM_R_PARAM so that all FIFO variables can be accommodated from the start of the R variables:

MD28050 \$MC_MM_NUM_R_PARAM = MD28262 \$MC_START_AC_FIFO + MD28260
\$MC_NUM_AC_FIFO * (MD28264 \$MC_LEN_AC_FIFO + 6)

The FIFO variables bear the names \$AC_FIFO1 to \$AC_FIFOn. They are stored as arrays.

The indices 0 - 5 have special meanings:

n= 0:

A new value is stored in the FIFO when writing with index 0.

The oldest element is read and removed from the FIFO when reading with index 0.

n=1: Access to the first element read in

n=2: Access to the last element read in

n=3: Sum of all FIFO elements

n=4: Number of elements available in the FIFO

n=5: Current write index relative to FIFO start

Related to:

MD28260 \$MC_NUM_AC_FIFO

28264	LEN_AC_FIFO	C01	2.3,2.4,6.1,M5
-	Length of FIFO variables \$AC_FIFO1-\$AC_FIFO10	DWORD	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0, 0... 0 32535 7/2 M		

Description: Length of the FIFO variables \$AC_FIFO1 to \$AC_FIFO10.

All FIFO variables are the same length.

28266	MODE_AC_FIFO	C01	2.3,2.4,6.1
-	Mode of FIFO processing	BYTE	PowerOn
-			
-	- 0, 0, 0, 0, 0, 0, 0, 0, 0... 0 - 7/2 M		

Description: Mode of FIFO processing:

Bit 0 = 1:

The sum of all FIFO contents is updated at each write access.

Bit 0 = 0:

No summation

Related to:

MD28260 \$MC_NUM_AC_FIFO

28274	MM_NUM_AC_SYSTEM_PARAM	EXP, C02	-			
-	Number of \$AC_SYSTEM_PARAM for motion-synchronous actions	DWORD	PowerOn			
<hr/>						
-	-	0, 0, 0, 0, 0, 0, 0...	0	20000	7/2	M

Description: Number of \$AC_SYSTEM_PARAM parameters for motion-synchronous actions.
Depending on MD28255 \$MC_MM_BUFFERED_AC_PARAM, DRAM or SRAM is required.
Reserved for SIEMENS applications.

28276	MM_NUM_AC_SYSTEM_MARKER	EXP, C02	-			
-	Number of \$AC_SYSTEM_MARKER for motion-synchronous actions	DWORD	PowerOn			
<hr/>						
-	-	0, 0, 0, 0, 0, 0, 0...	0	20000	7/2	M

Description: Number of \$AC_SYSTEM_MARKER markers for motion-synchronous actions.
Depending on MD28257 \$MC_MM_BUFFERED_AC_MARKER, DRAM or SRAM is required.
Reserved for SIEMENS applications.

28290	MM_SHAPED_TOOLS_ENABLE	C01, C08, C02	-			
-	Enable tool radius compensation for contour tools	BOOLEAN	PowerOn			
<hr/>						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: The function "Tool radius compensation for contour tools" is enabled with this tool.

28300	MM_PROTOC_USER_ACTIVE	C02	-			
-	Activation of logging for a user	BOOLEAN	PowerOn			
<hr/>						
-	10	TRUE, FALSE, FALSE, FALSE, FALSE, TRUE, TRUE, TRUE, FALSE...	-	-	1/1	M

Description: Activation of recording for a user.
The users 0 and 1, and 5 - 9 are reserved for system functions.
The users 2, 3 and 4 can be used by OEM.

28301	MM_PROTOC_NUM_ETP_OEM_TYP	C02	-			
-	Number of OEM event types ETP.	DWORD	PowerOn			
<hr/>						
-	10	0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	0	20	1/1	M

Description: Number of OEM event types in OPI module ETP.

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28302	MM_PROTOC_NUM_ETP_STD_TYP	C02	-			
-	Number of standard event types ETP	DWORD	PowerOn			
-						
-	10	28, 0, 0, 0, 0, 20, 20, 20, 0, 3...	0	59	1/1	M

Description: Number of standard event types required in the ETP OPI block.

28400	MM_ABSBLOCK	EXP, C02	K1			
-	Activate basic blocks with absolute values	DWORD	PowerOn			
-						
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0	512	7/2	M

Description: Value:

0: Basic blocks with absolute values deactivated.

1: Basic blocks with absolute values activated;

A display buffer of the following size is created:

(MD28257 \$MC_MM_BUFFERED_AC_MARKER + MD28070 \$MC_MM_NUM_BLOCKS_IN_PREP) *
256 bytes

>= 128:Basic blocks with absolute values activated.

A display buffer of the following size is created:

(MD28060 \$MC_MM_IPO_BUFFER_SIZE + MD28070 \$MC_MM_NUM_BLOCKS_IN_PREP) *
<value>

28402	MM_ABSBLOCK_BUFFER_CONF	EXP, C02	K1			
-	Setting of upload buffer size	DWORD	PowerOn			
-						
-	2	2, 4, 2, 4, 2, 4, 2, 4, 2, 4, 2, 4, 2, 4...	0	32000	7/2	M

Description: Dimensioning the size of the upload buffer:

MD28402 \$MC_MM_ABSBLOCK_BUFFER_CONF[0] : Number of blocks before the current block

MD28402 \$MC_MM_ABSBLOCK_BUFFER_CONF[1] : Number of blocks after the current block

The machine data is tested for the following upper / lower limits during startup:

0 <= MD28402 \$MC_MM_ABSBLOCK_BUFFER_CONF[0] <= 8

0 <= MD28402 \$MC_MM_ABSBLOCK_BUFFER_CONF[1] <= (MD28060

\$MC_MM_IPO_BUFFER_SIZE + MD28070 \$MC_MM_NUM_BLOCKS_IN_PREP)

Alarm 4152 is issued when the limits are violated.

28450	MM_TOOL_DATA_CHG_BUFF_SIZE	-, C02, C06	-			
-	Buffer for tool data changes (DRAM)	DWORD	PowerOn			
-						
-	-	400, 400, 400, 400, 400, 400, 400, 400...	0	2500	7/2	M

Description: Number of entries in the buffer for the OPI change service for tool data.

Dynamic memory is used.

This buffer is created only if bit 2 or bit 3 is set in MD17530
\$MN_TOOL_DATA_CHANGE_COUNTER.

28500	MM_PREP_TASK_STACK_SIZE		EXP, C02	K1		
-	Stack size of preparation task (DRAM)		DWORD	PowerOn		
-						
-	-	100, 100, 100, 100, 100, 100, 100, 100...	100	600	0/0	M

Description: Defines the stack size in kbytes for the preparation task. The stack is stored in the dynamic memory.

Note:

This machine data is assigned internally by the control and must not be altered by the user.

28502	MM_INT_TASK_STACK_SIZE		EXP, C02	-		
-	Stack size for interpreter subtask (kB).		DWORD	PowerOn		
-						
-	-	30, 30, 30, 30, 30, 30, 30, 30...	30	60	0/0	M

Description: Definition of the stack size (kByte) for the interpreter subtask.

28520	MM_MAX_AXISPOLY_PER_BLOCK		C02	B1		
-	maximal number of axial polynomials per block		DWORD	PowerOn		
-						
-	-	3, 3, 3, 3, 3, 3, 3...	1	5	7/2	M

Description: Maximum number of axis polynomials which can be contained in a block.

In the standard case, each block only contains one polynomial per axis, i.e. this data can immediately be set to one.

Currently, more polynomials are only needed for the new ADIS function with G643.

In this case, this data must have a minimum value of three.

28530	MM_PATH_VELO_SEGMENTS		C02	A2,B1		
-	Number of memory elements for path velocity limitation		DWORD	PowerOn		
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	100	7/2	M

Description: Number of memory elements available for limiting the path velocity and changing it in the block.

0 : Each block is limited by a maximum path velocity.

> 0 : If required, a profile of the permissible path velocity

; and its modification options is generated and monitored
; in the block.

; This results in a smoother axis velocity progression and
; a shorter travel time.

; MD28530 \$MC_MM_PATH_VELO_SEGMENTS defines the average
; number of segments available in the block.

; The necessary setting essentially depends
; on the requirements.

The following values are recommended:

3: for G643 and G644, if only geometry axes are traversed

5: for G643 and G644, if geometry and rotary axes are traversed

5: for COMPCAD

1.3 NC machine data

5: for dyn. transformation

A value that is too low this may lead to additional velocity limitations if a sufficient number of blocks cannot be made available for interpolation.

MD28530 \$MC_MM_PATH_VELO_SEGMENTS additionally increases the memory requirement of dyn. Look Ahead. Values higher than 5 are only practical in exceptional cases.

3 ... 5 :

Recommended setting.

28533	MM_LOOKAH_FFORM_UNITS	C02	-
-	Memory for extended LookAhead	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 100000 7/2 M

Description: The machine data is used to configure the work memory for extended LookAhead.

The MD scales the value defined internally through MD28060

\$MC_MM_IPO_BUFFER_SIZE, MD28520 \$MC_MM_MAX_AXISPOLY_PER_BLOCK, MD28530
\$MC_MM_PATH_VELO_SEGMENTS, MD28535 \$MC_MM_FEED_PROFILE_SEGMENTS, MD28540
\$MC_MM_ARCLENGTH_SEGMENTS).

Its practical size depends on the part program, the block lengths, the axis dynamics, and an active kinematic transformation.

The MD should only be set for those channels in which free-form surfaces are also machined.

0 : default LookAhead is active.

> 0 : extended LookAhead is active if switched on by MD20443

\$MC_LOOKAH_FFORM.

The guide value for free-form surface applications is: 18..20

28535	MM_FEED_PROFILE_SEGMENTS	C02	-
-	Number of memory element for feed profiles	DWORD	PowerOn
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	1 10 7/2 M

Description: Number of memory elements available for feed profile per block.

The default value 1 is adequate for a programmable feed profile (FLIN, FCUB, FPO()).

If compile cycle applications require more segments per block, this machine data must be increased accordingly.

If, for example, a feed profile is to be activated in which there is deceleration at both the beginning and the end of the block, 3 segments will be required for the feed profile in the block, i.e. this MD must have value 3.

28540	MM_ARCLENGTH_SEGMENTS	C02	B1
-	Number of memory elements for arc length function representation	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 100 7/2 M

Description: Number of memory elements available for the arc length function for parameterizing polynomials.

If this machine data is equal to zero, a fixed interval division is used to represent the arc length function. In this case, the calculated function is only tangent-continuous. This can lead to discontinuities in the axis accelerations.

If the function G643 or G644 is used for smoothing and/or COMPCAD, this MD should be assigned a value of at least 10. In this case, the calculated function also has a constant curvature which results in a smoother progression of the path velocity, as well as the axis velocities and accelerations.

Values substantially larger than 10 are only practical in exceptional cases.

Not only the value of MD28540 \$MC_MM_ARCLENGTH_SEGMENTS but also that of MD20262 \$MC_SPLINE_FEED_PRECISION are crucial for the accuracy.

28560	MM_SEARCH_RUN_RESTORE_MODE	C02	K2			
-	Data restore after simulation	DWORD	PowerOn			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x...	0	0x00000001	7/2	M

Description: Bit mask to restore data after cancelation of a simulated program execution.
 The following applies:
 Bit 0: All frames in the data storage are restored.

28580	MM_ORIPATH_CONFIG	C02	-			
-	Setting for ORIPATH path-relative orientation	BYTE	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	1	1/1	M

Description: This MD is used to configure the behavior with ORIPATH, that is path-relative interpolation of the tool orientation. Furthermore, orientation smoothing is enabled with the G codes OSD or OST.
 The following options are available:
 0: MD21094 \$MC_ORIPATH_MODE has no effect. G codes OSD and OST have no effect.
 1: The "genuine" path-relative orientation interpolation can be activated with MD21094 \$MC_ORIPATH_MODE = 1. The reference of the tool orientation to the path tangent and to the vector normal to the surface programmed with LEAD/TILT is retained throughout the block.
 Note:
 Alarm 10980 is output if ORIPATH is programmed with MD21094 \$MC_ORIPATH_MODE = 1 or OSD or OST without MD28580 \$MC_MM_ORIPATH_CONFIG = 1.

28590	MM_ORISON_BLOCKS	C02	-			
-	Setting for orientation smoothing	DWORD	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	1/1	M

Description: This MD is used to activate and reserve memory for the function "orientation smoothing with ORISON". If this data has a value of "zero", no orientation smoothing will be possible.
 The value of this machine data indicates the maximum number of blocks over which the orientation is smoothed. The value of this MD should be at least high enough that the blocks to be averaged fit in the buffer. This is dependent upon the maximum set tolerance and the average distance traversed by the programmed blocks or the length of the part blocks generated (see MD \$MC_ORISON_STEP_LENGTH).
 Setting this MD to higher values will significantly increase the memory requirement in the DRAM.
 A value of 4 should be entered as a minimum.

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If this MD is < 4 and if G code ORISON is programmed, alarm 10982 will be displayed.

28600	MM_NUM_WORKAREA_CS_GROUPS	C02	-
-	Number of coordinate system-specific operating range limits	DWORD	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 10 7/2 M

Description: Number of data blocks in the channel that are created for coordinate system-specific operating range limits.

It indicates the maximum value of the 1st index of system variable \$P_WORKAREA_CS...[WALimNo, Ax]. It furthermore defines the number of the programmable G functions "WALCS1, WALCS2, ... WALCS10" as well as the maximum value of the system variable \$AC_WORKAREA_CS_GROUP".

= 0: Function "Monitoring of coordinate system-specific operating range limits" cannot be activated.

28610	MM_PREPDYN_BLOCKS	C02	-
-	Number of blocks for velocity preparation	BYTE	PowerOn
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0 30 1/1 M

Description: This MD is used to define the number of blocks that are considered when defining the path velocity (velocity preparation). If the value of this MD is zero, only the relevant axis motions are considered in this block in order to define the maximum path velocity of a block. If the geometry in adjacent blocks is also considered when defining the path velocity, the path velocity will be more homogenous.

29000	LOOKAH_NUM_CHECKED_BLOCKS	C01, C02, C09, C05	-
-	Option data	DWORD	PowerOn
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	0 0x7FFFFFFF 7/1 M

Description: Data for path-related dynamic LookAhead:

(Maximum) number of blocks surveyed beyond the current block for look ahead consideration of speed limits.

The value defines an upper limit. The value should not be set too low in order to avoid unnecessary speed reductions.

Increasing the value above the maximum number of blocks in the IPO buffer (MM_IPO_BUFFER_SIZE) has no effect.

A LookAhead buffer is not set up for 0 (working memory is relieved).

If in this case LookAhead is activated by part program, then the speed is reduced to zero at the end of each block.

Unbuffered memory is needed.

Option data

1.3.3 Axis-specific machine data

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

30110	CTRLOUT_MODULE_NR			A01, A11, -	G2,S9	
-	Setpoint assignment: module number			BYTE	PowerOn	
-						
-	1	1, 2, 3, 4, 5, 6, 7, 8...	1	31	7/2	M

Description: Enter in this MD the number of the module within a bus segment through which the output is addressed.

For axes on the PROFIBUS/PROFINET, the number of the drive assigned with MD13050 \$MN_DRIVE_LOGIC_ADDRESS must be entered here (MD30110 \$MA_CTRLOUT_MODULE_NR=n consequently points to MD13050 \$MN_DRIVE_LOGIC_ADDRESS[n]).

30120	CTRLOUT_NR			EXP, A01, -	G2	
-	Setpoint assignment: Setpoint output on drive submodule/module			BYTE	PowerOn	
-						
-	1	1, 1, 1, 1, 1, 1, 1, 1...	1	3	2/2	M

Description: Number of the output on a module which is used to address the setpoint output.

The value is always 1 for modular drives.

30130	CTRLOUT_TYPE			A01, A11	G2,M3,S9	
-	Output type of setpoint			BYTE	PowerOn	
-						
-	1	0	0	3	7/2	M

Description: The type of speed setpoint output is entered in this MD:

- 0: Simulation (no hardware required)
 - 1: Setpoint output active (differentiated by hardware configuration)
 - 2: stepper motor
 - 3: reserved (previously stepper motor)
 - 4: reserved (previously virtual axis, simulation, no hardware available)
- For SW 4 and higher, MD30132 \$MA_IS_VIRTUAL_AX must now be used instead of the value 4.

30132	IS_VIRTUAL_AX			A01	M3,TE1,TE3	
-	Axis is a virtual axis			BOOLEAN	PowerOn	
CTEQ						
-	1	FALSE	-	-	7/2	M

Description: Virtual axis. An axis that is also interpolated in follow-up mode. (Electronic transfer technology; virtual and real master values.)

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This MD is the successor to MD30130 \$MA_CTRLOUT_TYPE=4. MD30130
\$MA_CTRLOUT_TYPE=0 and MD30132 \$MA_IS_VIRTUAL_AX=1 must now be used instead
of MD30130 \$MA_CTRLOUT_TYPE=4.

Related to:

MD30130 \$MA_CTRLOUT_TYPE

30134	IS_UNIPOLAR_OUTPUT	A01	G2
-	Setpoint output is unipolar	BYTE	PowerOn
-			
-	1 0 0 2 7/2 M		

Description: Only for PROFIdrive, special application of analog additional drives:

Unipolar output driver (for unipolar analog drive actuator):

Only positive set speeds are supplied to the drive, the sign of the set speed
is separately output in its own digital control signal.

Input value "0":

Bipolar output with pos./neg. set speed (this is the normal case)

Input value "1":

0. Digital bit = servo enable

1. Digital bit = neg. direction of travel

Input value "2": (linking of enable and direction of travel signals):

0. Digital bit = servo enable pos. direction of travel

1. Digital bit = servo enable neg. direction of travel

30200	NUM_ENCS	A01, A02, -	G2,R1,Z1
-	Number of encoders	BYTE	PowerOn
-			
-	- 1 0 2 7/2 M		

Description: The number of encoders of the axis or spindle is to be entered in the MD for
actual position value sensing (the differentiation between direct and indi-
rect measuring systems, i.e. the locations at which these encoders are
installed, is then specified, for example, in MD31040 \$MA_ENC_IS_DIRECT).

For simulation axes/spindles, MD30200 \$MA_NUM_ENCS > 0 must be specified for
referencing.

30220	ENC_MODULE_NR	A01, A02, A11	G2
-	Actual value assignment: Drive number/measuring circuit number	BYTE	PowerOn
-			
-	2 1, 1, 2, 2, 3, 3, 4, 4, 1 31 7/2 M		

Description: The number of the module within a bus segment (MD30210 \$MA_ENC_SEGMENT_NR[n])
through which the encoder is addressed must be entered in the MD.

For axes on PROFIBUS/PROFINET, the number of the drive assigned via MD13050
\$MN_DRIVE_LOGIC_ADDRESS must be entered here (MD30220 \$MA_ENC_MODULE_NR=n
consequently points to MD13050 \$MN_DRIVE_LOGIC_ADDRESS[n]).

The index[n] of the machine data has the following coding:

[Encoder no.]: 0 or 1

Related to:

MD30110 \$MA_CTRLOUT_MODULE_NR[n]

(setpoint assignment: drive number/module number)

30230	ENC_INPUT_NR		A01, A02, A11, -	G2,S9		
-	Actual value assignm.: Input on drive module/meas. circuit board		BYTE	PowerOn		
-						
-	2	1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2...	1	2	7/2	M

Description: For PROFIdrive:

Number of the encoder within the PROFIdrive message frame through which the encoder is addressed.

For example telegram 103: 1 (=G1_ZSW etc.) or 2 (=G2_ZSW etc.).

The index[n] of the machine data has the following coding:

[Encoder no.]: 0 or 1

If an input is selected, to which no encoder is connected, alarm 300008 "Measuring circuit not available on drive" is output.

30240	ENC_TYPE		A01, A02, A11, -	A3,,G2,R1		
-	Encoder type of actual value sensing (actual position value).		BYTE	PowerOn		
-						
-	2	0, 0	0	5	7/2	M

Description: Encoder type:

0: Simulation

1: Raw signal generator (high resolution)

2: reserved

3: reserved

4: General absolute encoder (e.g. with EnDat interface)

5: reserved

Corresponds to:

PROFIdrive parameter p979 (cf. there)

30242	ENC_IS_INDEPENDENT		A02, A11, -	G2,R1		
-	Encoder is independent		BYTE	NEW CONF		
-						
-	2	0, 0	0	3	7/2	M

Description: If actual value corrections performed by the NC on the encoder selected for position control are not to influence the actual value of any other encoder defined in the same axis, then the position control encoder must be declared to be "independent".

Actual value corrections include the following:

- Modulo treatment,
- Reference point approach,
- Measuring system calibration,
- PRESET

Example:

```
MD30200 $MA_NUM_ENCS[ AX1 ] = 2
MD30242 $MA_ENC_IS_INDEPENDENT[ 0, AX1 ] = 0
MD30242 $MA_ENC_IS_INDEPENDENT[ 1, AX1 ] = 1
```

1.3 NC machine data

When the VDI interface has selected the first encoder for position control, the above mentioned actual value corrections will be executed on this encoder only.

When the VDI interface has selected the second encoder for position control, the above mentioned actual value corrections will be executed on both encoders.

The machine data is therefore only valid for encoders that have not been selected by the VDI interface for position control (passive encoders).

As from SW5, the scope of functions has been extended:

MD30242 \$MA_ENC_IS_INDEPENDENT = 2

The passive encoder is dependent. The active encoder changes the actual encoder value. In combination with MD34102 \$MA_REFP_SYNC_ENCS = 1, the passive encoder is adjusted to the active encoder during reference point approach, but is NOT referenced.

In reference mode MD34200 \$MA_ENC_REFP_MODE = 3 (distance-coded reference marks), the passive encoder is automatically referenced with the next traversing movement after zero mark distance overtravel. This is done independently of the current mode setting.

MD30242 \$MA_ENC_IS_INDEPENDENT = 3

In contrast to MD30242 \$MA_ENC_IS_INDEPENDENT = 1, modulo actual value corrections are executed in the passive encoder of modulo rotary axes.

30244	ENC_MEAS_TYPE		A01, A02, A11	-		
-	Encoder measurement type		BYTE	PowerOn		
-						
-	2	1, 1	0	1	7/2	M

Description: For PROFIdrive only:

In combination with the MD13210 \$MN_MEAS_TYPE = 1 (decentralized measurement), this MD can be used to set the type of axial measuring function for drives.

Encoder measurement type:

0: encoder measurement type central (global) measurement

1: encoder measurement type decentral (local) measurement

MEAS_TYPE ENC_MEAS_TYPE measuring sensor input used

0	0	central
---	---	---------

0	1	central
---	---	---------

1	0	central
---	---	---------

1	1	decentralized
---	---	---------------

30250	ACT_POS_ABS		EXP, A02, A08	R1		
-	Internal encoder position		DOUBLE	PowerOn		
ODLD, -, -						
-	2	0.0, 0.0	-	-	7/2	M

Description: The actual position (hardware counter status only without machine reference) is stored (in internal format display) in this MD.

At power ON (or encoder activation), it acts with:

- Absolute encoders:

To restore the current position (in combination with the position, possibly with several meanings, buffered in the encoder).

- Incremental encoders:

To buffer the actual value beyond power OFF when the functionality is activated MD34210 \$MA_ENC_REFP_STATE = 1 or. 2 (i.e. as a reference point replacement).

To buffer the actual value beyond power OFF when the functionality is activated MD34210 \$MA_ENC_REFP_STATE = 3 (i.e. as a restored position value).

Note:

This MD is changed internally by the control during traversing movements. Loading a previously saved MD data block can therefore destroy the encoder calibration (machine position reference) of absolute encoders.

For software conversions, we recommend removing the MD data block from the old software release prior to conversion and reloading it into the new software release without moving any axis in the meantime. Protection level 1 should be set for SW 3.6; protection level 2 suffices for SW 4 and higher. The encoder calibration must be explicitly verified (controlled, calibrated) after the software conversion.

30260	ABS_INC_RATIO	EXP, A01, A02	-			
-	Absolute encoder: Ratio of absolute to incremental resolution	DWORD	PowerOn			
-						
-	2	4, 4	-	-	7/2	M

Description: Absolute track resolution in relation to the incremental signal resolution.

This MD only applies for absolute encoders:

- PROFIBUS drives:

Absolute information XIST2 related to incremental information XIST1.

In the case of plausible drive parameters (e.g. for SIMODRIVE611U: P1042/P1043 or P1044/P1045 or corresponding entries in PROFIDrive parameter p979) the value of this MD is automatically calculated and updated from drive parameters (if parameter read-out has not been deactivated with \$MN_DRIVE_FUNCTION_MASK, bit2)

Implausible drive parameters (e.g. multiplication of absolute track higher than that of the incremental signal) are rejected and replaced by the value entered in the current MD.

Implausible input values in the current MD (e.g. value=0) are reset to the default value. In addition, alarm 26025 or 26002 is output to inform the user accordingly.

30270	ENC_ABS_BUFFERING	EXP, A01, A02	R1			
-	Absolute encoder: Traversing range extension	BYTE	PowerOn			
-						
-	2	0, 0	0	1	7/2	M

Description: This MD defines the way in which the absolute encoder position is buffered, and whether a traversing range extension is active on software side (exceeding the limits of the absolute value encoder range that can be displayed on the hardware).

"0" = standard = traversing range extension (compare ACT_POS_ABS) is active.

"1" = traversing range extension on software side is inactive.

When using an absolute linear scale, there will not be a traversing range overflow for mechanical reasons. This MD is therefore only valid for rotary absolute value encoders.

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For rotary absolute value encoders, the traversing range that can be clearly displayed on the encoder side, is stored in MD34220 \$MA_ENC_ABS_TURNS_MODULO. You can do without a traversing range extension without any problems (a hardware counter overflow that might be within the traversing range is concealed in the software via shortest-path decision):

- a. in linear axes or limited rotary axes, if the actual traversing range on the load side is smaller than the traversing range on the load side that corresponds to MD34220 \$MA_ENC_ABS_TURNS_MODULO.
- b. in endlessly turning rotary axes (ROT_IS_MODULO = TRUE), if the absolute encoder is connected on the load side (no gear to be considered) or if "without remainder" can be calculated:

Number of rotations on the load side = ENC_ABS_TURNS_MODULO * gear ratio
(Example: ENC_ABS_TURNS_MODULO = 4096 encoder rotations, gear 25:32, i.e. number of rotations on load side = 4096*(25/32)=3200).

Notice:

If you do not meet the conditions under a. or b., you run the risk of getting a wrong absolute encoder position at next Power ON or encoder activation after parking without prewarning if the traversing range extension is not working. Therefore, the traversing range extension remains active in the standard version.

Related to:

MD30240 \$MA_ENC_TYPE
MD30300 \$MA_IS_ROT_AX
MD30310 \$MA_ROT_IS_MODULO
MD30250 \$MA_ACT_POS_ABS
MD34220 \$MA_ENC_ABS_TURNS_MODULO
MD34090 \$MA_REFP_MOVE_DIST_CORR

30300	IS_ROT_AX		A01, A06, A11,	G1,K3,R2,T1,G2,K2,R1,S1,V1
-	Rotary axis / spindle		BOOLEAN	PowerOn
SCAL, CTEQ				
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	7/2 M

Description: 1: Axis: The axis is defined as a "rotary axis".

- The special functions of the rotary axis are active or can be activated by means of additional machine data according to the type of machine required (see below).
- The unit of measurement is degrees.
- The units of the axis-specific machine and setting data are interpreted as follows with the standard control setting:
 - Positions in "degrees"
 - Speeds in "rev/minute"
 - Acceleration in "rev/second²"
 - Jerk limitation in "rev/second³"

Spindle:

The machine data should always be set to "1" for a spindle, otherwise alarm 4210 "Rotary axis declaration missing" is output.

0: The axis is defined as a "linear axis".

Special cases:

- For an axis: Alarm 4200 if the axis is already defined as a geometry axis.
- For a spindle: Alarm 4210

Related to:

The following machine data are active only after activation of MD30300

`$MA_IS_ROT_AX = "1":`

- MD30310 `$MA_ROT_IS_MODULO` "Modulo conversion for rotary axis"
- MD30320 `$MA_DISPLAY_IS_MODULO` "Position display is modulo"
- MD10210 `$MN_INT_INCR_PER_DEG` "Calculation precision for angular positions"

30310	ROT_IS_MODULO			A01, A06, A11, -	TE3,K3,R2,T1,A3,R1,R2,S1	
-	Modulo conversion for rotary axis / spindle			BOOLEAN	PowerOn	
CTEQ						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: 1: A modulo conversion is performed on the setpoints for the rotary axis. The software limit switches and the working area limitations are inactive; the traversing range is therefore unlimited in both directions. MD30300 `$MA_IS_ROT_AX` must be set to "1"

0: No modulo conversion

MD irrelevant for:

MD30300 `$MA_IS_ROT_AX = "0"` (linear axes)

Related to:

MD30320 `$MA_DISPLAY_IS_MODULO` "Position display is modulo 360°"

MD30300 `$MA_IS_ROT_AX = 1` "Rotary axis"

MD36100 `$MA_POS_LIMIT_MINUS` "Software limit switch minus"

MD36110 `$MA_POS_LIMIT_PLUS` "Software limit switch plus"

SD43430 `$SA_WORKAREA_LIMIT_MINUS` "Working area limitation minus"

SD43420 `$SA_WORKAREA_LIMIT_PLUS` "Working area limitation plus"

30320	DISPLAY_IS_MODULO			A01, A06, A11	R2,T1,K2	
-	Modulo 360 degrees displayed for rotary axis or spindle.			BOOLEAN	PowerOn	
CTEQ						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/2	M

Description: 1: "Modulo 360 degrees" position display is active:

The position display of the rotary axis or spindle (for basic or machine coordinate system) is defined as "Modulo 360 degrees". In the case of a positive direction of rotation, the control resets the position display internally to 0.000 degrees following each cycle of 359.999 degrees. The display range is always positive and lies between 0 and 359.999 degrees.

0: Absolute position display is active:

In contrast to the modulo 360 degrees position display, absolute positions are indicated by the absolute position display, e.g. +360 degrees after 1 rotation, and +720 degrees after 2 rotations, etc in the positive direction. In this case, the display range is limited by the control in accordance with the linear axes.

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MD irrelevant for:

Linear axes MD30300 \$MA_IS_ROT_AX = "0"

Related to:

MD30300 \$MA_IS_ROT_AX = 1 "Axis is rotary axis"

30330	MODULO_RANGE	EXP, A01, -	R2,T1,R1			
degrees	Size of modulo range.	DOUBLE	Reset			
CTEQ						
-	-	360.0	1.0	360000000.0	7/2	M

Description: Defines the size of the modulo range. Default positions are accepted and displayed within this range. Useful modulo ranges are n * 360 degrees with integer n. Other settings are equally possible in principle. Attention should be paid to having a useful relationship between the positions in the NC and the mechanics (ambiguity). Velocity definitions are not affected by settings in this MD.

30340	MODULO_RANGE_START	EXP, A01	R1,R2			
degrees	Modulo range start position	DOUBLE	Reset			
CTEQ						
-	-	0.0	-	-	7/2	M

Description: Defines the start position for the modulo range.

Example:

Start = 0 degree -> modulo range 0 <->360 degrees

Start = 180 degrees -> modulo range 180 <->540 degrees

Start = -180 degrees -> modulo range -180 <->180 degrees

30350	SIMU_AX_VDI_OUTPUT	A01, A06	A2,G2,Z1			
-	Axis signals output for simulation axes	BOOLEAN	PowerOn			
CTEQ						
-	-	FALSE	-	-	7/2	M

Description: The machine data defines whether axis-specific interface signals are output to the PLC while an axis is being simulated.

1: The axis-specific NC/PLC interface signals for a simulated axis are output to the PLC.

This means that the user PLC program can be tested without the drives having to be available.

0: The axis-specific NC/PLC interface signals for a simulated axis are not output to the PLC.

All axis-specific NC/PLC interface signals are set to "0".

Not relevant for:

MD30130 \$MA_CTRLOUT_TYPE (setpoint output type) = 1

30450	IS_CONCURRENT_POS_AX	EXP, A01	G1			
-	Default for reset: neutral/channel axis	BOOLEAN	Reset			
CTEQ						
-	-	FALSE	-	-	7/2	M

Description: For SW4.3:

If FALSE: On RESET, a neutral axis is reassigned to the NC program.

If TRUE: On RESET, a neutral axis remains in the neutral axis state and an axis assigned to the NC program becomes a neutral axis

30455	MISC_FUNCTION_MASK	A06, A10	R2,S3,R1
-	Axis functions	DWORD	Reset
CTEQ			
-	-	0x00	0
		0x17FF	7/2
			M

- Description:** Bit 0 = 0:
 Modulo rotary axis/spindle: Programmed positions must be within the modulo range. Otherwise, an alarm is output.
- Bit 0 = 1:
 If positions outside the modulo range are programmed, no alarm is output. The position is modulo-converted internally.
 Example.: B-5 is equivalent to B355, POS[A]=730 is identical with POS[A]=10 and SPOS=-360 behaves like SPOS=0 (modulo range 360 degrees)
- Bit 1 = 0:
 Determination of reference point position of rotary, distance-coded encoders analog (1:1) in relation to the mechanical absolute position.
- Bit 1 = 1:
 Determination of reference point position of rotary, distance-coded encoders within the configured modulo range.
 For rotary axes with MD30310 \$MA_ROT_IS_MODULO=0 using rotary, distance-coded encoders MD34200 \$MA_ENC_REFP_MODE=3, the reference point position is determined as a function of MD30330 \$MA_MODULO_RANGE and MD30340 \$MA_MODULO_RANGE_START. This is automatically adapted to the traversing limits of the modulo range. This bit is irrelevant for rotary axes with MD30310 \$MA_ROT_IS_MODULO=1, since the reference point position is always determined within the modulo range.
- Bit 2 = 0:
 Modulo rotary axis positioned at G90 with AC by default.
- Bit 2 = 1:
 Modulo rotary axis positioned at G90 with DC by default (shortest path).
- Bit 3 = 0:
 For spindle/axis disable, \$VA_IM, \$VA_IM1, \$VA_IM2 supply the setpoint.
- Bit 3 = 1:
 For spindle/axis disable, \$VA_IM, \$VA_IM1, \$VA_IM2 supply the actual value.
- Bit 4 = 0:
 Synchronous spindle coupling, slave spindle: cancelation of feedrate enable will decelerate the coupled group.
- Bit 4 = 1:
 Slave spindle: Feedrate enable only refers to the interpolation share of the overlaid motion (SPOS, etc.) and has no impact on the coupling.
- Bit 5 = 0:
 Synchronous spindle coupling, slave spindle: Position control, feedforward control, and parameter block are set corresponding to the master spindle.
- Bit 5 = 1:
 Synchronous spindle coupling: The parameters of the slave spindle are set as in the uncoupled case.
- Bit 6 = 0:
 Programming of FA, OVRA, ACC, and VELOLIM is applied separately for spindle and axis modes. The assignment is made by the programmed axis or spindle identifier.

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Bit 6 = 1:
 Programming of FA, OVRA, ACC, and VELOLIM is applied jointly for spindle and axis modes, irrespective of the programmed identifier.

Bit 7 = 0:
 Synchronous spindle, correct synchronism error: Correction value \$AA_COUP_CORR[Sn] is continuously calculated as long as the NC/PLC interface signal DB31, ... DBX31.6 (Correct synchronism) is set and setpoint-related synchronism is present.

Bit 7 = 1:
 Synchronous spindle, correct synchronism error: Correction value \$AA_COUP_CORR[Sn] is calculated only at the moment the NC/PLC interface signal DB31, ... DBX31.6 (Correct synchronism) is set from 0 to 1.

Bit 8 = 0:
 Absolute encoders can only be readjusted in the enabled state MD34210=1.

Bit 8 = 1:
 Absolute encoders can also be readjusted in the adjusted state MD34210=2.

Bit 9 = 0:
 Coupled axes (e.g. gantry) jointly delete their pulse enable if an error occurs.

Bit 9 = 1:
 Coupled axes (e.g. gantry) only delete their pulse enable for their own errors.

Bit 10 = 0:
 The maximum dynamic of a TRAIL or TANGON axis limits the maximum dynamic path response.

Bit 10 = 1:
 The maximum dynamic response of a TRAIL or TANGON axis has no effects on the dynamic path response. This can lead to a longer overtravel of the dependent axis.

Bit 12 = 0:
 When resetting the controller enable of the stationary axis/spindle (regarding this master axis/spindle), it is absolutely necessary to switch over to actual value coupling, as for fast stop after resetting the controller enable during motion (alarm 21612). This is true for generic couplings (with replacement cycles or for CP programming).

Bit 12 = 1:
 When resetting the controller enable of the stationary axis/spindle (regarding this master axis/spindle), switchover to actual value coupling is suppressed. This is true for generic couplings (with replacement cycles or for CP programming).

30460	BASE_FUNCTION_MASK	A01	K5,P2,P1			
-	Axis functions	DWORD	PowerOn			
CTEQ						
-	-	0x00	0	0x1FF	7/2	M

Description: Axis-specific functions can be set by means of this MD.

The MD is bit-coded; the following bits are assigned:

Bit 0 = 0:

"Axis control" is not permissible.

Bit 0 = 1:
 "Axis control" is permissible (the axis moves in the speed mode, if the NC/PLC interface signal DB31, ... DBX24.1 (Axis control) is set).

Bit 1:
 Reserved for "Axis control".

Bit 2 = 0:
 Axis-specific diameter programming not permitted.

Bit 2 = 1:
 Axis-specific diameter programming permitted.

Bit 3:
 Reserved for "Axis control"

Bit 4 = 0:
 For control purposes, the axis can be used by NC and PLC.

Bit 4 = 1:
 The axis is exclusively controlled by the PLC.

Bit 5 = 0:
 The axis can be used by the NC and PLC.

Bit 5 = 1:
 The axis is a permanently assigned PLC axis. However, the axis can be jogged and referenced.
 Axis exchange between channels is not possible. The axis cannot be assigned to the NC program.

Bit 6 = 0:
 The channel-specific interface signal DB21-30 DBX6.0 (feedforward disable) has an effect on the axis, even though it is a PLC-controlled axis.

Bit 6 = 1:
 The channel-specific interface signal DB21-30 DBX6.0 (feedforward disable) will have no effect on the axis, if it is a PLC-controlled axis.

Bit 7 = 0:
 The channel-specific interface signal DB21-30 DBX36.3 (all axes stationary) is set independently of the axis, even though it is PLC-controlled.

Bit 7 = 1:
 The channel-specific interface signal DB21-30 DBX36.3 (all axes stationary) will be set independently of the axis, if this axis is PLC-controlled.

Bit 8 = 0:
 The axis is an 'interpolating (full) axis' (path/GEO/additional path axis/GEOAX() /spindle for thread cutting/tapping)

Bit 8 = 1:
 The axis is a positioning axis / auxiliary spindle

30465	AXIS_LANG_SUB_MASK	N01	K1			
-	Substitution of NC language commands	DWORD	PowerOn			
-						
-	-	0x0	0x0	0x3	7/2	M

Description: MD30465 \$MA_AXIS_LANG_SUB_MASK defines for the leading spindle(s) of a coupling (synchronous spindle coupling, ELG, tangential tracking, coupled motion, master value coupling, master/slave) which language constructs/functions are to be substituted by the user program set by MD15700
 \$MN_LANG_SUB_NAME / MD15702 \$MN_LANG_SUB_PATH (default: /_N_CMA_DIR/_N_LANG_SUB_SPF).

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The substitution is executed only if a coupling is active for the relevant spindle and, in the case of a gear stage change, only if a gear stage change is actually pending.

Bit 0 = 1:

Automatic (M40) and direct (M41-M45) gear stage change

Bit 1 = 1:

Spindle positioning with SPOS/SPOSA/M19

30500	INDEX_AX_ASSIGN_POS_TAB	A01, A10	T1,H1
-	Axis is an indexing axis	BYTE	Reset
-			
-	-	0	0

Description: The axis is declared as an indexing axis by assignment of indexing position table 1 or 2.

0: The axis is not declared as an indexing axis

1: The axis is an indexing axis. The associated indexing positions are stored in table 1 (MD10910 \$MN_INDEX_AX_POS_TAB_1).

2: The axis is an indexing axis. The associated indexing positions are stored in table 2 (MD10930 \$MN_INDEX_AX_POS_TAB_2).

3: Equidistant indexing with SW 4.3 and higher (840D) and SW 2.3 and higher (810D)

>3: Alarm 17090 "Value violates upper limit"

Special cases:

Several axes can be assigned to an indexing position table on the condition that all these indexing axes are of the same type (linear axis, rotary axis, modulo 360° function). If they are not, alarm 4000 is output during power-up.

Alarm 17500 "Axis is not an indexing axis"

Alarm 17090 "Value violates upper limit"

Related to:

MD10910 \$MN_INDEX_AX_POS_TAB_1 (indexing position table 1)

MD10900 \$MN_INDEX_AX_LENGTH_POS_TAB_1

(no. of indexing positions used in table 1)

MD10930 \$MN_INDEX_AX_POS_TAB_2 (indexing position table 2)

MD10920 \$MN_INDEX_AX_LENGTH_POS_TAB_2

(no. of indexing positions used in table 2)

For equidistant indexings with value 3:

MD30501 \$MA_INDEX_AX_NUMERATOR Numerator

MD30502 \$MA_INDEX_AX_DENOMINATOR Denominator

MD30503 \$MA_INDEX_AX_OFFSET First indexing position

MD30505 \$MA_HIRTH_IS_ACTIVE Hirth tooth system

30501	INDEX_AX_NUMERATOR	A01, A10	T1
mm, degrees	Indexing axis equidistant positions numerator	DOUBLE	Reset
-			
-	-	0.0	-

Description: Defines the value of the numerator for calculating the distances between two indexing positions when the positions are equidistant. Modulo axes ignore this value and use MD30330 \$MA_MODULO_RANGE instead.

MD irrelevant for non-equidistant indexes in accordance with tables.

Related to:

MD30502 \$MA_INDEX_AX_DENOMINATOR,
 MD30503 \$MA_INDEX_AX_OFFSET;
 MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB

30502	INDEX_AX_DENOMINATOR	A01, A10	T1			
-	Indexing axis equidistant positions denominator	DWORD	Reset			
-						
-	-	1	1	-	7/2	M

Description: Defines the value of the denominator for calculating the distances between two indexing positions when the positions are equidistant. For modulo axes it therefore specifies the number of indexing positions.

MD irrelevant for non-equidistant indexes in accordance with tables.

Related to:

MD30501 \$MA_INDEX_AX_NUMERATOR,
 MD30503 \$MA_INDEX_AX_OFFSET,
 MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB

30503	INDEX_AX_OFFSET	A01, A10	T1,R2			
mm, degrees	Indexing axis with equidistant positions first index position	DOUBLE	Reset			
-						
-	-	0.0	-	-	7/2	M

Description: Defines the position of the first indexing position from zero for an indexing axis with equidistant positions.

MD irrelevant for non-equidistant indexes in accordance with tables.

Related to:

MD30501 \$MA_INDEX_AX_NUMERATOR, MD30502 \$MA_INDEX_AX_DENOMINATOR, MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB

30505	HIRTH_IS_ACTIVE	A01, A10	T1			
-	Axis is an indexing axis with Hirth tooth system	BOOLEAN	Reset			
CTEQ						
-	-	FALSE	-	-	7/2	M

Description: Hirth tooth system is active when value 1 is set.

MD irrelevant if axis is not an indexing axis.

Related to:

MD30500 \$MA_INDEX_AX_ASSIGN_POS_TAB, MD30501 \$MA_INDEX_AX_NUMERATOR, MD30502 \$MA_INDEX_AX_DENOMINATOR, MD30503 \$MA_INDEX_AX_OFFSET

30550	AXCONF_ASSIGN_MASTER_CHAN	A01, A06, A10	K5,TE3,B3,S3,K1,R1			
-	Initial setting of channel for change of axis	BYTE	PowerOn			
-						
-	-	0	0	10	7/2	M

Description: Definition of the channel to which the axis is assigned after Power ON.

Related to: MD20070 \$MC_AXCONF_MACHAX_USED

1.3 NC machine data

30552	AUTO_GET_TYPE	EXP, A06, A10	K5,M3,TE6,P2,P5,2.4			
-	Automatic GET for get axis	BYTE	PowerOn			
-						
-	-	1	0	2	7/2	M

Description: 0 = No automatically created GET -> Alarm in response to incorrect programming.
 1 = GET is output when GET is generated automatically.
 2 = GETD is output when GET is generated automatically.

30554	AXCONF_ASSIGN_MASTER_NCU	A01, A06, A10	B3			
-	Initial setting which NCU creates setpoints for the axis	BYTE	PowerOn			
-						
-	-	0	0	16	7/2	M

Description: This machine data is evaluated only if the NCU is linked with other NCUs via the NCU link communication.
Assignment of master NCU:
 If a machine axis is activated via MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB in several NCUs in an NCU cluster, then a MASTER NCU must be assigned to it. This NCU takes over the setpoint creation for the axis after the runup. For axes which are only activated in one NCU, the number of this NCU or 0 must be entered. Other entries initiate a runup interrupt.

30560	IS_LOCAL_LINK_AXIS	EXP, A01	B3			
-	Axis is a local link axis	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: An axis for which this MD is set to 1 is not addressed by the local NCU at runup. The associated drive is put into operation.
 The axis is traversed by another NCU. The evaluation is made only if link communication exists.
 Not relevant for:
 Systems without link modules
 Related to:
 MD18780 \$MN_MM_NCU_LINK_MASK

30600	FIX_POINT_POS	A03, A10	K1,W3			
mm, degrees	Fixed-value positions of axis with G75	DOUBLE	PowerOn			
-						
-	4	0.0, 0.0, 0.0, 0.0	-	-	7/2	M

Description: The fixed-point positions (4 max.) for each axis which can be approached when G75 is programmed or via JOG are entered in these machine data.
References:
 /PA/, "Programming Guide: Fundamentals"

30610	NUM_FIX_POINT_POS	A03, A10	K1			
-	Number of fixed-value positions of an axis	DWORD	PowerOn			
-						
-	-	0	0	4	7/2	M

Description: Number of fixed point positions set, i.e. the number of valid entries in MD30600 \$MA_FIX_POINT_POS.

For G75, two (2) fixed point positions are assumed in MD30600 \$MA_FIX_POINT_POS for reasons of compatibility, even if '0' has been entered in this machine data.

30800	WORKAREA_CHECK_TYPE	-	A3
-	Type of check of working area limitations.	BOOLEAN	NEW CONF
CTEQ			
-	-	FALSE	-

Description: With this machine data you can specify whether only the working area limitations of traversing axes are to be checked (0) or whether the stationary axes in a traversing block are also to be checked (1).

The value 0 corresponds to the behavior up to SW5.

31000	ENC_IS_LINEAR	A02, A11, -	G2
-	Linear scale	BOOLEAN	PowerOn
-			
-	2	FALSE, FALSE	-

Description: MD = 1: Encoder for position actual-value acquisition is linear (linear scale).
MD = 0: Encoder for position actual-value acquisition is rotary.
The index [n] of the machine data has the following coding:
[encoder no.]: 0 or 1

31010	ENC_GRID_POINT_DIST	A02, A11, -	G2
mm	Division period for linear scales	DOUBLE	PowerOn
-			
-	2	0.01, 0.01	-

Description: For linear measuring system only:
The distance between the reference marks on the linear scale must be entered in this MD.
Index [n] of the machine data has the following coding:
[encoder no.]: 0 or 1

31020	ENC_RESOL	A02, A11, -	G2,R1
-	Encoder lines per revolution	DWORD	PowerOn
-			
-	2	2048, 2048, 2048, 2048, 2048, 2048...	1

Description: For rotary measuring system only:
The number of encoder lines per encoder revolution must be entered in this MD.
Index [n] of the machine data has the following coding:
[encoder no.]: 0 or 1

31025	ENC_PULSE_MULT	EXP, A01, A02	-
-	Encoder multiplication (high-resolution)	DWORD	PowerOn
-			
-	2	2048, 2048, 2048, 2048, 2048, 2048...	-

Description: For PROFIdrive only:

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This MD describes the measuring system multiplication on PROFIBUS/PROFINET. Default value 2048 means: changing by just one encoder line can be seen in bit11 of the actual PROFIdrive value XIIST1, that is, the actual encoder value is multiplied by 2 to the power of 11= 2048.

31030	LEADScrew_PITCH	A02, A11, -	G2,A3
mm	Pitch of leadscrew	DOUBLE	PowerOn
-			
-	-	10.0	-

Description: The ball screw lead must be entered in the MD (see data sheet: mm/rev or inch/rev).

Special meaning for hydraulic linear drives:

If a hydraulic linear drive (HLA) is configured as rotary axis, it must be specified in this MD, which drive feedrate in mm corresponds to a programmed revolution (360 degrees).

31040	ENC_IS_DIRECT	A02, A11, -	G2,S1
-	Direct measuring system (no compilation to load position)	BOOLEAN	PowerOn
-			
-	2	FALSE, FALSE	-

Description: MD = 1:

Encoder for actual position value sensing is attached directly to the machine (without an intermediate gear unit).

MD = 0:

Encoder for actual position value sensing is attached to the motor (MD31060 \$MA_DRIVE_AX_RATIO_NUMERA and MD31050 \$MA_DRIVE_AX_RATIO_DENOM are included in the encoder valuation).

The index[n] of the machine data has the following coding:

[encoder no.]: 0 or 1

Special cases:

An incorrect entry may result in an incorrect encoder resolution, as, for example, the gear ratios would be calculated incorrectly.

31044	ENC_IS_DIRECT2	A02, -	G2,S1
-	Encoder mounted on the additional gearbox	BOOLEAN	NEW CONF
-			
-	2	FALSE, FALSE	-

Description: When using a load intermediate gearbox (for example for rotating tools, compare MD31066 \$MA_DRIVE_AX_RATIO2_NUMERA and MD31064 \$MA_DRIVE_AX_RATIO2_DENOM), the encoder installation location can be defined as "on the output" of this load intermediate gearbox:

Encoder installation "on the output of the load intermediate gearbox" is configured by MD31040 \$MA_ENC_IS_DIRECT=1 and MD31044 \$MA_ENC_IS_DIRECT2=1 at the same time.

Encoder installation "on the input of the load intermediate gearbox" is configured by MD31040 \$MA_ENC_IS_DIRECT=1 together with MD31044 \$MA_ENC_IS_DIRECT2=0.

A parameterization alarm will be output if MD31044 \$MA_ENC_IS_DIRECT2=1 is set without MD31040 \$MA_ENC_IS_DIRECT=1 (this combination has not been defined).

31050	DRIVE_AX_RATIO_DENOM	A02, A11, -	A2,A3,G2,S1,V1
-	Denominator load gearbox	DWORD	PowerOn
-			
-	6	1, 1, 1, 1, 1, 1	1
			2147000000
			7/2
			M

Description: The load gearbox denominator is entered in this MD.

The index [n] of the machine data has the following coding:

[control parameter set no.]: 0-5

31060	DRIVE_AX_RATIO_NUMERA	A02, A11, -	A2,A3,G2,S1,V1
-	Numerator load gearbox	DWORD	PowerOn
-			
-	6	1, 1, 1, 1, 1, 1	-2147000000
			2147000000
			7/2
			M

Description: The load gearbox numerator is entered in this MD.

The index [n] of the machine data has the following coding:

[control parameter set no.]: 0-5

31064	DRIVE_AX_RATIO2_DENOM	A02, -	G2,S1
-	Denominator additional gearbox	DWORD	NEW CONF
-			
-	-	1	1
			2147000000
			7/2
			M

Description: Intermediate gearbox denominator

This MD together with MD31066 \$MA_DRIVE_AX_RATIO2_NUMERA defines an intermediate gearbox that acts as a multiplier to the motor/load gearbox (described by MD31060 \$MA_DRIVE_AX_RATIO_NUMERA and MD31050 \$MA_DRIVE_AX_RATIO_DENOM) .

The load intermediate gearbox is inactive with the default values 1:1.

Please consider MD31044 \$MA_ENC_IS_DIRECT2 for encoder installation.

When the Safety Integrated functionality (see MD36901

\$MA_SAFE_FUNCTION_ENABLE) is active, the intermediate gearbox can be used, if

- the effectively active gear ratio from the motor to the tool is considered in the safety-relevant machine data and if
- the safety-relevant supplementary conditions for gear ratios are considered.

For more detailed information see the Safety Integrated Description of Functions.

31066	DRIVE_AX_RATIO2_NUMERA	A02, -	G2,S1
-	Numerator additional gearbox	DWORD	NEW CONF
-			
-	-	1	-2147000000
			2147000000
			7/2
			M

Description: Intermediate gearbox numerator

Related to:

MD31064 \$MA_DRIVE_AX_RATIO2_DENOM

31070	DRIVE_ENC_RATIO_DENOM	A02, A11, -	A3,G2,S1
-	Denominator measuring gearbox	DWORD	PowerOn
-			
-	2	1, 1	1
			2147000000
			7/2
			M

Description: The measuring gearbox denominator is entered in this MD.

1.3 NC machine data

The index [n] of the machine data has the following coding:
 [encoder no.]: 0 or 1

31080	DRIVE_ENC_RATIO_NUMERA	A02, A11, -	A3,G2,S1
-	Numerator measuring gearbox	DWORD	PowerOn
-			
-	2	1, 1	1

Description: The measuring gearbox numerator is entered in this MD.

The index [n] of the machine data has the following coding:
 [encoder no.]: 0 or 1

31090	JOG_INCR_WEIGHT	A01, A12	H1,G2
mm, degrees	Evaluation of an increment with INC/handwheel	DOUBLE	Reset
CTEQ			
-	2	0.001, 0.00254	-

Description: The value entered in this MD defines the path of an increment which applies when an axis is traversed with the JOG keys in incremental mode or with the handwheel.

The path traveled by the axis on each increment each time the traversing key is pressed or for each handwheel detent position is defined by the following parameters:

- MD31090 \$MA_JOG_INCR_WEIGHT

(Weighting of an increment of a machine axis for INC/handwheel)

- Selected increment size (INC1, ..., INCvar)

The possible increment stages are defined globally for all axes in MD11330 \$MN_JOG_INCR_SIZE_TAB [n] and in SD41010 \$SN_JOG_VAR_INCR_SIZE.

Entering a negative value reverses the direction of evaluation of the traverse keys and the handwheel rotation.

Related to:

MD11330 \$MN_JOG_INCR_SIZE_TAB

SD41010 \$SN_JOG_VAR_INCR_SIZE

31092	JOG_INCR_WEIGHT_TRAFO	A01, A12	H1,G2
mm, degrees	Evaluation of an increment for INC/handwheel for active transformation	DOUBLE	Reset
CTEQ			
-	2	0.0, 0.0	-

Description: The input value is used to define the distance of an increment which, when traversing an axis during active transformation using the JOG keys, is valid for the incremental dimension or via handwheel.

The distance, through which the axis traverses when executing the incremental dimension with transformation active, depending on the traversing key actuated or handwheel grid position, is defined by the following parameters:

- MD31092 \$MA_JOG_INCR_WEIGHT_TRAFO

(Evaluating an increment of a machine axis for INC/handwheel)

- selected increment size (INC1, ..., INCvar)

The possible increment steps are globally defined for all axes in MD11330 \$MN_JOG_INCR_SIZE_TAB [n] or in SD41010 \$SN_JOG_VAR_INCR_SIZE.

Entering a negative value reverses the direction evaluation of the traversing keys and/or the handwheel direction of rotation.

The set value is only effective, if this is > 0 ist. For values of zero, then MD31090 \$MA_JOG_INCR_WEIGHT is effective

Corresponds with:

MD11330 \$MN_JOG_INCR_SIZE_TAB
MD31090 \$MA_JOG_INCR_WEIGHT
SD41010 \$SN_JOG_VAR_INCR_SIZE

31122	BERO_DELAY_TIME_PLUS	A02, A06	S1,R1			
s	BERO delay time Plus	DOUBLE	NEW CONF			
-						
-	2	0.000110, 0.000110	-	-	7/2	M

Description: This machine data in combination with the setting in MD34200 \$MA_ENC_REFP_MODE (referencing mode) = 7 causes a signal runtime compensation in the positive direction of movement at a position determined by a BERO (zero mark).

The typical total delay time of the BERO message path for overtravel in the positive direction of movement is entered.

This time includes:

- the BERO edge delay time
- the time for digitizing the signal
- the time for processing the measured value, etc.

The periods of time depend on the hardware used. The default value is typical for SIEMENS products. Adjustment by the customer is only required in exceptional cases.

Input of the minimum value "0.0" deactivates the compensation (only active in combination with MD34200 \$MA_ENC_REFP_MODE = 7).

The machine data is available for all encoders.

Related to:

MD34200 \$MA_ENC_REFP_MODE (referencing mode)
MD34040 \$MA_REFP_VELO_SEARCH_MARKER[n]
(reference point creep velocity [Enc. no.])

31123	BERO_DELAY_TIME_MINUS	A02, A06	S1,R1			
s	BERO delay time minus	DOUBLE	NEW CONF			
-						
-	2	0.000078, 0.000078	-	-	7/2	M

Description: This machine data in combination with the setting in MD34200 \$MA_ENC_REFP_MODE (referencing mode) = 7 causes a signal runtime compensation in the negative direction of movement at a position determined by a BERO (zero mark).

The typical total delay time of the BERO message path for overtravel in the negative direction of movement is entered.

The time includes:

- the BERO edge delay time
- the time for digitizing the signal
- the time for processing the measured value, etc.

The periods of time depend on the hardware used. The default value is typical for SIEMENS products. Adjustment by the customer is only required in exceptional cases.

Input of the minimum value "0.0" deactivates the compensation (only active in combination with MD34200 \$MA_ENC_REFP_MODE = 7).

1.3 NC machine data

The machine data is available for all encoders.

Related to:

MD34200 \$MA_ENC_REFP_MODE (referencing mode)

MD34040 \$MA_REFP_VELO_SEARCH_MARKER[n]

(creep velocity [Enc. no.])

31200	SCALING_FACTOR_G70_G71	EXP, A01	G2
-	Factor for converting values while G70/G71 is active	DOUBLE	PowerOn
CTEQ			
-	-	25.4	1.e-9

Description: The inch/metric conversion factor by which the programmed geometry of an axis (position, polynomial coefficients, radius for circular programming,...) is multiplied when the programmed value for G code group G70/G71 differs from the initial setting value (set in MD20150 \$MC_GCODE_RESET_VALUES[n]) is entered in this MD.

The factor can be set for each axis individually, so that pure positioning axes are not dependent on G70/G71. The factors within the three geometry axes should not be different.

The data influenced by G70/G71 are described in the Programming Guide.

Related to:

MD20150 \$MC_GCODE_RESET_VALUES[n] (G group initial setting).

31600	TRACE_VDI_AX	EXP, N06	-
-	Trace-specification for axial VDI signals	BOOLEAN	PowerOn
NBUP			
-	-	FALSE	-

Description: This machine data determines whether the axial VDI signals for this axis are recorded in the NCSC trace (according to MD18794 \$MN_MM_TRACE_VDI_SIGNAL).

32000	MAX_AX_VELO	A11, A04	M3,TE1,TE3,W6,Z3,H1,K3,M1,P2,A3,B2,G2,H2,S1,V1,W1
mm/min, rev/min	maximum axis velocity	DOUBLE	NEW CONF
CTEQ			
-	-	10000., 10000., 10000., 10000., 10000....	-

Description: Maximum velocity at which the axis can permanently travel. The value limits both the positive and the negative axis velocity. The axis traverses at this velocity, if rapid traverse has been programmed.

Depending on the MD30300 \$MA_IS_ROT_AX, the maximum rotary or linear axis velocity has to be entered.

In the machine data, the dynamic behavior of the machine and drive and the limit frequency of the actual value acquisition must be taken into account.

32010	JOG_VELO_RAPID			A11, A04, -	H1
mm/min, rev/min	Rapid traverse in jog mode			DOUBLE	Reset
CTEQ					
-	-	10000., 10000., 10000., 10000., 10000....	-	-	7/2 M

Description: The axis velocity entered applies when the rapid traverse override key is pressed in JOG mode and when the axial feedrate override is set to 100%. The value entered must not exceed the maximum permissible axis velocity (MD32000 \$MA_MAX_AX_VELO). This machine data is not used for the programmed rapid traverse G0. MD irrelevant to:
 Operating modes AUTOMATIC and MDI
 Related to:
 MD32000 \$MA_MAX_AX_VELO (maximum axis velocity)
 MD32040 \$MA_JOG_REV_VELO_RAPID
 (revolutional feedrate for JOG with rapid traverse override)
 NC/PLC interface signal DB21-30 DBX12.5, DBX16.5, DBX20.5 (Rapid traverse override)
 NC/PLC interface signal DB21-30 DBB4 (Feedrate override A-H)

32020	JOG_VELO			A11, A04, -	H1
mm/min, rev/min	Jog axis velocity			DOUBLE	Reset
CTEQ					
-	-	2000., 2000., 2000., 2000., 2000., 2000....	-	-	7/2 M

Description: The velocity entered applies to traversing in JOG mode when the axial feedrate override switch position is 100%. This velocity is only used when general SD41110 \$SN_JOG_SET_VELO = 0 for linear axes, and linear feedrate is selected (SD41100 \$SN_JOG_REV_IS_ACTIVE = 0) or SD41130 \$SN_JOG_ROT_AX_SET_VELO = 0 for rotary axes. If this is the case, the axis velocity is active for

- continuous jogging
- incremental jogging (INC1, ... INCvar)
- handwheel jogging

The value entered must not exceed the maximum permissible axis velocity (MD32000 \$MA_MAX_AX_VELO). If DRF is active, the axis velocity for JOG must be reduced with MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR. Spindles in JOG mode: This machine data can also be used to define the JOG mode speed for specific spindles (if SD41200 \$SN_JOG_SPIND_SET_VELO = 0). However, the speed can be modified with the spindle override switch. Related to:
 MD32000 \$MA_MAX_AX_VELO (maximum axis velocity)
 MD32050 \$MA_JOG_REV_VELO (revolutional feedrate for JOG)
 MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR (ratio of JOG velocity to handwheel velocity (DRF))
 SD41110 \$SN_JOG_SET_VELO (JOG velocity for G94)

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SD41130 \$SN_JOG_ROT_AX_SET_VELO (JOG velocity for rotary axes)
NC/PLC interface signal DB21-30 DBB4 (Feedrate override A-H)

32040	JOG_REV_VELO_RAPID	A11, A04	H1,P2,R2,T1,V1,Z1
mm/rev	Revolutional feedrate in JOG with rapid traverse override	DOUBLE	Reset
CTEQ			
-	- 2.5, 2.5, 2.5, 2.5, 2.5, 2.5, 2.5, 2.5...	-	- 7/2 M

Description: The value entered defines the revolutional feedrate of the axis in JOG mode with rapid traverse override in relation to the revolutions of the master spindle. This feedrate is active when SD41100 \$SN_JOG_REV_IS_ACTIVE = 1. (Revolutional feedrate active with JOG)

MD irrelevant for:

SD41100 \$SN_JOG_REV_IS_ACTIVE = "0"

Related to:

SD41100 \$SN_JOG_REV_IS_ACTIVE (revolutional feedrate with JOG active)

MD32050 \$MA_JOG_REV_VELO (revolutional feedrate with JOG)

32050	JOG_REV_VELO	A11, A04	H1,P2,R2,T1,V1,Z1
mm/rev	Revolutional feedrate in JOG	DOUBLE	Reset
CTEQ			
-	- 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.5...	-	- 7/2 M

Description: The value entered defines the revolutional feedrate of the axis in JOG mode in relation to the revolutions of the master spindle.

This feedrate is active when SD41100 \$SN_JOG_REV_IS_ACTIVE= 1 (revolutional feedrate active with JOG) .

MD irrelevant for:

Linear feedrate; i.e. SD41100 \$SN_JOG_REV_IS_ACTIVE = 0

Related to:

SD41100 \$SN_JOG_REV_IS_ACTIVE

(revolutional feedrate for JOG active)

MD32040 \$MA_JOG_REV_VELO_RAPID

(JOG revolutional feedrate with rapid traverse override)

32060	POS_AX_VELO	A12, A04	H1,P2,K1,V1,2.4,6.2
mm/min, rev/min	Initial setting for positioning axis velocity	DOUBLE	Reset
CTEQ			
-	- 10000., 10000., 10000., 10000., 10000....	-	- 7/2 M

Description: If a positioning axis is programmed in the part program without specifying the axis-specific feedrate, the feedrate entered in MD32060 \$MA_POS_AX_VELO is automatically used for this axis. The feedrate in MD32060 \$MA_POS_AX_VELO applies until an axis-specific feedrate is programmed in the part program for this positioning axis.

MD irrelevant for:

MD32060 \$MA_POS_AX_VELO is irrelevant for all axis types other than positioning axis.

Special cases:

If a ZERO velocity is entered in MD32060 \$MA_POS_AX_VELO, the positioning axis does not traverse if it is programmed without feed. If a velocity is entered in MD32060 \$MA_POS_AX_VELO that is higher than the maximum velocity of the axis (MD32000 \$MA_MAX_AX_VELO), the velocity is automatically restricted to the maximum rate.

32070	CORR_VELO	A04	2.4,6.2			
%	Axis velocity for override	DOUBLE	Reset			
CTEQ						
-	-	50.0	-	-	7/2	M

Description: Limitation of axis velocity for handwheel override, external work offset, continuous dressing, distance control \$AA_OFF via synchronized actions related to the JOG velocity
MD32020 \$MA_JOG_VELO,
MD32010 \$MA_JOG_VELO_RAPID,
MD32050 \$MA_JOG_REV_VELO,
MD32040 \$MA_JOG_REV_VELO_RAPID.
The maximum permissible velocity is the maximum velocity in MD32000 \$MA_MAX_AX_VELO. Velocity is limited to this value.
The conversion into linear or rotary axis velocity is made according to MD30300 \$MA_IS_ROT_AX.

32074	FRAME_OR_CORRPOS_NOTALLOWED	A01	K5,K2,2.4,6.2			
-	Frame or tool length compensation are not permissible	DWORD	PowerOn			
CTEQ						
-	-	0	0	0xFFFF	7/2	M

Description: This machine data is used to define the effectiveness of the frames and tool length compensations for indexing axes, PLC axes and command axes started from synchronized actions.
Bit assignment:
Bit 0 = 0:
Programmable work offset (TRANS) allowed for indexing axis
Bit 0 = 1:
Programmable work offset (TRANS) forbidden for indexing axis
Bit 1 = 0:
Scale modification (SCALE) allowed for indexing axis
Bit 1 = 1:
Scale modification (SCALE) forbidden for indexing axis
Bit 2 = 0:
Direction change (MIRROR) allowed for indexing axis
Bit 2 = 1:
Direction change (MIRROR) forbidden for indexing axis
Bit 3 = 0:
DRF offset allowed for axis
Bit 3 = 1:
DRF offset forbidden for axis
Bit 4 = 0:
External work offset allowed for axis

1.3 NC machine data

```
Bit 4 = 1:  
External work offset forbidden for axis  
Bit 5 = 0:  
Online tool compensation allowed for axis  
Bit 5 = 1:  
Online tool compensation forbidden for axis  
Bit 6 = 0:  
Synchronized action offset allowed for axis  
Bit 6 = 1:  
Synchronized action offset forbidden for axis  
Bit 7 = 0:  
Compile cycles offset allowed for axis  
Bit 7 = 1:  
Compile cycles offset forbidden for axis  
Bit 8 = 0:  
Axial frames and tool length compensation are NOT considered for PLC axes  
(bit evaluation so for compatibility reasons)  
Bit 8 = 1:  
Axial frames are considered for PLC axes, and the tool length compensation is  
considered for PLC axes which are geometry axes.  
Bit 9 = 0:  
Axial frames are considered for command axes, and the tool length compensa-  
tion is considered for command axes which are geometry axes.  
Bit 9 = 1:  
Axial frames and tool length compensation are NOT considered for command axes  
Bit 10 = 0:  
In JOG mode, too, traversing of a geometry axis as a PLC or command axis is  
NOT allowed with active rotation.  
Bit 10 = 1:  
In JOG mode, traversing of a geometry axis as a PLC axis or command axis  
(static synchronized action ) is allowed with active rotation (ROT frame).  
Traversing must be terminated prior to returning to AUTOMATIC mode (neutral  
axis state), as otherwise alarm16908 would be output when the mode is  
changed.  
Bit 11 = 0:  
In the 'Program interrupted' status, repositioning to the interrupt position  
(AUTO - JOG) takes place when changing from JOG to AUTO.  
Bit 11 = 1:  
Prerequisite: Bit 10 == 1 (PLC or command axis motion with active rotation in  
JOG mode).  
In the 'Program interrupted' status, the end point of the PLC or command axis  
motion is taken over when changing from JOG to AUTOMATIC and the geometry  
axes are positioned according to the rotation
```

32075	MAPPED_FRAME	A01	-			
-	Mapping an axial frame	STRING	PowerOn			
-						
-	-	NO_AXIS	-	-	7/2	M

Description: This machine data can be used to map an axial frame onto an axial frame of another axis. This means that the description of a frame in the data management can simultaneously describe the frame of another axis with the same values. Selected data management frames can be enabled for the mapping in \$MN_MAPPED_FRAME_MASK.

32080	HANDWH_MAX_INCR_SIZE	A05, A10	H1			
mm, degrees	Limitation of selected increment	DOUBLE	Reset			
CTEQ						
-	-	0.0	-	-	7/2	M

Description: > 0: Limitation of size of selected increment \$MN_JOG_INCR_SIZE <Increment/ VDI signal> or SD41010 \$SN_JOG_VAR_INCR_SIZE for the associated machine axis
0: No limitation

32082	HANDWH_MAX_INCR_VELO_SIZE	A05, A10, A04	-			
mm/min, rev/min	Limitation for velocity override	DOUBLE	Reset			
CTEQ						
-	-	500.0, 500.0, 500.0, 500.0, 500.0, 500.0...	-	-	7/2	M

Description: For the velocity override of positioning axes:
> 0: Limitation of size of selected increment \$MN_JOG_INCR_SIZE<Increment/ VDI signal> 0 or SD41010 \$SN_JOG_VAR_INCR_SIZE for the associated machine axis
0: No limitation

32084	HANDWH_STOP_COND	EXP, A10	H1			
-	Handwheel travel behavior	DWORD	Reset			
CTEQ						
-	-	0xFF	0	0x7FF	7/2	M

Description: Definition of the response of the handwheel travel to axis-specific VDI interface signals or a context-sensitive interpolator stop:
Bit = 0:
Interruption or collection of the distances preset via the handwheel.
Bit = 1:
Cancelation of the traversing motion or no collection.
Bit assignment:
Bit 0: feedrate override
Bit 1: spindle speed override
Bit 2: feedrate stop/spindle stop or context-sensitive interpolator stop
Bit 3: clamping procedure running (= 0 no effect)
Bit 4: servo enable
Bit 5: pulse enable

1.3 NC machine data

For machine axis:

Bit 6 = 0

For handwheel travel, the maximum velocity at which the relevant machine axis can be traversed is the feedrate set in MD32020 \$MA_JOGL_VELO.

Bit 6 = 1

For handwheel travel, the maximum velocity at which the relevant machine axis can be traversed is the feedrate set in MD32000 \$MA_MAX_AX_VELO.

Bit 7 = 0

The override is active in handwheel travel.

Bit 7 = 1

The override is always assumed to be 100% for handwheel travel, regardless of how the override switch is set.

Exception: override 0% is always active.

Bit 8 = 0

The override is active with DRF

Bit 8 = 1

The override is always assumed to be 100% for DRF, regardless of how the override switch is set.

Exception: override 0% is always active.

Bit 9 = 0

For handwheel travel, the maximum possible velocity with revolutional feedrate is

- with the feedrate in SD41120 \$SN_JOG_REV_SET_VELO or

- the feedrate in MD32050 \$MA_JOG_REV_VELO or

- in the case of rapid traverse with MD32040 \$MA_JOG_REV_VELO_RAPID

of the relevant machine axis calculated with the spindle or rotary axis feedrate.

Bit 9 = 1

For handwheel travel, the maximum possible velocity is with the revolutional feedrate in MD32000 \$MA_MAX_AX_VELO of the relevant machine axis. (see also bit 6)

Bit 10 = 0

For overlaid motions, \$AA_OVR is not active.

Bit 10 = 1

For overlaid motions (DRF, \$AA_OFF, external work offset, online tool offset), the override \$AA_OVR settable via synchronized actions is active.

Bit 11 = 0

With the VDI interface signal "driveReady" (= 0) missing, paths defined by the handwheel are not collected, but a traversing request is displayed. Start of a continuous JOG motion in continuous mode (\$SN_JOG_CONT_MODE_LEVELTRIGGRD 41050 = 0) or an incremental JOG motion in continuous mode (\$MN_JOG_INC_MODE_LEVELTRIGGRD 11300 = 0) is displayed as a traversing request. With "driveReady" = 1, however, the tool is not traversed, but the procedure is canceled and must be started again.

Bit 11 = 1

With the VDI interface "driveReady" missing, the paths defined by the handwheel are collected. Start of a continuous JOG motion in continuous mode (\$SN_JOG_CONT_MODE_LEVELTRIGGRD 41050 = 0) or an incremental JOG motion in continuous mode (\$MN_JOG_INC_MODE_LEVELTRIGGRD 11300 = 0) is displayed and saved as a traversing request. With "driveReady" = 1 the traversing motion is started.

|

32090	HANDWH_VELO_OVERLAY_FACTOR	A10, A04	H1			
-	Ratio of JOG velocity to handwheel velocity (DRF)	DOUBLE	Reset			
CTEQ						
-	-	0.5	-	-	7/2	M

Description: The velocity active with the handwheel in DRF can be reduced from the JOG velocity with this machine data.

The following applies to linear axes for the velocity active with DRF:

$v_{DRF} = SD41110 \$SN_JOG_SET_VELO * MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR$
or when $SD41110 \$SN_JOG_SET_VELO = 0$:

$v_{DRF} = MD32020 \$MA_JOG_VELO * MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR$

The velocity setting in $SD41130 \$SN_JOG_ROT_AX_SET_VELO$ applies for DRF on rotary axes instead of the value in $SD41110 \$SN_JOG_SET_VELO$.

MD irrelevant for:

JOG handwheel

Related to:

$MD32020 \$MA_JOG_VELO$ (JOG axis velocity)

$SD41110 \$SN_JOG_SET_VELO$ (JOG velocity for G94)

$SD41130 \$SN_JOG_ROT_AX_SET_VELO$ (JOG velocity for rotary axes)

32100	AX_MOTION_DIR	A07, A03, A11, -	G1,TE3,G2			
-	Traversing direction (not control direction)	DWORD	PowerOn			
-						
-	-	1 1	-1 1	1 1	7/2 7/2	M

Description: The direction of movement of the machine can be reversed with this MD.

The control direction is, however, not destroyed; i.e. closed-loop control remains stable.

-1: Direction reversal

0, 1: No direction reversal

Note:

In the case of SINAMICS drives, we recommend that the direction of motion is reversed in the drive (see P1821).

32110	ENC_FEEDBACK_POL	A07, A02, A11	G2			
-	Sign actual value (control direction)	DWORD	PowerOn			
-						
-	2	1, 1	-1	1	7/2	M

Description: The evaluation direction of the shaft encoder signals is entered in the MD.

-1: Actual value reversal

0, 1: No actual value reversal

The index[n] of the machine data is encoded as follows:

[Encoder no.]: 0 or 1

Special cases:

The axis can run off if an incorrect control direction is entered.

Depending on the setting of the corresponding limit values, one of the following alarms is displayed:

Alarm 25040 "Standstill monitoring"

Alarm 25050 "Contour monitoring"

Alarm 25060 "Speed setpoint limitation"

1.3 NC machine data

If an uncontrolled setpoint step change occurs on connection of a drive, the control direction might be incorrect.

Note:

In the case of SINAMICS drives, we recommend that the direction of motion is reversed in the drive (see P410).

This is obligatory if you are using DSC (see also MD32640 \$MA_STIFFNESS_CONTROL_ENABLE).

32200	POSCTRL_GAIN			A07, A11	G1,TE1,TE9,K3,S3,A2,A3,D1, G2,S1,V1	
1000/min	Servo gain factor			DOUBLE	NEW CONF	
CTEQ						
-	6	16.66666667, 16.66666667, 16.66666667, 16.66666667, 16.66666667...	0	2000.	7/2	M

Description: Position controller gain, or servo gain factor.

The input/output unit for the user is [(m/min) /mm].

I.e. MD32200 \$MA_POSCTRL_GAIN[n] = 1 corresponds to a 1 mm following error at V = 1m/min.

The following machine data have default settings for adapting the standard selected input/output unit to the internal unit [rev/s].

- MD10230 \$MN_SCALING_FACTORS_USER_DEF[9] = 16.666667S
- MD10220 \$MN_SCALING_USER_DEF_MASK = 0x200; (bit no 9 as hex value).

If the value "0" is entered the position controller is opened.

When entering the servo gain factor it is important to take into account that the gain factor of the whole position control loop is still dependent on other parameters of the controlled system. A distinction should be made between a "desired servo gain factor" (MD32200 \$MA_POSCTRL_GAIN) and an "actual servo gain factor" (produced by the machine). Only when all the parameters of the control loop are matched will these servo gain factors be the same.

Other factors are:

- Speed setpoint adjustment (MD32260 \$MA_RATED_VEL0, MD32250 \$MA_RATED_OUTVAL)
or automatic speed setpoint interface adjustment (with MD32250 \$MA_RATED_OUTVAL = 0 etc.)
- Correct actual value recording of the position encoder (no. of encoder marks, high resolution, encoder mounting location, gear etc.)
- Correct actual speed recording on the drive (standardization, possibly tacho compensation, tacho generator)

Note:

Axes which interpolate together and are to perform a machining operation, must either have the same gain setting (i.e. have the identical following error = 45° slope at the same velocity) or they must be matched via MD32910 \$MA_DYN_MATCH_TIME.

The actual servo gain factor can be checked by means of the following error (in the service display).

In the case of analog axes, a drift compensation must be performed prior to the control.

The index [n] of the machine data has the following coding:

[control parameter set no.]: 0-5

32210	POSCTRL_INTEGR_TIME	A07	G2
s	Position controller integral time	DOUBLE	NEW CONF
-			
-	-	1.0	0

Description: Position controller integral action time for the integral component in s
The MD is only active if MD32220 \$MA_POSCTRL_INTEGR_ENABLE = TRUE.
A value of the MD less than 0.001 disables the integral component of the PI controller. The controller is then a P controller, which works with disabled manipulated variable clamping (see also MD32230 \$MA_POSCTRL_CONFIG, bit0 = 1).

32220	POSCTRL_INTEGR_ENABLE	A07	G2
-	Enable integral component position controller	BOOLEAN	PowerOn
-			
-	-	FALSE	-

Description: Enable of the integral component position controller; the position controller is then a PI controller in which the manipulated variable clamping is disabled (s.a. MD32230 \$MA_POSCTRL_CONFIG, bit0 = 1).
Position overshoots may occur if the integral component is used. For this reason, this functionality may only be used in special cases.

32230	POSCTRL_CONFIG	A07	TE1
-	Configuration of the position controller structure	BYTE	PowerOn
-			
-	-	0	0

Description: Configuration of the position controller structure:
Bit0 = 1: Manipulated variable clamping inactive
Bit4 = 1: Accelerated exact stop signal active

32250	RATED_OUTVAL	A01, A11	A3,D1,G2
%	Rated output voltage	DOUBLE	NEW CONF
CTEQ			
-	1	0.0	200

Description: a.)
Scaling of the manipulated variable with analog drives:
The value of the speed setpoint in percent is to be entered in this MD, in relation to the maximum speed setpoint at which the motor speed specified in MD32260 \$MA_RATED_VELO[n] is reached.
Related to:
MD32250 \$MA_RATED_OUTVAL[n] only makes sense in combination with MD32260 \$MA_RATED_VELO[n].
Example:
1. At a voltage of 5V, the drive reaches a speed of 1875 rpm ==> RATED_OUTVAL = 50%, RATED_VELO = 11250 [degrees/s]
2. At a voltage of 8V, the drive reaches a speed of 3000 rpm ==> RATED_OUTVAL = 80%, RATED_VELO = 18000 [degrees/s]
3. At a voltage of 1.5V, the drive reaches a speed of 562.5 rpm ==> RATED_OUTVAL = 15%, RATED_VELO = 3375 [degrees/s]
All three examples are possible for one and the same drive/converter. The ratio of the two values is decisive; it is the same in all three examples.

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MD32250 \$MA_RATED_OUTVAL and MD32260 \$MA_RATED_VELO describe physical characteristics of converter and drive; they can therefore only be determined by means of a measurement or commissioning instructions (converter, drive).
b.)

Scaling of the manipulated variable with digital PROFIdrive drives:

Default value "0" declares MD32250 \$MA_RATED_OUTVAL and MD32260 \$MA_RATED_VELO as invalid. Scaling of the manipulated variable is automatically determined and adjusted from the drive parameters instead.

Otherwise (MD32250 \$MA_RATED_OUTVAL unequal to zero), the scaling of the manipulated variable is not determined from the drive (for example non-Siemens PROFIdrive drives), but set with RATED_VELO and RATED_OUTVAL, even in the case of these, irrespective of the scaling active on the drive side. In this case, the following applies:

Scaling of the manipulated variable on the drive = RATED_VELO / RATED_OUTVAL
Further scalings from drive parameters, such as torque scaling, are not active if \$MA_RATED_OUTVAL is not equal to zero, the values based on it remain zero.

In the case of simultaneous operation of analog and PROFIdrive drives, the settings for the analog axes must be adjusted as described in a.).

32260	RATED_VELO	A01, A11	A3,D1,G2			
rev/min	Rated motor speed	DOUBLE	NEW CONF			
CTEQ						
-	1	3000.0	-	-	7/2	M

Description: Only applies when:

MD32250 \$MA_RATED_OUTVAL is set greater than 0.

The drive speed (scaled on the drive) that is reached with the percentual speed setpoint specified in MD32250 \$MA_RATED_OUTVAL[n] must be entered in the MD.

Related to:

MD32260 \$MA_RATED_VELO[n] only makes sense in combination with MD32250 \$MA_RATED_OUTVAL[n].

32300	MAX_AX_ACCEL	A11, A04, -	M3,TE6,Z3,H1,K3,M1,A3,B1, B2,K1,V1,2,4			
m/s ² , rev/s ²	maximum axis acceleration	DOUBLE	NEW CONF			
CTEQ						
-	5	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	1.0e-6	-	7/2	M

Description: Maximum acceleration, i.e. change in setpoint velocity, which is to act upon the axis. The value limits both positive and negative axis acceleration.

The maximum angular or linear axis acceleration must be entered dependent upon machine data MD30300 \$MA_IS_ROT_AX.

In the case of linear interpolation of the axes in a grouping, the grouping is limited in such a way that no axis is overloaded. With regard to contour accuracy, the control dynamic behavior has to be taken into account.

Not relevant for error states that lead to quick stop.

Each field element corresponds to a G code in the 59th G code group.

Related to:

MD32210 \$MA_MAX_ACCEL_OVL_FACTOR

MD32434 \$MA_G00_ACCEL_FACTOR

MD32433 \$MA_SOFT_ACCEL_FACTOR
 MD20610 \$MC_ADD_MOVE_ACCEL_RESERVE
 MD20602 \$MC_CURV_EFFECT_ON_PATH_ACCEL

32301	JOG_MAX_ACCEL	A11, A04, -	-			
m/s ² , rev/s ²	Maximum acceleration in JOG mode	DOUBLE	NEW CONF			
CTEQ						
-	-	0.0	-	-	0/0	M

Description: MD32301 \$MA_JOG_MAX_ACCEL is effective only in JOG mode.

It ensures that the acceleration set in the MD is not exceeded when the axis/spindle is in JOG mode.

MD32301 \$MA_JOG_MAX_ACCEL = 0 disables the limit. The actual acceleration value of the axis/spindle is then effective.

Related to:

MD32300 \$MA_MAX_AX_ACCEL (axis acceleration)

MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL (acceleration of spindle in speed control mode)

MD35210 \$MA_GEAR_STEP_POSCTRL_ACCEL (acceleration of spindle in position control mode)

MD35212 \$MA_GEAR_STEP_POSCTRL_ACCEL2 (acceleration of spindle in position control mode, tapping)

32310	MAX_ACCEL_OVL_FACTOR	A04	B1			
-	Overload factor for axial velocity steps	DOUBLE	NEW CONF			
CTEQ						
-	5	1.2, 1.2, 1.2, 1.2, 1.2	-	-	7/7	M

Description: The overload factor limits the velocity jump of the machine axis on block transition. The value entered is related to the value of MD32300 \$MA_MAX_AX_ACCEL (axis acceleration) and states by how much the maximum acceleration can be exceeded for one IPO cycle.

Related to:

MD32300 \$MA_MAX_AX_ACCEL (axis acceleration)

MD10070 \$MN_IPO_SYSCLOCK_TIME_RATIO (interpolator clock)

Each field element corresponds to a G code in the 59th G group.

32320	DYN_LIMIT_RESET_MASK	A05, A06, A10, A04	-			
-	Reset behavior of dynamic response limitation.	DWORD	Reset			
CTEQ						
-	-	0	0	0x03	7/2	M

Description: MD32320 \$MA_DYN_LIMIT_RESET_MASK is used to set the reset response of functions limiting dynamic response for specific axes and groups.

The MD is bit-coded, bit 0 (LSB) and bit 1 are currently allocated.

Bit 0 = 0:

Programmed ACC, VEOLIM and JERKLIM are reset to 100% with channel reset/M30 if the channel-specific MD22410 \$MC_F_VALUES_ACTIVE_AFTER_RESET is also zero.

For spindle mode, programmed ACC and VEOLIM are reset to 100% with channel reset/M30 if MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET is zero and the channel-specific MD22400 \$MC_S_VALUES_ACTIVE_AFTER_RESET is also zero.

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Bit 0 = 1:
 Programmed ACC, VELOLIM and JERKLIM are retained beyond channel reset/M30.

Bit 1 = 0:
 Programmed ACCLIMA, VELOLIMA and JERKLIMA are reset to 100% with channel reset/M30, if MD22410 \$MC_F_VALUES_ACTIVE_AFTER_RESET is also zero.

Bit 1 = 1:
 Programmed ACCLIMA, VELOLIMA and JERKLIMA are retained beyond channel reset/M30.

Notes:
 In MD22410 \$MC_F_VALUES_ACTIVE_AFTER_RESET, the reset responses of the dynamic instructions ACC, VELOLIM, JERKLIM, ACCLIMA, VELOLIMA and JERKLIMA are set channel specifically. If the MD is set, then the values are also retained.
 For spindle mode, the values for ACC and VELOLIM are also retained if MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET is not equal to zero or the channel-specific MD22400 \$MC_S_VALUES_ACTIVE_AFTER_RESET is not equal to zero.

32400	AX_JERK_ENABLE	A07, A04, -	B2
-	Axial jerk limitation	BOOLEAN	NEW CONF
CTEQ			
-	-	FALSE	-

Description: Enables the function of an axial jerk limitation.
 The limitation is set via a time constant; it is always active.
 The limitation works independently of the limitations "path-related maximum jerk", "knee-shaped acceleration characteristic" and the axial jerk limitation of the axes that are operated in JOG mode or positioning axis mode.
Related to:
 MD32410 \$MA_AX_JERK_TIME (time constant for axial jerk limitation)

32402	AX_JERK_MODE	A07, A04	B2,G2,B3
-	Filter type for axial jerk limitation	BYTE	PowerOn
CTEQ			
-	-	1	1

Description: Filter type for axial jerk limitation:
 1: 2nd order filter (as in SW 1 through 4)
 2: Moving averaging (SW 5 and higher)
 3: Bandstop filter (SW 6 and higher)
 Type 2 requires more computing time, but causes smaller contour errors for the same smoothing effect, or smoother movements at the same accuracy.
 Type 2 is recommended; type 1 is set as a default value for reasons of compatibility.
 The maximum jerk is set in the time constant MD32410 \$MA_AX_JERK_TIME.
 Recommended values for type 1:
 Min. 0.03 s; max. 0.06s.
 Recommended values for type 2:
 Min. 1 position-control cycle; max. 16 position-control cycles
 At a position-control cycle of 2ms, this corresponds to 0.002 to 0.032 seconds.
 Type 3 requires the setting of MD32410 \$MA_AX_JERK_TIME, MD32412 \$MA_AX_JERK_FREQ and MD32414 \$MA_AX_JERK_DAMP.

To parameterize a simple bandstop filter, we recommend setting MD32410 \$MA_AX_JERK_TIME=0, which automatically sets "denominator frequency = numerator frequency = blocking frequency = MD32412 \$MA_AX_JERK_FREQ".

However, MD32410 \$MA_AX_JERK_TIME>0 is used to set a specific denominator frequency, which makes it possible to implement a bandstop filter with amplitude increase for frequencies beyond the blocking frequency.

MD32402 \$MA_AX_JERK_MODE is only active if MD32400 \$MA_AX_JERK_ENABLE has been set to 1.

Special cases, errors:

The machine data must be same for all axes of an axis container.

Related to:

MD32400 \$MA_AX_JERK_ENABLE

MD32410 \$MA_AX_JERK_TIME

and for type 3: MD32412 \$MA_AX_JERK_FREQ and MD32414 \$MA_AX_JERK_DAMP

32410	AX_JERK_TIME	A07, A04	G1,TE1,S3,B2,G2
s	Time constant for axial jerk filter	DOUBLE	NEW CONF
-			
-	-	0.001	-

Description: Time constant of the axial jerk filter which causes a smoother axis setpoint characteristic. The jerk filter will only be active, if the time constant is higher than a position control cycle.

Not active in case of errors that cause a change in follow-up mode (for example EMERGENCY STOP99:

Special cases:

Machine axes that are supposed to be interpolating with one another, must have the same effective jerk filtering (for example the same time constant for tapping without compensating chuck).

Related to:

MD32400 \$MA_AX_JERK_ENABLE (axial jerk limitation)

32412	AX_JERK_FREQ	A07, A04	-
-	Blocking frequency of axial jerk filter	DOUBLE	NEW CONF
-			
-	-	10.0	-

Description: Blocking frequency of axial jerk filter bandstop MD is only active if MD32402 \$MA_AX_JERK_MODE = 3

32414	AX_JERK_DAMP	A07, A04	-
-	Damping of axial jerk filter	DOUBLE	NEW CONF
-			
-	-	0.0	-

Description: Damping of axial jerk filter bandstop:

Input value 0 means complete blocking with MD32412 \$MA_AX_JERK_FREQ, input values >0 can attenuate the blocking effect.

MD is only active if MD32402 \$MA_AX_JERK_MODE = 3

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32415	EQUIV_CPREC_TIME	A07, A04	\$MA_AX_JERK_TIME, \$MC_CPREC_WITH_FFW
s	Time constant for the programmable contour accuracy	DOUBLE	NEW CONF
-			
-	-	0	-

Description: The data states the jerk filter time constant at which the contour error with active feedforward control is negligibly small.

32420	JOG_AND_POS_JERK_ENABLE	A04	G1,H1,P2,S3,B2
-	Default setting of axis jerk limitation	BOOLEAN	Reset
CTEQ			
-	-	FALSE	-

Description: Enables the function of the axis-specific jerk limitation for the operating modes JOG, REF and positioning axis mode.

1: Axial jerk limitation for JOG mode and positioning axis mode

0: No jerk limitation for JOG mode and positioning axis mode

The maximum jerk occurring is defined in MD32430 \$MA_JOG_AND_POS_MAX_JERK.

Related to:

MD32430 \$MA_JOG_AND_POS_MAX_JERK (axial jerk)

32430	JOG_AND_POS_MAX_JERK	A04	G1,P2,S3,B2
m/s ³ , rev/s ³	Axial jerk	DOUBLE	NEW CONF
CTEQ			
-	-	1000.0, 1000.0, 1000.0, 1000.0, 1000.0...	1.e-9

Description: The jerk limit value limits the rate of change of axis acceleration in JOG and REF modes as well as in positioning axis mode with \$MN_POS_DYN_MODE=0.

The setting and time calculation are made as for MD20600 \$MC_MAX_PATH_JERK (path-related maximum jerk).

Not relevant for:

- Path interpolation
- Error states that lead to quick stop.

Related to:

MD32420 \$MA_JOG_AND_POS_JERK_ENABLE (initial setting of axial jerk limitation)

MD18960 \$MN_POS_DYN_MODE

32431	MAX_AX_JERK	A04	B1,B2
m/s ³ , rev/s ³	maximum axial jerk for path movement	DOUBLE	NEW CONF
-			
-	5	1.e6, 1.e6, 1.e6, 1.e6, 1.e6...	1.e-9

Description: Maximum axial jerk for path motion

Each field element corresponds to a G code in the 59th G code group.

32432	PATH_TRANS_JERK_LIM	A04	B1,B2
m/s ³ , rev/s ³	maximum axial jerk at block transition in continuous-path mode	DOUBLE	NEW CONF
CTEQ			
-	5	1.e6, 1.e6, 1.e6, 1.e6, 1.e6...	- - 3/3 M

Description: The control limits the jerk (acceleration jump) at a block transition between contour sections of different curvature to the value set with active jerk limitation.

Not relevant for:

Exact stop

There is an entry for each G code from the 59th G code group (dynamic G code group).

Related to:

Path control, SOFT type of acceleration

32433	SOFT_ACCEL_FACTOR	A04, -	TE9,B1,B2
-	Scaling of acceleration limitation with SOFT	DOUBLE	NEW CONF
-			
-	5	1., 1., 1., 1., 1.	1e-9 - 3/3 M

Description: Scaling of acceleration limitation with SOFT.

Relevant axial acceleration limitation for SOFT =:

(MD32433 \$MA_SOFT_ACCEL_FACTOR[...] * MD32300 \$MA_MAX_AX_ACCEL[...])

Each field element corresponds to a G code in the 59th G code group.

32434	G00_ACCEL_FACTOR	A04, -	TE9,B1,B2
-	Scaling of acceleration limitation with G00.	DOUBLE	NEW CONF
-			
-	-	1.	1e-9 - 3/3 M

Description: Scaling of the acceleration limitation with G00.

Relevant axial acceleration limitation for G00 =:

(MD32433 \$MA_G00_ACCEL_FACTOR[...] * MD32300 \$MA_MAX_AX_ACCEL[...])

32435	G00_JERK_FACTOR	A04	B1,B2
-	Scaling of jerk limitation with G00.	DOUBLE	NEW CONF
-			
-	-	1.	1e-9 - 3/3 M

Description: Scaling of the jerk limitation with G00.

Relevant axial jerk limitation for G00 =:

(MD32435 \$MA_G00_JERK_FACTOR[...] * MD32431 \$MA_MAX_AX_JERK[...])

32436	JOG_MAX_JERK	A04	-
m/s ³ , rev/s ³	Maximum axial jerk during JOG motion	DOUBLE	NEW CONF
CTEQ			
-	-	0.0	- - 0/0 M

Description: The jerk limit value limits the change of axis acceleration in JOG mode only.

The behavior of the MD is analog to:

MD32430 \$MA_JOG_AND_POS_MAX_JERK

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It therefore also communicates with:

MD32420 \$MA_JOG_AND_POS_JERK_ENABLE
(default of the axial jerk limitation)

32437	AX_JERK_VEL0	A04	B1			
mm/min, rev/min	Velocity threshold for linear jerk adjustment	DOUBLE	NEW CONF			
-						
-	5	3000, 3000, 3000, 3000, 3000...	-	-	3/3	M

Description: Velocity at and above which the permissible jerk of an axis increases in a linear fashion.

Jerk adjustment only becomes active if MD \$MA_MAX_AX_JERK_FACTOR is > 1.0.

There is an entry for each dynamic G code group.

See also MD \$MA_AX_JERK_VEL1 and \$MA_MAX_AX_JERK_FACTOR.

32438	AX_JERK_VEL1	A04	B1			
mm/min, rev/min	Velocity threshold for linear jerk adjustment	DOUBLE	NEW CONF			
-						
-	5	6000, 6000, 6000, 6000, 6000...	-	-	3/3	M

Description: Velocity at and above which the permissible jerk of an axis switches from increasing in a linear fashion

to the saturation defined in MD \$MA_MAX_AX_JERK_FACTOR.

The value of this velocity must be greater than the value set with MD \$MA_AX_JERK_VEL0.

Jerk adjustment becomes active only if MD \$MA_MAX_AX_JERK_FACTOR is > 1.0.

There is an entry for each dynamic G code group.

See also MD \$MA_AX_JERK_VEL0 and \$MA_MAX_AX_JERK_FACTOR

32439	MAX_AX_JERK_FACTOR	A04	B1			
-	Factor for jerk adjustment at high velocities	DOUBLE	NEW CONF			
-						
-	5	1.0, 1.0, 1.0, 1.0, 1.0	1.0	-	3/3	M

Description: Factor for setting adaptive jerk adjustment for an axis.

Jerk adjustment becomes active only if the value of this MD is greater than 1.

The speed-dependent axial jerk is only used for defining the maximum path velocity and does not affect the maximum path acceleration and maximum path jerk. Therefore, speed-dependent jerk adaptation only affects traversing that includes geometric torsion (change of the curvature). Both the curvature and torsion of linear movements are zero, and jerk adaptation has no effect.

There is an entry for each dynamic G code group.

See also MD \$MA_AX_JERK_VEL0 and \$MA_AX_JERK_VEL1.

32440	LOOKAH_FREQUENCY	EXP, A04	B1			
-	Smoothing frequency for Look Ahead	DOUBLE	NEW CONF			
-						
-	-	10.	-	-	7/2	M

Description: Acceleration procedures in continuous-path mode with Look Ahead which execute with a higher frequency than that parameterized in this MD are smoothed as a function of the parameterization in MD20460 \$MC_LOOKAH_SMOOTH_FACTOR.
It is always the minimum of all the axes participating in the path which is determined.
If vibrations are aroused in the mechanics of this axis and if their frequency is known, then this MD should be set to a lower value than this frequency.

32450	BACKLASH	A09	K3,G2			
mm, degrees	Backlash	DOUBLE	NEW CONF			
-						
-	2	0.0, 0.0	-	-	7/2	M

Description: Backlash on reversal between positive and negative travel directions.
Input of the compensation value is

- positive, if the encoder is leading the machine part (normal situation)
- negative, if the encoder is behind the machine part.

Backlash compensation is not active when 0 is entered.
Backlash compensation is always active after reference point approach in all operating modes.
Special cases:
A specific backlash on reversal must be entered for each measuring system.
Related to:
MD30200 \$MA_NUM_ENCS (number of measuring systems)
MD36500 \$MA_ENC_CHANGE_TOL
(Maximum tolerance at actual position value change)

32452	BACKLASH_FACTOR	A09	K3,G2,S1,V1			
-	Evaluation factor for backlash	DOUBLE	NEW CONF			
-						
-	6	1.0, 1.0, 1.0, 1.0, 1.0, 1.0	0.01	100.0	7/2	M

Description: Evaluation factor for backlash.
The machine data enables the backlash defined in MD32450 \$MA_BACKLASH to be changed as a function of the parameter set, in order to take a gear stage dependent backlash into account, for example.
Related to:
MD32450 \$MA_BACKLASH [n]

32456	BACKLASH_DYN	A09	-			
mm, degrees	Compensation value of dynamic backlash compensation	DOUBLE	NEW CONF			
-						
-	2	0.0, 0.0	-	-	7/2	M

Description: Compensation value for dynamic backlash compensation value
The entry of the compensation value is

- positive if the encoder leading the machine part (normal case)

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- negative if the encoder is following the machine part.

Backlash compensation becomes ineffective if 0 is entered.

The dynamic backlash compensation can only be activated after the reference point approach. Activation takes place via PLC user interface signals.

Special cases:

A separate compensation value must be entered for each measuring system.

Corresponds to:

MD32457 \$MA_BACKLASH_DYN_MAX_VEL0

(limitation of the compensation value change)

MD32000 \$MA_MAX_AX_VEL0

(maximum axis velocity)

MD30200 \$MA_NUM_ENCS

(number of measuring systems)

MD30200 \$MA_NUM_ENCS (number of measuring systems)

MD36500 \$MA_ENC_CHANGE_TOL

(maximum tolerance for actual position value changeover)

32457	BACKLASH_DYN_MAX_VEL0	A09	-
%	Limitation of dynamic backlash compensation value change	DOUBLE	NEW CONF
-			
-	-	1.0	-

Description: Relative velocity at which a dynamic backlash compensation value is retracted. Limitation of compensation value change. This is entered as percentage of MD32000 \$MA_MAX_AX_VEL0.

Corresponds to:

MD32456 \$MA_BACKLASH_DYN

(compensation value of dynamic backlash compensation)

MD32000 \$MA_MAX_AX_VEL0

(maximum axis velocity)

32490	FRICT_COMP_MODE	A09	K3
-	Type of friction compensation	BYTE	PowerOn
-			
-	1	1	0

Description: 0: No friction compensation

1: Friction compensation with constant injection value or adaptive characteristic

2: Friction compensation with learned characteristic via neural network

3: reserved

4: reserved

32500	FRICT_COMP_ENABLE	A09	K3,G2
-	Friction compensation active	BOOLEAN	NEW CONF
-			
-	-	FALSE	-

Description: 1: Friction compensation is enabled for this axis.

Depending on the setting of MD32490 \$MA_FRICT_COMP_MODE, either "friction compensation with constant modulation factor" or "QEC with neural networks" becomes active.

In the case of neural QEC, the machine data should not be set to "1" until a valid characteristic has been "learnt".

During the learning stage, the compensation values are added on independently of the contents of this machine data.

0: Friction compensation is not enabled for this axis.

Thus, no friction compensation values are entered.

Related to:

MD32490 \$MA_FRICT_COMP_MODE

Friction compensation type

MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE

Friction compensation adaptation active

MD32520 \$MA_FRICT_COMP_CONST_MAX

Maximum friction compensation value

MD32540 \$MA_FRICT_COMP_TIME

Friction compensation time constant

MD38010 \$MA_MM_QEC_MAX_POINTS

Number of interpolation points for QEC with neural networks

32510	FRICT_COMP_ADAPT_ENABLE			EXP, A09	K3
-	Adaptation friction compensation active			BOOLEAN	NEW CONF
-					
-	1	FALSE	-	-	7/2 M

Description: 1: Friction compensation with amplitude adaptation is enabled for the axis. Quadrant errors on circular contours can be compensated with friction compensation.

The amplitude of the friction compensation value required to be added on is frequently not constant over the entire acceleration range. That is, a lower compensation value needs to be entered for optimum friction compensation for higher accelerations than for lower accelerations. The parameters of the adaptation curve have to be determined, and entered in the machine data.

0: Friction compensation with amplitude adaptation is not enabled for the axis.

MD irrelevant for:

MD32500 \$MA_FRICT_COMP_ENABLE = 0

MD32490 \$MA_FRICT_COMP_MODE = 2

Related to:

MD32500 \$MA_FRICT_COMP_ENABLE

Friction compensation active

MD32520 \$MA_FRICT_COMP_CONST_MAX

Maximum friction compensation value

MD32530 \$MA_FRICT_COMP_CONST_MIN

Minimum friction compensation value

MD32550 \$MA_FRICT_COMP_ACCEL1

Adaptation acceleration value 1

MD32560 \$MA_FRICT_COMP_ACCEL2

Adaptation acceleration value 2

MD32570 \$MA_FRICT_COMP_ACCEL3

Adaptation acceleration value 3

MD32540 \$MA_FRICT_COMP_TIME

Friction compensation time constant

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32520	FRICT_COMP_CONST_MAX	EXP, A09	K3
mm/min, rev/ min	Maximum friction compensation value	DOUBLE	NEW CONF
-			
-	1	0.0	-

Description: If adaptation is inactive (MD32510=0), the maximum friction compensation is applied throughout the entire acceleration range.
 If adaptation is active (MD32510=1), the maximum friction compensation is applied in accordance with the adaptation curve.
 In the 1st acceleration range ($a < MD32550$), the switching amplitude = $MD32520 * (a/MD32550)$.
 In the 2nd acceleration range ($MD32550 \leq a \leq MD32560$), the switching amplitude = $MD32520$.
 In the 3rd acceleration range ($MD32560 < a < MD32570$), the switching amplitude = $MD32520 + (MD32530 - MD32520) / (MD32570 - MD32560) * (a - MD32560)$.
 In the 4th acceleration range ($MD32570 \leq a$), the switching amplitude = $MD32530$.
 Not relevant for:
 MD32500 \$MA_FRICT_COMP_ENABLE = 0
 MD32490 \$MA_FRICT_COMP_MODE = 2 (neural QEC)
 Related to:
 MD32500 \$MA_FRICT_COMP_ENABLE
 Friction compensation active
 MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE
 Friction compensation adaptation active
 MD32530 \$MA_FRICT_COMP_CONST_MIN
 Minimum friction compensation value
 MD32550 \$MA_FRICT_COMP_ACCEL1
 Adaptation acceleration value 1
 MD32560 \$MA_FRICT_COMP_ACCEL2
 Adaptation acceleration value 2
 MD32570 \$MA_FRICT_COMP_ACCEL3
 Adaptation acceleration value 3
 MD32540 \$MA_FRICT_COMP_TIME
 Friction compensation time constant

32530	FRICT_COMP_CONST_MIN	EXP, A09	K3
mm/min, rev/ min	Minimum friction compensation value	DOUBLE	NEW CONF
-			
-	1	0.0	-

Description: The minimum friction compensation value is active only if "Friction compensation with adaptation" (MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE=1) is active.
 The amplitude of the friction compensation value is entered in the 4th acceleration range (MD32570 \$MA_FRICT_COMP_ACCEL3 $\leq a$).
 MD irrelevant for:
 MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE = 0
 MD32490 \$MA_FRICT_COMP_MODE = 2 (neural QEC)

Special cases:

In special cases, the value for FRICT_COMP_CONST_MIN may be even higher than for MD32520 \$MA_FRICT_COMP_CONST_MAX.

Related to:

MD32500 \$MA_FRICT_COMP_ENABLE
Friction compensation active
MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE
Friction compensation adaptation active
MD32520 \$MA_FRICT_COMP_CONST_MAX
Maximum friction compensation value
MD32550 \$MA_FRICT_COMP_ACCEL1
Adaptation acceleration value 1
MD32560 \$MA_FRICT_COMP_ACCEL2
Adaptation acceleration value 2
MD32570 \$MA_FRICT_COMP_ACCEL3
Adaptation acceleration value 3
MD32540 \$MA_FRICT_COMP_TIME
Friction compensation time constant

32540	FRICT_COMP_TIME			EXP, A09	K3	
s	Friction compensation time constant			DOUBLE	NEW CONF	
-				-		
-	1	0.015	-	-	7/2	M

Description:

The friction compensation value is entered via a DT1 filter.

The add-on amplitude decays in accordance with the time constant.

MD irrelevant for:

MD32500 \$MA_FRICT_COMP_ENABLE = 0

Related to:

MD32500 \$MA_FRICT_COMP_ENABLE
Friction compensation active
MD32520 \$MA_FRICT_COMP_CONST_MAX
Maximum friction compensation value

32550	FRICT_COMP_ACCEL1			EXP, A09	K3	
m/s ² , rev/s ²	Adaptation acceleration value 1			DOUBLE	NEW CONF	
-				-		
-	1	0.0	-	-	7/2	M

Description:

The adaptation acceleration value is only required if "Friction compensation with adaptation" (MD32510=1) is active.

The adaptation acceleration values 1 to 3 are interpolation points for defining the adaptation curve. The adaptation curve is subdivided into 4 ranges, in each of which a different friction compensation value applies.

For the 1st range ($a < MD32550$), the add-on amplitude = $a * MD32520 / MD32550$

MD irrelevant for:

MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE = 0

MD32490 \$MA_FRICT_COMP_MODE = 2

Related to:

MD32500 \$MA_FRICT_COMP_ENABLE
Friction compensation active

1.3 NC machine data

MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE
 Friction compensation adaptation active
 MD32520 \$MA_FRICT_COMP_CONST_MAX
 Maximum friction compensation value
 MD32530 \$MA_FRICT_COMP_CONST_MIN
 Minimum friction compensation value
 MD32560 \$MA_FRICT_COMP_ACCEL2
 Adaptation acceleration value 2
 MD32570 \$MA_FRICT_COMP_ACCEL3
 Adaptation acceleration value 3
 MD32540 \$MA_FRICT_COMP_TIME
 Friction compensation time constant

32560	FRICT_COMP_ACCEL2	EXP, A09	K3			
m/s ² , rev/s ²	Adaptation acceleration value 2	DOUBLE	NEW CONF			
-						
-	1	0.0	-	-	7/2	M

Description: The adaptation acceleration value is only required if "Friction compensation with adaptation" (MD32510=1) is active.

Adaptation acceleration values 1 to 3 are interpolation points for defining the adaptation curve. The adaptation curve is subdivided into 4 ranges, in each of which a different friction compensation value applies.

In the 1st acceleration range ($a < MD32550$), the switching amplitude = $MD32520 * (a/MD32550)$.

In the 2nd acceleration range ($MD32550 \leq a \leq MD32560$), the switching amplitude = $MD32520$.

In the 3rd acceleration range ($MD32560 < a \leq MD32570$), the switching amplitude = $MD32520 + (MD32530 - MD32520) / (MD32570 - MD32560) * (a - MD32560)$.

In the 4th acceleration range ($MD32570 \leq a$), the switching amplitude = $MD32530$.

Not relevant for:

MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE = 0
 MD32490 \$MA_FRICT_COMP_MODE = 2

Related to:

MD32500 \$MA_FRICT_COMP_ENABLE
 Friction compensation active
 MD32510 \$MA_FRICT_COMP_ADAPT_ENABLE
 Friction compensation adaptation active
 MD32520 \$MA_FRICT_COMP_CONST_MAX
 Maximum friction compensation value
 MD32530 \$MA_FRICT_COMP_CONST_MIN
 Minimum friction compensation value
 MD32550 \$MA_FRICT_COMP_ACCEL1
 Adaptation acceleration value 1
 MD32570 \$MA_FRICT_COMP_ACCEL3
 Adaptation acceleration value 3
 MD32540 \$MA_FRICT_COMP_TIME
 Friction compensation time constant

32570	FRICT_COMP_ACCEL3		EXP, A09	K3
m/s ² , rev/s ²	Adaptation acceleration value 3		DOUBLE	NEW CONF
-				
-	1	0.0	-	7/2 M

Description: The adaptation acceleration value is only required if "Friction compensation with adaptation" (MD32510=1) is active.

Adaptation acceleration values 1 to 3 are interpolation points for defining the adaptation curve. The adaptation curve is subdivided into 4 ranges, in each of which a different friction compensation value applies.

In the 1st acceleration range ($a < MD32550$), the switching amplitude = $MD32520 * (a/MD32550)$.

In the 2nd acceleration range ($MD32550 \leq a \leq MD32560$), the switching amplitude = $MD32520$.

In the 3rd acceleration range ($MD32560 < a < MD32570$), the switching amplitude = $MD32520 + (MD32530-MD32520)/(MD32570-MD32560) * (a - MD32560)$.

In the 4th acceleration range ($MD32570 \leq a$), the switching amplitude = $MD32530$.

Not relevant for:

```
MD32510 $MA_FRICT_COMP_ADAPT_ENABLE = 0
MD32490 $MA_FRICT_COMP_MODE = 2
```

Related to:

```
MD32500 $MA_FRICT_COMP_ENABLE
Friction compensation active
MD32510 $MA_FRICT_COMP_ADAPT_ENABLE
Friction compensation adaptation active
MD32520 $MA_FRICT_COMP_CONST_MAX
Maximum friction compensation value
MD32530 $MA_FRICT_COMP_CONST_MIN
Minimum friction compensation value
MD32550 $MA_FRICT_COMP_ACCEL1
Adaptation acceleration value 1
MD32560 $MA_FRICT_COMP_ACCEL2
Adaptation acceleration value 2
MD32540 $MA_FRICT_COMP_TIME
Friction compensation time constant
```

32580	FRICT_COMP_INC_FACTOR		A09	K3
%	Weighting of friction compensation value with short travel motions.		DOUBLE	NEW CONF
-				
-	1	0.0	0	100.0 7/2 M

Description: The optimum friction compensation value determined by the circularity test can cause overcompensation of this axis if compensation is activated and axial positioning movements are short.

In such cases, a better setting can be achieved by reducing the amplitude of the friction compensation value and acts on all positioning blocks that are made within an interpolation cycle of the control.

1.3 NC machine data

The factor that has to be entered can be determined empirically and can be different from axis to axis because of the different friction conditions. The input range is between 0 and 100% of the value determined by the circularity test.

The default setting is 0; so that no compensation is performed for short traversing movements.

Related to:

MD32500 \$MA_FRICT_COMP_ENABLE Friction compensation active

32610	VELO_FFW_WEIGHT	A07, A09	G1,TE1,K3,S3,A3,G2,S1,V1
-	Feedforward control factor f. velocity/speed feedforward control	DOUBLE	NEW CONF
-			
-	6	1.0, 1.0, 1.0, 1.0, 1.0, 1.0	-

Description: Weighting factor for feedforward control. Is normally = 1.0 on digital drives, since these keep the setpoint speed exactly .

On analog drives, this factor can be used to compensate the gain error of the drive actuator, so that the actual speed becomes exactly equal to the set-point speed (this reduces the following error with feedforward control).

On both drive types, the effect of the feedforward control can be continuously reduced with a factor of < 1.0, if the machine moves too abruptly and other measures (e.g. jerk limitation) are not to be used. This also reduces possibly existing overshoots; however, the error increases on curved contours, e.g. on a circle. With 0.0, you have a pure position controller without feedforward control.

Contour monitoring takes into account factors < 1.0.

In individual cases, it can, however, become necessary to increase MD CONTOUR_TOL.

32620	FFW_MODE	A07, A09	G1,K3,S3,G2,S1
-	Feedforward control mode	BYTE	Reset
-			
-	-	3	0

Description: FFW_MODE defines the feedforward control mode to be applied on an axis-specific basis:

0 = No feedforward control

1 = Speed feedforward control with PT1 balancing

2 = Torque feedforward control (only for SINAMICS) with PT1 balancing

3 = Speed feedforward control with Tt balancing

4 = Torque feedforward control (only for SINAMICS) with Tt balancing

The high-level language instructions FFWON and FFWOF are used to activate and deactivate feedforward control for specific channels on all axes.

To prevent feedforward control from being affected by these instructions on individual axes, you can define that it is always activated or always deactivated in machine data FFW_ACTIVATION_MODE (see also FFW_ACTIVATION_MODE).

Torque feedforward control must be activated via the global option data \$ON_FFW_MODE_MASK.

If a feedforward control mode is selected (speed or torque feedforward control), MD32630 \$MA_FFW_ACTIVATION_MODE can be used to program in addition whether feedforward control can be activated or deactivated by the part program.

Note for SINAMICS drives with torque feedforward control selected:

Alarm 26016 refers to the current machine data if the telegram used (see \$MN_DRIVE_TELEGRAM_TYPE) does not support the torque feedforward control function. Remedy: Use telegram 136.

Torque feedforward control is an option that must be activated.

Related to:

MD32630 \$MA_FFW_ACTIVATION_MODE

MD32610 \$MA_VELO_FFW_WEIGHT

MD32650 \$MA_AX_INERTIA

32630	FFW_ACTIVATION_MODE	A07, A09	K3,G2
-	Activate feedforward control from program	BYTE	Reset
CTEQ			
-	-	1 0 2	7/2 M

Description: MD32630 \$FFW_ACTIVATION_MODE can be used to define whether the feedforward control for this axis/spindle can be switched on and off by the part program.
 0 = The feedforward control cannot be switched on or off by the high-level language elements FFWON and FFWOF respectively.
 For the axis/spindle, the state specified by MD32620 \$MA_FFW_MODE is therefore always effective.
 1 = The feedforward control can be switched on and off by the part program with FFWON and FFWOF respectively.
 The instruction FFWON/FFWOF becomes active immediately
 2 = The feedforward control can be switched on and off by the part program with FFWON and FFWOF respectively.
 The instruction FFWON/FFWOF does not become active until the next axis standstill
 The default setting is specified by the channel-specific MD20150 \$MC_GCODE_RESET_VALUES. This setting is valid even before the first NC block is executed.

Notes:

The last valid state continues to be active even after Reset (and therefore also with JOG).

As the feedforward control of all axes of the channel is switched on and off by FFWON and FFWOF respectively, MD32630 \$MA_FFW_ACTIVATION_MODE should be set identically for axes interpolating with one another.

Switching feedforward control on or off while the axis/spindle is traversing may cause compensation operations in the control loop. Interpolating axes are therefore stopped by the part program if such switching operations occur (internal stop Stop G09 is triggered).

Related to:

MD32620 \$MA_FFW_MODE

MD20150 \$MC_GCODE_RESET_VALUES

32640	STIFFNESS_CONTROL_ENABLE	A01, A07	TE3,G2
-	Dynamic stiffness control	BOOLEAN	NEW CONF
CTEQ			
-	1 FALSE - -	7/2	M

Description: Activate dynamic stiffness control, if bit is set.

Higher servo gain factors are possible if stiffness control is active (MD32200 \$MA_POSCTRL_GAIN).

1.3 NC machine data

Notes:

The availability of this function is determined by the drive used (the drive has to support the DSC function).

Note on PROFIdrive drives:

Alarm 26017 refers to this machine data if:

a. The PROFIdrive telegram used (see \$MN_DRIVE_TELEGRAM_TYPE) does not support the DSC function or does not contain an encoder 1 (such as Tel. 118), to which the DSC scaling for PZD XERR refers. Remedy: Use a sufficiently powerful telegram which also includes encoder 1 (e.g. Tel. 106, 116).

b. Specifically for SINAMICS drives, if inversion of the encoder signal is parameterized in \$MA_ENC_FEEDBACK_POL=-1 with active DSC. Remedy: Remove inversion of the encoder signal from \$MA_ENC_FEEDBACK_POL, and enter it in SINAMICS parameter p410 instead.

32642	STIFFNESS_CONTROL_CONFIG	A01, A07	-
-	Dynamic stiffness control configuration (DSC)	BYTE	NEW CONF
CTEQ			
-	1 0 0 1 7/2 M		

Description: Configuration of the dynamic stiffness control (DSC):
 0: DSC in drive works with indirect measuring system, i.e. motor measuring system (default scenario).
 1: DSC in drive works with direct measuring system.

Notes:

The availability of this function is determined by the drive used (the drive must support the DSC function).

With SINAMICS (P1193 not equal to 0), the value of this machine data must be set to 0.

32644	STIFFNESS_DELAY_TIME	A01, A07	-
s	dynamic stiffness control: Delay	DOUBLE	PowerOn
CTEQ			
-	1 0.0 -0.02 0.02 7/2 M		

Description: Configuration of compensation dead time of the dynamic stiffness control (DSC) with optimized PROFIBUS/PROFINET cycle, unit: seconds

32648	SPLINES_CONTROL_CONFIG	A01, A07	-
-	Activation of splines feed forward control	BOOLEAN	PowerOn
-			
-	- FALSE - - 0/0 M		

Description: Only for SINAMICS:
 1: Splines functionality is activated
 0: Splines functionality is deactivated

32650	AX_INERTIA	EXP, A07, A09	G1,K3,S3,G2
kgm ²	Inertia for torque feedforward control	DOUBLE	NEW CONF
-			
-	- 0.0 - - 7/2 M		

Description: Only with SINAMICS:
 Inertia of axis. Used for torque feedforward control.

With torque feedforward control, an additional current setpoint proportional to the torque is directly injected at the input of the current controller. This value is formed using the acceleration and the moment of inertia. The equivalent time constant of the current control loop must be defined for this purpose and entered in MD32800 \$MA_EQUIV_CURRCTRL_TIME.

The total moment of inertia of the axis (drive + load) must also be entered in MD32650 \$MA_AX_INERTIA (total moment of inertia referred to motor shaft according to data supplied by machine manufacturer).

When MD32650 \$MA_AX_INERTIA and MD32800 \$MA_EQUIV_CURRCTRL_TIME are set correctly, the following error is almost zero even during acceleration (check this by looking at the "following error" in the service display).

The torque feedforward control is deactivated if MD32650 \$MA_AX_INERTIA is set to 0. However, because the calculations are performed anyway, torque feedforward control must always be deactivated with MD32620 \$MA_FFW_MODE = 0 or 1 or 3 (recommended). Because of the direct current setpoint injection, torque feedforward control is only possible on digital drives.

MD irrelevant for:

MD32620 \$MA_FFW_MODE = 0 or 1 or 3

Related to:

MD32620 \$MA_FFW_MODE

MD32630 \$MA_FFW_ACTIVATION_MODE

MD32800 \$MA_EQUIV_CURRCTRL_TIME

32652	AX_MASS	EXP, A07, A09	-			
kg	Axis mass for torque feedforward control	DOUBLE	NEW CONF			
-						
-	-	0.0	-	-	7/2	M

Description: SINAMICS only:

Mass of axis for torque feedforward control.

The MD is used on linear drives (MD13040 \$MN_DRIVE_TYPE=3 or MD13080 \$MN_DRIVE_TYPE_DP=3) instead of MD32650 \$MA_AX_INERTIA.

32700	ENC_COMP_ENABLE	A09	K3			
-	Encoder/spindle error compensation.	BOOLEAN	NEW CONF			
-						
-	2	FALSE, FALSE	-	-	7/2	M

Description: 1: LEC (leadscrew error compensation) is activated for the measuring system. This enables leadscrew and measuring system errors to be compensated.

The function is not enabled internally until the relevant measuring system has been referenced (NC/PLC interface signal DB31, ... DBX60.4 / 60.5 (Referenced/synchronized 1 or 2) = 1).

write protect function (compensation values) active.

0: LEC is not active for the axis/measuring system.

Related to:

MD38000 \$MA_MM_ENC_COMP_MAX_POINTS number of interpolation points with LEC NC/PLC interface signal DB31, ... DBX60.4 (Referenced/synchronized 1)
NC/PLC interface signal DB31, ... DBX60.5 (Referenced/synchronized 2)

1.3 NC machine data

32710	CEC_ENABLE	A09	K3			
-	Enable of sag compensation	BOOLEAN	NEW CONF			
-						
-	-	FALSE	-	-	7/2	M

Description: 1: Sag compensation is enabled for this axis.

Inter-axis machine geometry errors (e.g. sag and angularity errors) can be compensated with sag compensation.

The function is not activated until the following conditions have been fulfilled:

- The "Interpolatory compensation" option is set
- The associated compensation tables have been loaded into the NC user memory and enabled (SD41300 \$SN_CEC_TABLE_ENABLE[t] = 1)
- The relevant position measuring system is referenced (NC/PLC interface signal DB31, ... DBX60.4 / 60.5 = 1 (Referenced/synchronized 1 or 2)):

0: Sag compensation is not enabled for the compensation axis.

Related to:

MD18342 \$MN_MM_CEC_MAX_POINTS[t]

Number of interpolation points for sag compensation

SD41300 \$SN_CEC_TABLE_ENABLE[t]

Enable evaluation of sag compensation table t

NC/PLC interface signal DB31, ... DBX60.4 / 60.5

(referenced/synchronized 1 or 2)

32711	CEC_SCALING_SYSTEM_METRIC	A09	K3,G2			
-	Measuring system of sag compensation	BOOLEAN	NEW CONF			
-						
-	-	TRUE	-	-	7/2	M

Description: Compensation data exist in:

0: inch system

1: metric system

32720	CEC_MAX_SUM	A09	K3			
mm, degrees	Maximum compensation value for sag compensation	DOUBLE	NEW CONF			
-						
-	-	1.0	0	10.0	7/2	M

Description: In sag compensation, the absolute value of the total compensation value (sum of compensation values of all active compensation relations) is monitored axially with machine data value CEC_MAX_SUM.

If the determined total compensation value is larger than the maximum value, alarm 20124 is triggered. Program processing is not interrupted. The compensation value output as the additional setpoint is limited to the maximum value.

MD irrelevant to:

- MSEC
- Backlash compensation
- Temperature compensation

Related to:

MD32710 \$MA_CEC_ENABLE

Enable sag compensation

SD41300 \$SN_CEC_TABLE_ENABLE[t]
 Enable evaluation of sag compensation table t
 NC/PLC interface signal DB31, ... DBX60.4 / 60.5
 (referenced/synchronized 1 or 2)

32730	CEC_MAX_VELO		EXP, A09, A04	K3
%	Change in velocity at CEC		DOUBLE	NEW CONF
-				
-	-	10.0	0	100.0 7/2 M

Description: In sag compensation, modification of the total compensation value (sum of the compensation values of all active compensation relations) is limited axially. The maximum change value is defined in this machine data as a percentage of MD32000 \$MA_MAX_AX_VELO (maximum axis velocity).

If the change in the total compensation value is greater than the maximum value, alarm 20125 is output. Program processing is however continued. The path not covered because of the limitation is made up as soon as the compensation value is no longer subject to limitation.

MD irrelevant to:

- MSEC
- Backlash compensation
- Temperature compensation

Related to:

MD32710 \$MA_CEC_ENABLE

Enable sag compensation

MD32000 \$MA_MAX_AX_VELO

Maximum axis velocity

SD41300 \$SN_CEC_TABLE_ENABLE[t]

Enable evaluation of sag compensation table t

NC/PLC interface signal DB31, ... DBX60.4 / 60.5

(referenced/synchronized 1 or 2)

32750	TEMP_COMP_TYPE		A09	K3,W1
-	Temperature compensation type		BYTE	PowerOn
CTEQ				
-	-	0	0	7 7/2 M

Description: The type of temperature compensation applicable to the machine axis is activated in MD32750 \$MA_TEMP_COMP_TYPE.

A distinction is made between the following types:

0: No temperature compensation active

1: Position-independent temperature compensation active
 (compensation value with SD43900 \$SA_TEMP_COMP_ABS_VALUE)

2: Position-dependent temperature compensation active
 (compensation value with SD43910 \$SA_TEMP_COMP_SLOPE and SD43920 TEMP_COMP_REF_POSITION)

3: Position-dependent and position-independent temperature compensation active
 (compensation values with SD according to types 1 and 2)

Temperature compensation is an option that must be enabled.

Related to:

SD43900 \$SA_TEMP_COMP_ABS_VALUE

1.3 NC machine data

Position-dependent temperature compensation value
SD43920 \$SA_TEMP_COMP_REF_POSITION
Reference point for position-dependent temperature compensation
SD43910 \$SA_TEMP_COMP_SLOPE
Gradient for position-dependent temperature compensation
MD32760 \$MA_COMP_ADD_VELO_FACTOR
Excessive velocity due to compensation

32760	COMP_ADD_VELO_FACTOR		EXP, A09, A04	K3		
-	Excessive velocity due to compensation		DOUBLE	NEW CONF		
CTEQ						
-	-	0.01	0.	0.10	7/2	M

Description: The maximum distance that can be traversed because of temperature compensation in one IPO cycle can be limited by the axial MD32760 \$MA_COMP_ADD_VELO_FACTOR.

If the resulting temperature compensation value is above this maximum, it is traversed over several IPO cycles. There is no alarm.

The maximum compensation value per IPO cycle is specified as a factor referring to the maximum axis velocity (MD32000 \$MA_MAX_AX_VELO).

The maximum gradient of the temperature compensation tanbmax is also limited with this machine data.

Example of calculation of the maximum gradient tanb(max) :

1. Calculation of the interpolator cycle time (see Description of Functions Velocities, Setpoint/Actual Value Systems, Cycle Times (G2))

Interpolator cycle time = Basic system clock rate * factor for interpolation cycle

Interpolator cycle time = MD10050 \$MN_SYSCLOCK_CYCLE_TIME ^ MD10070 \$MN_IPO_SYSCLOCK_TIME_RATIO

Example:

MD10050 \$MN_SYSCLOCK_CYCLE_TIME = 0.004 [s]

MD10070 \$MN_IPO_SYSCLOCK_TIME_RATIO = 3

-> Interpolator cycle time = 0.004 * 3 = 0.012 [s]

2. Calculation of the maximum velocity increase resulting from a change made to the temperature compensation parameter DvTmax

DvTmax = MD32000 \$MA_MAX_AX_VELO * MD32760 \$MA_COMP_ADD_VELO_FACTOR

Example: MD32000 \$MA_MAX_AX_VELO = 10 000 [mm/min]

MD32760 \$MA_COMP_ADD_VELO_FACTOR = 0.01

-> DvTmax = 10 000 * 0.01 = 100 [mm/min]

3. Calculation of the traverse distances per interpolator cycle

0.012

S1 (at vmax) = 10 000 x ----- = 2.0 [mm]

60

0.012

ST (at DvTmax) = 100 x ----- = 0.02 [mm]

60

4. Calculation of tanbmax

ST 0.02

tanbmax = ----- = ----- = 0.01 (corresponds to value for
S1 2 COMP_ADD_VELO_FACTOR)

-> bmax = arc tan 0.01 = 0.57 degrees

With larger values of SD43910 \$SA_TEMP_COMP_SLOPE, the maximum gradient (here 0.57 degrees) for the position-dependent temperature compensation value is used internally. There is no alarm.

Note:

Any additional excessive velocity resulting from temperature compensation must be taken into account when defining the limit value for velocity monitoring (MD36200 \$MA_AX_VELO_LIMIT).

MD irrelevant for:

MD32750 \$MA_TEMP_COMP_TYPE = 0, sag compensation, LEC, backlash compensation

Related to:

MD32750 \$MA_TEMP_COMP_TYPE

Temperature compensation type

SD43900 \$SA_TEMP_COMP_ABS_VALUE

Position-independent temperature compensation value

SD43910 \$SA_TEMP_COMP_SLOPE

Gradient for position-dependent temperature compensation

MD32000 \$MA_MAX_AX_VELO

Maximum axis velocity

MD36200 \$MA_AX_VELO_LIMIT

Threshold value for velocity monitoring

MD10070 \$MN_IPO_SYSCLOCK_TIME_RATIO

Ratio of basic system clock rate to IPO cycle

MD10050 \$MN_SYSCLOCK_CYCLE_TIME

Basic system clock rate

32800	EQUIV_CURRCTRL_TIME			EXP, A07, A09	G1,K3,S3,A2,A3,G2,S1,V1	
s	Equiv. time const. current control loop for feedforward control			DOUBLE	NEW CONF	
-						
-	6	0.0005, 0.0005, 0.0005, 0.0005, 0.0005, 0.0005	-	-	7/2	M

Description: The time constant is used for parameterizing the torque feedforward control and for calculating the dynamic following error model (contour monitoring).

In order to set the torque feedforward control correctly, the equivalent time constant of the current control loop must be determined exactly by measuring the step response of the current control loop.

Closed-loop control free of following errors can be set by inputting negative values when MD32620 \$MA_FFW_MODE=4 (but positioning overshoots may then occur).

Delay values taken into account automatically by the software internally are thus compensated again until the actually active minimum symmetrizing time "0" is reached.

Any other negative input values have no further effect.

Negative values input when MD32620 \$MA_FFW_MODE=2 are automatically converted internally to the input value "0", which means that they are not active in this case.

Related to:

MD32620 \$MA_FFW_MODE

Type of feedforward control

MD32650 \$MA_AX_INERTIA

Moment of inertia for torque feedforward control

1.3 NC machine data

or MD32652 \$MA_AX_MASS
 Axis mass for torque feedforward control
 MD36400 \$MA_CONTOUR_TOL
 Tolerance band contour monitoring

32810	EQUIV_SPEEDCTRL_TIME			A07, A09	G1,K3,S3,A2,A3,G2,S1,V1	
s	Equiv. time constant speed control loop for feedforward control			DOUBLE	NEW CONF	
-						
-	6	0.003, 0.003, 0.003, 0.003, 0.003...	-	-	7/2	M

Description: This time constant must be equal to the equivalent time constant of the closed current control loop.

It is used for parameterizing the speed feedforward control and for calculating the dynamic following error model (contour monitoring).

In addition, this MD determines the time behavior of the closed-loop speed control circuit for simulated drives (MD30130 \$MA_CTRLOUT_TYPE 0).

In order to set the speed feedforward control correctly, the equivalent time constant of the current control loop must be determined exactly by measuring the step response of the current control loop.

Closed-loop control free of following errors can be set by inputting negative values when MD32620 \$MA_FFW_MODE=3 (but positioning overshoots may then occur).

Delay values taken into account automatically by the software internally are thus compensated again until the actually active minimum symmetrizing time "0" is reached.

Any other negative input values have no further effect.

Negative values input when MD32620 \$MA_FFW_MODE=1 are automatically converted internally to the input value "0", which means that they are not active in this case.

Related to:

MD32620 \$MA_FFW_MODE (type of feedforward control)

MD32610 \$MA_VELO_FFW_WEIGHT (moment of inertia for speed feedforward control)

MD36400 \$MA_CONTOUR_TOL (tolerance band contour monitoring)

32890	DESVAL_DELAY_ENABLE			A07	-	
-	Axial setpoint phase filter			BOOLEAN	NEW CONF	
CTEQ						
-	-	FALSE	-	-	7/2	M

Description: With the axial setpoint phase filter (deadtime/delay), the phase response can be changed independent of the amplitude response (on the other hand, the conventional jerk filter - refer to MD32402 \$MA_AX_JERK_MODE - influences the amplitude and phase response simultaneously).

1: Setpoint phase filter (delay) is active.

0: Setpoint phase filter (delay) is inactive.

Corresponds with:

MD32895 \$MA_DESVAL_DELAY_TIME (time constant for the axial setpoint phase filter)

32895	DESVAL_DELAY_TIME			A07	-	
s	Time constant for the axial setpoint phase filter			DOUBLE	NEW CONF	
-						
-	-	0.0	-	-	7/2	M

Description:	<p>The time constant for the phase filter (deadtime/delay) should be entered into the MD.</p> <p>This means that the actual setpoint phase response can be set independently of the amplitude response</p> <p>Time constants in the range from 0 up to 64 position controller clock cycles can be set, the phase filter for e.g. 2ms position controller clock cycle, can delay setpoints by 0 to 128ms.</p> <p>Values entered outside these limits are implicitly limited to the specified limits (without alarm).</p> <p>Note: delays in the setpoint circuit, as a result of the system, slow down or have a negative impact on the response, e.g. for thread tapping, safety retraction motion or exact stop/block change; this means that the smallest time constants possible should be set in the MD.</p> <p>The MD is only effective, if MD32890 \$MA_DESVAL_DELAY_ENABLE = 1.</p> <p>Corresponds with:</p> <p>MD32890 \$MA_DESVAL_DELAY_ENABLE (axial setpoint phase filter)</p>					
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32900	DYN_MATCH_ENABLE	A07	G21,S3,G2
-	Dynamic response adaptation	BOOLEAN	NEW CONF
CTEQ			
-	-	FALSE	-

Description:	<p>With dynamic response adaptation, axes with different servo gain factors can be set to the same following error with MD32910 \$MA_DYN_MATCH_TIME.</p> <p>1: Dynamic response adaptation active. 0: Dynamic response adaptation inactive.</p> <p>Related to:</p> <p>MD32910 \$MA_DYN_MATCH_TIME [n] (time constant of dynamic response adaptation)</p>					
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32910	DYN_MATCH_TIME	A07	G1,K3,S3,A2,A3,G2,S1,V1
s	Time constant of dynamic response adaptation	DOUBLE	NEW CONF
-			
-	6	0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description:	<p>The time constant of the dynamic response adaptation of an axis has to be entered in this MD.</p> <p>Axes interpolating with each other but having different dynamic responses can be adapted to the "slowest" control loop by means of this value.</p> <p>The difference of the equivalent time constant of the "slowest" control loop to the individual axis has to be entered here as the time constant of the dynamic response adaptation.</p> <p>The MD is only active if MD32900 \$MA_DYN_MATCH_ENABLE = 1.</p> <p>Related to:</p> <p>MD32900 \$MA_DYN_MATCH_ENABLE (dynamic response adaptation)</p>					
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32920	AC_FILTER_TIME	A10	-
s	Smoothing filter time constant for adaptive control	DOUBLE	PowerOn
-			
-	-	0.0	-

Description:	<p>In the case of PROFIdrive drives (provided that they transport the following drive actual values in the PROFIdrive message frame,</p>					
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1.3 NC machine data

e.g. MD13060 \$MN_DRIVE_TELEGRAM_TYPE = 116):

With the main run variables \$AA_LOAD, \$AA_POWER, \$AA_TORQUE, and \$AA_CURR, the following drive actual values can be measured:

- Drive utilization
- Drive active power
- Drive torque setpoint value
- Current actual value of the axis or spindle

To compensate any peaks, the measured values can be smoothed with a PT1 filter. The filter time constant is defined with MD32920 \$MA_AC_FILTER_TIME (filter smoothing time constant for adaptive control).

When measuring the drive torque setpoint value or the current actual value, the filter is active in addition to the filters available in the drive. The two filters are connected in series, if both significantly and slightly smoothed values are required in the system. The filter is switched off when a smoothing time of 0 seconds is entered.

32930	POSCTRL_OUT_FILTER_ENABLE	A07	G2
-	Activation of low-pass filter at position controller output	BOOLEAN	NEW CONF
CTEQ			
-	-	FALSE	-

Description: Activation of low-pass filter at position controller output.

Activation of the low-pass filter is only enabled when the dynamic stiffness control is inactive MD32640=0.

32940	POSCTRL_OUT_FILTER_TIME	A07	G2
s	Time constant of low-pass filter at position controller output	DOUBLE	NEW CONF
-			
-	-	0.0	-

Description: Time constant of low-pass filter at position controller output

Related to:

MD32640 \$MA_STIFFNESS_CONTROL_ENABLE (dynamic stiffness control)

32950	POSCTRL_DAMPING	EXP, A07	G2
%	Damping of the speed control circuit.	DOUBLE	NEW CONF
-			
-	-	0.0	-

Description: Factor to additionally dampen the speed control loop

Purpose:

Damping an oscillating axis by additionally entering a differential position, which is derived from the difference of the two measuring systems.

Prerequisite: the axis must have two measuring systems, one encoder must be directly connected, the other indirectly.

Explanation of the scaling:

An input value of "100%" means the following: An additional torque corresponding to SINAMICS-p2003 is input, if

- for linear motors, there is a position difference of 1mm
- for rotary axes, there is a position difference of 360 degrees on the load side
- for linear axes (rot. drive), there is a position difference corresponding to MD31030 \$MA_LEADSCREW_PITCH (e.g. standard 10mm).

32990	POSCTRL_DESVAL_DELAY_INFO		EXP, A01, A07	B3
s	Actual setpoint position delay		DOUBLE	NEW CONF
-				
-	3	0.0, 0.0, 0.0	-	ReadOnly M

Description: This MD shows the additional setpoint value delay of the position controller in the current controller structure. It is set automatically for NCU link with different position controller cycles and can be changed via MD10065 \$MN_POSCTRL_DESVAL_DELAY for the entire NCU.

In index 0, the value is displayed without feedforward control.

In index 1, the value is displayed with speed feedforward control.

In index 2, the value is displayed with torque feedforward control.

Related to:

MD10065 \$MN_POSCTRL_DESVAL_DELAY

33000	FIPO_TYPE		EXP, A07	G1,G3,S3,G2
-	Fine interpolator type		BYTE	PowerOn
CTEQ				
-	-	2	1	3 7/2 M

Description: The type of the fine interpolator has to be entered in this MD:

- 1: differential FIPO
- 2: cubic FIPO
- 3: cubic FIPO, optimized for operation with feedforward control

Calculation time required and contour quality increase with increasing type of FIPO.

- The default setting is the cubic FIPO.
- If no feedforward control is used in the position control loop, the use of the differential FIPO reduces the calculation time while slightly increasing the contour error.
- If the position control cycle and the interpolation cycle are identical, fine interpolation does not take place, i.e. the different types of fine interpolator do not have different effects.

33050	LUBRICATION_DIST		A03, A10	A2,Z1
mm, degrees	Traversing path for lubrication from PLC		DOUBLE	NEW CONF
-				
-	-	1.0e8	-	7/2 M

Description: After the traversing path defined in the MD has been covered, the state of the axial interface signal "Lubrication pulse" is inverted, this can activate an automatic lubrication device.

The traversing path is summated after Power on.

The "Lubrication pulse" can be used with axes and spindles.

Application example(s):

The machine bed lubrication can be carried out as a function of the relevant traversed path.

Note:

When 0 is entered, the NC/PLC interface signal DB31, ... DBX76.0 (Lubrication pulse) is set in every cycle.

Related to:

NC/PLC interface signal DB31, ... DBX76.0 (Lubrication pulse)

1.3 NC machine data

33060	MAINTENANCE_DATA	A10	W6,2,4,6,2
-	Configuration of maintenance data recording	DWORD	Reset
-			
-	- 1 - - 7/2 M		

Description: Configuration of axis maintenance data recording:

Bit 0:

Recording the entire traversing path, entire traversing time and number of axis traversing procedures

Bit 1:

Recording the entire traversing path, entire traversing time and number of traversing procedures at high axis speed

Bit 2:

Recording the total sum of axis jerks, the time in which the axis is traversed with jerk, and the number of traversing procedures with jerk.

33100	COMPRESS_POS_TOL	A10	F2,B1,K1
mm, degrees	Maximum deviation during compression	DOUBLE	NEW CONF
CTEQ			
-	- 0.1 1.e-9 - 7/7 M		

Description: The value specifies the maximum permissible path deviation for each axis with compression.

The higher the value, the more short blocks can be compressed into a long block.

Not relevant for:

Active programmable contour/orientation tolerance (CTOL, OTOL, ATOL)

33120	PATH_TRANS_POS_TOL	A10	K1,PGA
mm, degrees	Maximum deviation for smoothing with G645	DOUBLE	NEW CONF
CTEQ			
-	- 0.005 1.e-9 - 7/7 M		

Description: The value specifies the maximum permitted path deviation for smoothing with G645.

This is only relevant to tangential block transitions that are not acceleration-continuous.

For smoothing of corner with G645 tolerance MD33100 \$MA_COMPRESS_POS_TOL becomes active like with G642.

34000	REFP_CAM_IS_ACTIVE	A03, A11	G1,R1
-	Axis with reference point cam	BOOLEAN	Reset
-			
-	- TRUE - - 7/2 M		

Description: 1: There is at least one reference point cam for this axis

0: This axis does not have a reference point cam (e.g. rotary axis)

The referencing cycle starts immediately with phase 2 (see documentation)

Machine axes that have only one zero mark over the whole travel range or rotary axes that have only one zero mark per revolution do not require an additional reference cam that selects the zero mark (select MD34000 \$MA_REF_P_CAM_IS_ACTIVE = 0).

The machine axis marked this way accelerates to the velocity specified in MD34040 \$MA_REFPVELO_SEARCH_MARKER (reference point creep velocity) when the plus/minus traversing key is pressed, and synchronizes with the next zero mark.

34010	REFP_CAM_DIR_IS_MINUS	A03, A11	G1,R1
-	Approach reference point in minus direction	BOOLEAN	Reset
-	-	FALSE	-
-	-	-	7/2 M

Description: 0: MD34010 \$MA_REFP_CAM_DIR_IS_MINUS Reference point approach in plus direction
 1: MD34010 \$MA_REFP_CAM_DIR_IS_MINUS Reference point approach in minus direction
 For incremental measuring systems:
 If the machine axis is positioned in front of the reference cam, it accelerates, depending on the plus/minus traversing key pressed, to the velocity specified in MD34020 \$MA_REFPVELO_SEARCH_CAM (reference point approach velocity) in the direction specified in MD34010 \$MA_REFP_CAM_DIR_IS_MINUS. If the wrong traversing key is pressed, reference point approach is not started.
 If the machine axis is positioned on the reference cam, it accelerates to the velocity specified in MD34020 \$MA_REFPVELO_SEARCH_CAM and travels in the direction opposite to that specified in MD34010 \$MA_REFP_CAM_DIR_IS_MINUS.
 For linear measuring systems with distance-coded reference marks:
 If the machine axis has a reference cam (linear measuring systems with distance-coded reference marks do not necessarily require a reference cam) and the machine axis is positioned on the reference cam, it accelerates, irrespectively of the plus/minus traversing key pressed, to the velocity specified in MD34040 \$MA_REFPVELO_SEARCH_MARKER (reference point creep velocity) in the direction opposite to that specified in MD34010 \$MA_REFP_CAM_DIR_IS_MINUS.

34020	REFPVELO_SEARCH_CAM	A03, A11, A04	G1,R1			
mm/min, rev/min	Reference point approach velocity	DOUBLE	Reset			
-	-	-	-			
-	-	5000.00, 5000.00, 5000.00, 5000.00...	-	-	7/2	M

Description: The reference point approach velocity is the velocity at which the machine axis travels in the direction of the reference cam after the traversing key has been pressed (phase 1). This value should be set at a magnitude large enough for the axis to be stopped to 0 before it reaches a hardware limit switch.
 MD irrelevant for:
 Linear measuring systems with distance-coded reference marks

34030	REFP_MAX_CAM_DIST	A03, A11	G1,R1			
mm, degrees	Maximum distance to reference cam	DOUBLE	Reset			
-	-	-	-			
-	-	10000.0	-	-	7/2	M

Description: If the machine axis travels a maximum distance defined in MD34030 \$MA_REFPMAX_CAM_DIST from the starting position in the direction of the reference cam, without reaching the reference cam (NC/PLC interface signal DB31, ... DBX12.7

1.3 NC machine data

(Reference point approach delay) is reset), the axis stops and alarm 20000 "Reference cam not reached" is output.

Irrelevant to:

Linear measuring systems with distance-coded reference marks

34040	REFP_VELO_SEARCH_MARKER	A03, A11, A04	G1,R1,S1			
mm/min, rev/min	Creep velocity	DOUBLE	Reset			
-						
-	2	300.00, 300.00, 300.00, 300.00...	-	-	7/2	M

Description: 1) For incremental measuring systems:

This is the velocity at which the axis travels during the time between initial detection of the reference cam and synchronization with the first zero mark (phase 2).

Traversing direction: Opposite to the direction specified for the cam search (MD34010 \$MA_REFP_CAM_DIR_IS_MINUS)

If MD34050 \$MA_REFP_SEARCH_MARKER_REVERSE (direction reversal on reference cam) is enabled, then if the axis is synchronized with a rising reference cam signal edge on the cam, the axis traverses at the velocity defined in MD34020 \$MA_REFP_VELO_SEARCH_CAM.

2) Indirect measuring system with BERO on the load-side (preferred for spindles):

At this velocity, a search is made for the zero mark associated with the BERO (zero mark selection per VDI signal). The zero mark is accepted if the actual velocity lies within the tolerance range defined in MD35150 \$MA_SPIND_DES_VELO_TOL as a deviation from the velocity specified in MD34040 \$MA_REFP_VELO_SEARCH_MARKER[n].

3) For linear measuring systems with distance-coded reference marks:

The axis crosses the two reference marks at this velocity. The maximum velocity must be low enough to ensure that the time required to travel the smallest possible reference mark distance [(x(minimum))] on the linear measuring system is longer than one position controller cycle.

The formula

$$\frac{[x(\text{minimum})] \text{ [mm}}}{\text{Basic dist.}} = \frac{\text{Grad.cycle} - \text{Basic dist.}}{2}$$

with Basic distance [multiple of graduation cycle]

 Graduation cycle [mm]

 Measuring length [mm] yields:

 x(minimum) [mm]

$$\text{max. velocity [m/s]} = \frac{\text{Position controller cycle [ms]}}{\text{Grad.cycle}}$$

This limiting value consideration also applies to the other measuring systems.

Traversing direction:

- as defined in MD34010 \$MA_REFP_CAM_DIR_IS_MINUS;
- if the axis is already positioned on the cam, the axis is traversed in the opposite direction

34050	REFP_SEARCH_MARKER_REVERSE		A03, A11	G1,R1		
-	Direction reversal to reference cam		BOOLEAN	Reset		
-						
-	2	FALSE, FALSE	-	-	7/2	M

Description: This MD can be used to set the direction of search for the zero mark:

MD34050 \$MA_REFP_SEARCH_MARKER_REVERSE = 0

Synchronization with falling reference cam signal edge

The machine axis accelerates to the velocity specified in MD34040

\$MA_REFP_VELO_SEARCH_MARKER (reference point creep velocity) in the opposite direction to that specified in MD34010 \$MA_REFP_CAM_DIR_IS_MINUS (reference point approach in minus direction).

If the axis leaves the reference cam (NC/PLC interface signal DB31, ...

DBX12.7 (Reference point approach delay) is reset) the control is synchronized with the first zero mark.

MD34050 \$MA_REFP_SEARCH_MARKER_REVERSE = 1

Synchronization with rising reference cam signal edge

The machine axis accelerates to the velocity defined in MD34020

\$MA_REFP_VELO_SEARCH_CAM (reference point creep velocity) in the opposite direction to that specified in the MD34010 \$MA_REFP_CAM_DIR_IS_MINUS. If the axis leaves the reference cam (NC/PLC interface signal DB31, ... DBX12.7 (Reference point approach delay) is reset), the machine axis decelerates to a halt and accelerates in the opposite direction towards the reference cam at the velocity specified in MD34040: \$MA_REFP_VELO_SEARCH_MARKER. When the reference cam is reached (NC/PLC interface signal DB31, ... DBX12.7 (Reference point approach delay) is enabled) the control is synchronized with the first zero mark.

MD irrelevant to:

Linear measuring systems with distance-coded reference marks

34060	REFP_MAX_MARKER_DIST		A03, A11	G1,R1,S1		
mm, degrees	maximum distance to reference mark		DOUBLE	Reset		
-						
-	2	20.0, 20.0, 20.0, 20.0, 20.0, 20.0...	-	-	7/2	M

Description: For incremental measuring systems:

If, after leaving the reference cam (NC/PLC interface signal DB31, ...

DBX12.7 (Reference point approach delay) is reset), the machine axis travels a distance defined in MD34060: \$MA_REFP_MAX_MARKER_DIST without detecting the zero mark, the axis stops and alarm 20002 "Zero mark missing" is output.

For linear measuring systems with distance-coded reference marks:

If the machine axis travels a distance defined in MD34060

\$MA_REFP_MAX_MARKER_DIST from the starting position without crossing two zero marks, the axis stops and alarm 20004 "Reference mark missing" is output.

34070	REFP_VELO_POS		A03, A11, A04	G1,R1		
mm/min, rev/min	Reference point positioning velocity		DOUBLE	Reset		
-						
-	-	10000.00, 10000.00, 10000.00, 10000.00...	-	-	7/2	M

Description: For incremental measuring systems:

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The axis travels at this velocity between the time of synchronization with the first zero mark and arrival at the reference point.

For linear measuring systems with distance-coded reference marks:

The axis travels at this velocity between the time of synchronization (crossing two zero marks) and arrival at the target point.

34080	REFP_MOVE_DIST	A03, A11	G1,R1,S1,S3,G2
mm, degrees	Reference point distance	DOUBLE	NEW CONF
-			
-	2	-2.0, -2.0	-1e15

Description: 1. Standard measuring system (incremental with equidistant zero marks)

Reference point positioning movement: 3rd phase of the reference point approach:

The axis traverses from the position at which the zero mark is detected with the velocity REFP_AX_VEL0_POS along the path REFP_MOVE_DIST + REFP_MOVE_DIST_CORR (relative to the marker).

REFP_SET_POS is set as the current axis position at the target point.

2. Irrelevant for distance-coded measuring system.

Override switch and selection jog/continuous mode (MD JOG_INC_MODE_IS_CONT) are active.

34090	REFP_MOVE_DIST_CORR	A03, A02, A08, A11	G1,R1,S1,S3,G2
mm, degrees	Reference point offset/absolute offset	DOUBLE	NEW CONF
-,-			
-	2	0.0, 0.0	-1e12

Description: • Incremental encoder with zero mark(s):

After detection of the zero mark, the axis is positioned away from the zero mark by the distance specified in MD34080 \$MA_REFP_MOVE_DIST + MD34090 \$MA_REFP_MOVE_DIST_CORR. After traversing this distance, the axis has reached the reference point. MD34100 \$MA_REFP_SET_POS is transferred into the actual value.

During traversing by MD34080 \$MA_REFP_MOVE_DIST + MD34090 \$MA_REFP_MOVE_DIST_CORR, the override switch and MD11300 \$MN_JOG_INC_MODE_LEVELTRIGGRD (jog/continuous mode) are active.

• Distance-coded measuring system:

MD34090 \$MA_REFP_MOVE_DIST_CORR acts as an absolute offset. It describes the offset between the machine zero and the first reference mark of the measuring system.

• Absolute encoder:

MD34090 \$MA_REFP_MOVE_DIST_CORR acts as an absolute offset.

It describes the offset between the machine zero and the zero point of the absolute measuring system.

Note:

In conjunction with absolute encoders, this MD is modified by the control during calibration processes and modulo offset.

With rotary absolute encoders (on linear and rotary axes), the modification frequency also depends on the setting of MD34220 \$MA_ENC_ABS_TURNS_MODULO.

Manual input or modification of this MD via the part program should therefore be followed by a Power ON Reset to activate the new value and prevent it from being lost.

The following applies to an NCU-LINK:

If a link axis uses an absolute encoder, every modification of MD34090 \$MA_REFP_MOVE_DIST_CORR on the home NCU (servo physically available) is updated only locally and not beyond the limits of the NCU. The modification is therefore not visible to the link axis. Writing MD34090 \$MA_REFP_MOVE_DIST_CORR through the link axis is rejected with alarm 17070.

34092	REFP_CAM_SHIFT	A03, A11	G1,R1
mm, degrees	electronic cam offset for incremental measuring systems	DOUBLE	Reset
-			
-	2	0.0, 0.0	-

Description: Electronic cam offset for incremental measuring systems with equidistant zero marks.

When the reference cam signal occurs, the zero mark search does not start immediately but is delayed until after the distance from REFP_CAM_SHIFT.

This ensures the reproducibility of the zero mark search through a defined selection of a zero mark, even with temperature-dependent expansion of the reference cam.

Because the reference cam offset is calculated by the control in the interpolation cycle, the actual cam offset is at least REFP_CAM_SHIFT and at most REFP_CAM_SHIFT+ (MD34040 \$MA_REFP_VELO_SEARCH_MARKER*interpolation cycle)

The reference cam offset is effective in the search direction of the zero mark.

The reference cam offset is only active if existing cam MD34000 \$MA_REFP_CAM_IS_ACTIVE=1.

34093	REFP_CAM_MARKER_DIST	A03, A11	R1
mm, degrees	Reference cam/reference mark distance	DOUBLE	PowerOn
-			
-	2	0.0, 0.0	-

Description: The value displayed corresponds to the distance between exiting the reference cam and the occurrence of the reference mark. If the values are too small, there is a risk of not being able to determine the reference point due to temperature reasons or varying operating times of the cam signal. The distance travelled may serve as a clue for setting the electronic reference cam offset.

This machine data is a display data and can therefore not be changed.

34100	REFP_SET_POS	A03, A11	G1,S3,G2,R1,S1
mm, degrees	Reference point for incremental system	DOUBLE	Reset
-			
-	4	0., 0., 0., 0.	-45000000 45000000

Description: • Incremental encoder with zero mark(s):

The position value which is set as the current axis position after detection of the zero mark and traversal of the distance REFP_MOVE_DIST + REFP_MOVE_DIST_CORR (relative to zero mark). REFP_SET_POS of the reference point number, which is set at the instant that the edge of the reference cam signal rises (NC/PLC interface signal DB31, _DBX2.4 - 2.7 (Reference point value 1 to 4)), is set as the axis position.

• Distance-coded measuring system:

Target position which is approached when MD34330 \$MA_REFP_STOP_AT_ABS_MARKER is set to 0 (FALSE) and two zero marks have been crossed.

1.3 NC machine data

- Absolute encoder:

MD34100 \$MA_REFP_SET_POS corresponds to the correct actual value at the calibration position.

The reaction on the machine depends on the status of MD34210
\$MA_ENC_REFP_STATE: When MD34210 \$MA_ENC_REFP_STATE = 1, the value of MD34100
\$MA_REFP_SET_POS is transferred as the absolute value.

When MD34210 \$MA_ENC_REFP_STATE = 2 and MD34330 \$MA_REFP_STOP_AT_ABS_MARKER =
0 (FALSE), the axis approaches the target position stored in MD34100
\$MA_REFP_SET_POS.

The value of MD34100 \$MA_REFP_SET_POS that has been set via NC/PLC interface
signal DB31, _DBX2.4 - 2.7 (Reference point value 1 to 4) is used.

Related to:

NC/PLC interface signal DB31, _DBX2.4 - 2.7 (Reference point value 1 to 4)

34102	REFP_SYNC_ENCS	A03, A02	R1,Z1			
-	Calibration of measuring systems	BYTE	Reset			
-						
-	-	0	0	1	7/2	M

Description: Calibrating the measuring system to the reference measuring system can be activated for all measuring systems of this axis with this machine data.
The calibration procedure is made during reference point approach or when calibrated absolute encoders selected for the closed-loop control are switched on.

Values:

0: No measuring system calibration, measuring systems must be referenced individually

1: Calibration of all measuring systems of the axis to the position of the reference measuring system

In combination with MD30242 \$MA_ENC_IS_INDEPENDENT = 2, the passive encoder is calibrated to the active encoder but NOT referenced.

34104	REFP_PERMITTED_IN_FOLLOWUP	A03, A02	R1			
-	Enable referencing in follow-up mode	BOOLEAN	Reset			
-						
-	-	FALSE	-	-	7/2	M

Description: An axis can also be referenced in the follow-up mode under JOG+REF mode by means of an external motion.

34110	REFP_CYCLE_NR	A03	G1,TE3,D1,R1,Z1			
-	Sequence of axes in channel-specific referencing	DWORD	PowerOn			
-						
-	-	1, 2, 3, 4, 5, 6, 7, 8...	-1	31	7/2	M

Description: MD34110 \$MA_REFP_CYCLE_NR = 0 -----> axis-specific referencing
Axis-specific referencing is started separately for each machine axis with the NC/PLC interface signal DB31, ... DBX4.7 / 4.6 (Plus/minus travel keys). Up to 8 axes (840D) can be referenced simultaneously.
The following alternatives are provided for referencing the machine axes in a specific sequence:

- The operator has to observe the correct sequence on startup.
- The PLC checks the sequence on startup or defines the sequence itself.
- The channel-specific referencing function is used.

MD34110 \$MA_REFP_CYCLE_NR = 1 -----> channel-specific referencing
 Channel-specific referencing is started with the NC/PLC interface signal DB21-30 DBX1.0 (Activate referencing). The control acknowledges a successful start with the NC/PLC interface signal DB21-30 DBX33.0 (Referencing active). Each machine axis assigned to the channel can be referenced with channel-specific referencing (this is achieved internally on the control by simulating the plus/minus traversing keys). The axis-specific MD34110 \$MA_REFP_CYCLE_NR can be used to define the sequence in which the machine axes are referenced:
 -1 means:
 The machine axis is not started by channel-specific referencing, and NC start is possible without referencing this axis.
 0 means:
 The machine axis is not started by channel-specific referencing, and NC start is not possible without referencing this axis.
 1 means:
 The machine axis is started by channel-specific referencing.
 2 means:
 The machine axis is started by channel-specific referencing if all machine axes identified by a 1 in MD34110 \$MA_REFP_CYCLE_NR are referenced.
 3 means:
 The machine axis is started by channel-specific referencing if all machine axes identified by a 2 in MD34110 \$MA_REFP_CYCLE_NR are referenced.
 4 to 8 :
 As above for further machine axes.
 Setting the channel-specific MD20700 \$MC_REF_NC_START_LOCK (NC start disable without reference point) to zero has the effect of entering -1 for all the axes of a channel.
 MD irrelevant to:
 Axis-specific referencing
 Related to:
 NC/PLC interface signal DB21-30 DBX1.0 (Activate referencing)
 NC/PLC interface signal DB21-30 DBX33.0 (Referencing active)

34200	ENC_REFP_MODE	A03, A02	G1,R1,S1			
-	Referencing mode	BYTE	PowerOn			
-						
-	2	1, 1	0	8	7/2	M

Description: The mounted position measuring systems can be classified for referencing as follows with MD34200 \$MA_ENC_REFP_MODE:

- MD34200 \$MA_ENC_REFP_MODE = 0
 If an absolute encoder is available: MD34100 \$MA_REFP_SET_POS is taken over
 Other encoders: Reference point approach not possible (SW2.2 and higher)
- MD34200 \$MA_ENC_REFP_MODE = 1
 Referencing of incremental, rotary or linear measuring systems:
 Zero pulse on the encoder track
- MD34200 \$MA_ENC_REFP_MODE = 2
 Referencing of absolute, rotary measuring systems:
 Replacement zero pulse based on the absolute information
- MD34200 \$MA_ENC_REFP_MODE = 3
 Referencing on linear measuring systems with distance-coded reference marks:
 Linear measuring system with distance-coded reference marks (as specified by Heidenhain)

1.3 NC machine data

- MD34200 \$MA_ENC_REFP_MODE = 4 :
Reserved (BERO with 2-edge evaluation)
- MD34200 \$MA_ENC_REFP_MODE = 8:
Referencing for linear measuring systems with distance-coded reference marks:
Linear measuring system with distance-coded reference marks over 4 zero marks
(increased safety).

34210	ENC_REFP_STATE	A07, A03, A02	R1			
-	Adjustment status of absolute encoder	BYTE	Immediately			
-						
-	2	0, 0	0	3	7/4	M

Description:

- Absolute encoder:

This machine data contains the absolute encoder status

0: Encoder is not calibrated

1: Encoder calibration enabled (but not yet calibrated)

2: Encoder is calibrated

Default setting for recommissioning: Encoder is not calibrated.

3: No significance, has the same effect as "0"

- Incremental encoder:

This machine data contains the "Referenced status", which can be saved beyond Power On:

0: Default setting: No automatic referencing

1: Automatic referencing enabled, but encoder not yet referenced

2: Encoder is referenced and at exact stop, automatic referencing becomes active at the next encoder activation

3: The last axis position buffered before switch off is restored, no automatic referencing

Default setting for recommissioning: No automatic referencing

34220	ENC_ABS_TURNS_MODULO	A03, A02	R1			
-	Modulo range for rotary absolute encoder	DWORD	PowerOn			
-						
-	2	4096, 4096	1	100000	7/2	M

Description:

Number of encoder revolutions a rotary absolute encoder is able to resolve (see also the maximum multiturn information of the absolute encoder, see encoder data sheet or PROFIdrive parameter p979).

The absolute position of a rotary axis is reduced to this resolvable range when an absolute encoder is switched on:

In other words, a MODULO transformation takes place if the actual position sensed is larger than the position permitted by MD ENC_ABS_TURNS_MODULO.

0 degrees <= position <= n*360 degrees (with n = ENC_ABS_TURNS_MODULO)

Note:

With SW 2.2, the position is reduced to this range when the control/encoder is switched on. With SW 3.6 and higher, half of this value represents the maximum permissible travel distance with the control switched off/the encoder inactive.

Special cases:

For PROFIdrive, any integer value is permissible.

The MD is relevant only for rotary encoders (on linear and rotary axes).

Corresponds to:
PROFIdrive parameter p979

34230	ENC_SERIAL_NUMBER	A02	R1			
-	Encoder serial number	DWORD	PowerOn			
-						
-	2	0, 0	-	-	7/2	M

Description: The encoder serial number (EnDat encoders) can be read out here.
It is updated at PowerOn or when parking is deselected.
"0" is supplied for encoders which do not have a serial number available.
Manipulating this MD normally causes automatic absolute encoder maladjustment (\$MA_ENC_REFP_MODE returns to "0").

34300	ENC_REFP_MARKER_DIST	A03, A02	R1			
mm, degrees	Basic distance of reference marks of distance-coded encoders.	DOUBLE	PowerOn			
-						
-	2	10.0, 10.0	-	-	7/2	M

Description: In addition to the incremental encoder track, a further encoder track is available with distance-coded measuring systems for determining the absolute encoder position. This encoder track has reference marks at defined, different distances. The basic distance between the fixed reference marks (which are the reference marks that are always the same distance from one another) can be taken from the data sheet, and directly transferred into machine data MD34300 \$MA_ENC_REFP_MARKER_DIST.
With the basic distance between the fixed reference marks (MD34300 \$MA_ENC_REFP_MARKER_DIST), the distance between two reference marks (MD34310 \$MA_ENC_MARKER_INC), and the number of encoder marks (MD31020 \$MA_ENC_RESOL) on angular measuring systems or the graduation cycle (MD31010 \$MA_ENC_GRID_POINT_DIST) on linear measuring systems, the absolute encoder position can be determined once two successive reference marks have been crossed.
MD34300 \$MA_ENC_REFP_MARKER_DIST is also used for a plausibility check of reference mark distances.
Examples of application:
For example: Heidenhain LS186 C
MD 31010 = 0.02mm (graduation cycle)
MD 34300 = 20.00mm (basic distance between the reference marks)
MD 34310 = 0.02mm (distance between two reference marks corresponds to one graduation cycle).

34310	ENC_MARKER_INC	A03, A02	R1			
mm, degrees	Interval between two reference marks for distance-coded scales	DOUBLE	Reset			
-						
-	2	0.02, 0.02	-	-	7/2	M

Description: The distances between two reference marks are defined variably, so that the position of the crossed reference marks can be determined accurately in linear measuring systems with distance-coded reference marks.
The difference between two reference mark distances is entered in MD34310 \$MA_ENC_MARKER_INC.

1.3 NC machine data

MD irrelevant for:

Incremental measuring systems

Special cases:

On linear measuring systems with distance-coded reference marks supplied by Heidenhain, the interval between two reference marks is always equal to one graduation cycle.

34320	ENC_INVERS	A03, A02	G2,R1			
-	Length measuring system inverse to axis movement.	BOOLEAN	Reset			
-						
-	2	FALSE, FALSE	-	-	7/2	M

Description:

- In the case of a distance-coded measuring system:

When setting a reference point, the actual position (determined by the distance-coded reference marks) on the linear measuring system is assigned to an exact machine axis position (referred to the machine zero point). The absolute offset between the machine zero point and the position of the 1st reference mark on the linear measuring system must therefore be entered in MD34090 \$MA_REFP_MOVE_DIST_CORR (reference point/absolute offset). In addition, MD34320 \$MA_ENC_INVERS must be used to set whether the linear measuring system is connected in the same or the opposite direction to the machine system.

MD irrelevant to:

Incremental encoders without distance-coded reference marks.

34330	REFP_STOP_AT_ABS_MARKER	A03	G1,R1			
-	Distance-coded linear measuring system without target point	BOOLEAN	Reset			
-						
-	2	TRUE, TRUE	-	-	7/2	M

Description:

- Distance-coded measuring system:

REFP_STOP_AT_ABS_MARKER = 0:

At the end of the reference cycle, the position entered in MD34100 \$MA_REFP_SET_POS is approached (normal case for phase 2).

REFP_STOP_AT_ABS_MARKER = 1:

The axis is braked after detection of the second reference mark (shortening of phase 2)

- Absolute encoder:

MD34330 \$MA_REFP_STOP_AT_ABS_MARKER defines the response of an axis with a valid calibration identifier (MD34210 \$MA_ENC_REFP_STATE = 2) with G74 or when a traversing key is actuated in JOG-REF:

REFP_STOP_AT_ABS_MARKER = 0:

Axis traverses to the position entered in MD34100 \$MA_REFP_SET_POS

REFP_STOP_AT_ABS_MARKER = 1:

Axis does not traverse.

MD irrelevant for:

Incremental encoders with zero mark (standard encoders)

Related to:

MD34100 \$MA_REFP_SET_POS

(reference point distance/target point for distance-coded system)

34800	WAIT_ENC_VALID	A01	-			
-	Parameter setting for part program command WAITENC	DWORD	PowerOn			
-						
-	-	0	0	1	7/2	M

Description: Parameter setting for part program command WAITENC:
 0: Axis is not taken into account when waiting for synchronized / referenced or restored position with part program command WAITENC.
 1: A delay is applied in part program command WAITENC until a synchronized / referenced or restored position is available for this axis.

34990	ENC_ACTVAL_SMOOTH_TIME	A02	V1			
s	Smoothing time constant for actual values.	DOUBLE	Reset			
-						
-	2	0.0, 0.0	0.0	0.5	7/2	M

Description: Using low-resolution encoders, a more continuous motion of coupled path or axis motions can be achieved with smoothed actual values. The bigger the time constant, the better the smoothing of actual values and the larger the over-travel.
 Smoothed actual values are used for:

- Thread-cutting (G33, G34, G35)
- Revolutionary feedrate (G95, G96, G97, FPRAON)
- Display of actual position and velocity, or speed respectively.

35000	SPIND_ASSIGN_TO_MACHAX	A01, A06, A11	M1,S3,K2,S1			
-	Assignment of spindle to machine axis	BYTE	PowerOn			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	20	7/2	M

Description: Spindle definition. The spindle is defined when the spindle number has been entered in this MD.
Example:
 If the corresponding axis is to be spindle 1, value "1" must be entered in this MD.
 The spindle functions are possible only for modulo rotary axes. For this purpose MD30300 \$MA_IS_ROT_AX and MD30310 \$MA_ROT_IS_MODULO must be set.
 The axis functionality is maintained; transition to axis operation can be performed with M70.
 The gear stage-specific spindle data are set in parameter blocks 1 to 5; parameter block 0 is used for axis operation (MD35590 \$MA_PARAMSET_CHANGE_ENABLE).
 The lowest spindle number is 1, the highest number depends on the number of axes in the channel.
 If other spindle numbers are to be assigned, the function "spindle converter" must be used.
 With multi-channel systems, the same numbers can be assigned in all channels, except for those spindles active in several channels (replacement axes/spindles MD 30550: \$MA_AXCONF_ASSIGN_MASTER_CHAN).

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35010	GEAR_STEP_CHANGE_ENABLE	A06, A11	P3 pl,P3 sl,S1
-	Parameterize gear stage change	DWORD	Reset
CTEQ			
-	-	0x00	0

Description: Meaning of bit places:

Bit 0 = 0 and bit 1 = 0:

There is an invariable gear ratio between motor and load. The MD of the first gear stage is active. Gear stage change is not possible with M40 to M45.

Bit 0 = 1:

Gear stage change at undefined change position. The gear can have up to 5 gear stages, which can be selected with M40, M41 to M45. To support the gear stage change, the motor can carry out oscillating motions, which must be enabled by the PLC program.

Bit 1 = 1:

Same meaning as bit 0 = 1, although the gear stage change is carried out in a configured spindle position (SW 5.3 and higher). The change position is configured in MD35012 \$MA_GEAR_STEP_CHANGE_POSITION. The position is approached in the current gear stage before the gear stage change. If this bit is set, bit 0 is not taken into account!

Bit 2: Reserved

Bit 3 = 1:

The gear stage change dialog between NCK and PLC is simulated. The setpoint gear stage is output to the PLC. A checkback signal from the PLC is not awaited. The acknowledgment is generated internally in the NCK.

Bit 4: Reserved

Bit 5 = 1:

The second gear stage data set is used for tapping with G331/G332. The bit must be set for the master spindle used for tapping. Bit 0 or bit 1 must be set.

Related to:

MD35090 \$MA_NUM_GEAR_STEPS (number of gear stages 1st data set, see bit 5)

MD35092 \$MA_NUM_GEAR_STEPS2 (number of gear stages 2nd data set, see bit 5)

MD35110 \$MA_GEAR_STEP_MAX_VELO (max. speed for autom. gear stage change)

MD35112 \$MA_GEAR_STEP_MAX_VELO2 (max. speed for autom. gear stage change 2nd data set, see bit 5)

MD35120 \$MA_GEAR_STEP_MIN_VELO (min. speed for autom. gear stage change)

MD35122 \$MA_GEAR_STEP_MIN_VELO2 (min. speed for autom. gear stage change 2nd data set, see bit 5)

35012	GEAR_STEP_CHANGE_POSITION	A06, A11	S1
mm, degrees	Gear stage change position	DOUBLE	NEW CONF
CTEQ			
-	6	0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: Gear stage change position.

The value range must be within the configured modulo range.

Related to:

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE, bit 1

MD30330 \$MA_MODULO_RANGE

35014	GEAR_STEP_USED_IN_AXISMODE	A01, A06, A11	-
-	Gear stage for axis mode with M70	DWORD	NEW CONF
CTEQ			
-	-	0	0

Description: With this MD, a gear stage can be defined which can be loaded into the axis mode during the transition with M70. The parameter set zero used in axis mode is to be optimized on this gear stage.

Significance of the values:

0: There is no implicit gear stage change with M70.

The current gear stage is retained.

1 ... 5:

There is a change into gear stage (1...5) during the execution of M70.

During the transition into axis mode without M70, there is monitoring for this gear stage and alarm 22022 is issued if necessary. The condition for a gear stage change is the general release of the function in MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE.

Secondary conditions:

When changing from axis mode into spindle mode, the configured gear stage continues to remain active. There is no automatic return to the last active gear stage in spindle mode.

35020	SPIND_DEFAULT_MODE	A06, A10	S1
-	Initial spindle setting	BYTE	Reset
CTEQ			
-	-	0	0

Description: SPIND_DEFAULT_MODE activates the set operating mode of the spindle at the time specified in MD35030 \$MA_SPIND_DEFAULT_ACT_MASK. The appropriate spindle operating modes can be set with the following values:

0 Speed mode, position control deselected

1 Speed mode, position control activated

2 Positioning mode, no check for synchronized/referenced position on NC start

3 Axis mode, MD34110 \$MA_REFP_CYCLE_NR can be used to configure / deactivate forced referencing on NC start

Corresponds with:

MD35030 \$MA_SPIND_DEFAULT_ACT_MASK (activate spindle initial setting)

MD20700 \$MC_REFP_NC_START_LOCK (NC start disable without reference point)

35030	SPIND_DEFAULT_ACT_MASK	A06, A10	S1
-	Time at which initial spindle setting is effective	BYTE	Reset
CTEQ			
-	-	0x00	0

Description: SPIND_DEFAULT_ACT_MASK specifies the time at which the operating mode defined in MD35020 \$MA_SPIND_DEFAULT_MODE becomes effective. The initial spindle setting can be assigned the following values at the following points in time:

0 POWER ON

1 POWER ON and NC program start

2 POWER ON and RESET (M2/M30)

1.3 NC machine data

Special cases:

If MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET = 1, the following supplementary conditions are applicable:

- SPIND_DEFAULT_ACT_MASK should be set to 0
- If this is not possible, the spindle must be at a standstill prior to activation.

Related to:

MD35020 \$MA_SPIND_DEFAULT_MODE (initial spindle setting)

MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET (spindle active after reset)

35032	SPIND_FUNC_RESET_MODE	A06, A10	-			
-	Reset response of individual spindle functions	DWORD	PowerOn			
CTEQ						
-	-	0x00	0	0x01	7/2	M

Description: This data allows the "GWPS in every operating mode" function to be selected/deselected.

SPIND_FUNC_RESET_MODE, bit 0 = 0 : "GWPS in every operating mode" is deselected

SPIND_FUNC_RESET_MODE, bit 0 = 1 : "GWPS in every operating mode" is selected

35035	SPIND_FUNCTION_MASK	A06, A10	K1,S1			
-	Spindle functions	DWORD	Reset			
CTEQ						
-	-	0x510	-	-	7/2	M

Description: This MD allows spindle-specific functions to be set.

The MD is bit-coded, the following bits are assigned:

Bit 0 = 1: Gear stage changes are suppressed with activated DryRun function for

block programming (M40, M41 to M45), programming via FC18,
and synchronized actions.

Bit 1 = 1: Gear stage changes are suppressed with activated program test function

for block programming (M40, M41 to M45), programming via
FC18, and synchronized actions.

Bit 2 = 1: Gear stage change for programmed gear stage will finally be carried

out after deselection of DryRun or program test functions with
REPOS.

Bit 3: reserved

Bit 4 = 1:

The programmed speed is transferred to SD 43200 \$SA_SPIND_S (incl. speed default settings via FC18 and synchronized actions).

S programmings that are not speed programmings are not written to the SD.
These include, for example, S value with constant cutting velocity (G96,
G961), S value with revolution-related dwell time (G4).

Bit 5 = 1:

The content of SD 43200 \$SA_SPIND_S is applied as the speed setpoint for JOG.
If the content is zero, then other JOG speed default settings become active
(see SD 41200 JOG_SPIND_SET_VELO).

Bit 6: reserved

Bit 7: reserved

Bit 8 = 1:
 The programmed cutting velocity is transferred to SD 43202 \$SA_SPIND_CONSTCUT_S (incl. default settings via FC18). S programmings, that are not cutting velocity programmings, are not written to the SD. These include, for example, S value outside of constant cutting velocity (G96, G961, G962), S value with revolution-related dwell time (G4), S value in synchronized actions.

Bit 9: reserved

Bit 10 = 0:
 SD 43206 \$SA_SPIND_SPEED_TYPE is not changed by part program or channel settings,
 = 1:
 For the master spindle, the value of the 15th G group (type of feedrate) is transferred to SD 43206 \$SA_SPIND_SPEED_TYPE. For all other spindles, the corresponding SD remains unchanged.

Bit 11: reserved

Bit 12 = 1:
 Spindle override is active with zero mark search for M19, SPOS, and SPOSA
 = 0:
 Previous response (default)
 The following bits 16-20 can be used to set spindle-specific M functions which are output to the VDI interface
 if the corresponding M functionality has been generated implicitly for the program sequence.

Bit 16: reserved

Bit 17: reserved

Bit 18: reserved

Bit 19: "Output implicit M19 to PLC"
 = 0: If MD20850 \$MC_SPOS_TO_VDI = 0 too, no auxiliary function M19 is generated for SPOS and SPOSA. As a result, the acknowledgment time for the auxiliary function is also eliminated. This can cause problems in the case of short blocks.
 = 1: The implicit auxiliary function M19 is generated with the programming of SPOS and SPOSA and output to the PLC. The address is expanded in accordance with the spindle number.

Bit 20: "Output implicit M70 to PLC"
 = 0: No generation of implicit auxiliary function M70. Note: A programmed auxiliary function M70 is always output to the PLC.
 = 1: Auxiliary function M70 is generated implicitly and output to the PLC on transition to axis mode. The address is expanded in accordance with the spindle number.

Bit 21: reserved

Bit 22 = 0: As of NCK version 78.00.00: The NC/PLC interface signal DB31, ... DBX17.6 (invert M3/M4) is applied to the function for interpolatory tapping G331/G332.

Bit 22 = 1: Response is compatible with SW releases prior to NCK version 78.00.00: The NC/PLC interface signal DB31, ... DBX17.6 (invert M3/M4) is not applied to the function for interpolatory tapping G331/G332.

MD is Corresponds with:
 MD20850 \$MC_SPOS_TO_VDI
 MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET
 MD35020 \$MA_SPIND_DEFAULT_MODE

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SD43200 \$SA_SPIND_S

35040	SPIND_ACTIVE_AFTER_RESET	A06, A10	S1,Z1,2,7
-	Own spindle RESET	BYTE	PowerOn
CTEQ			
-	-	0	0

Description: MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET defines the response of the spindle after channel reset NC/PLC interface signal DB21-30 DBX7.7 (Reset) and program end (M2, M30).

This MD is only active in the spindle mode open-loop control mode. In positioning mode or oscillation mode, the spindle is always stopped.

MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET = 0:

- Spindle stops (with M2/M30 and channel and mode group reset).
- Program is canceled.
- For spindle mode, the programmed ACC and VEOLIM are reset to 100% if MD22400 \$MC_S_VALUES_ACTIVE_AFTER_RESET and the axis-specific MD32320 \$MA_DYN_LIMIT_RESET_MASK do not specify anything else.

MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET= 1:

- Spindle does not stop.
- Program is canceled.
- For spindle mode, the programmed ACC and VEOLIM are retained.

MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET= 2:

- Spindle does not stop at the M function configured via MD10714 \$MN_M_NO_FCT_EOP (e.g. M32).
- However, the spindle stops at channel or mode group reset.
- For spindle mode, the programmed ACC and VEOLIM are retained.

The NC/PLC interface signal DB31, ... DBX2.2 (Delete distance-to-go/Spindle reset) is always effective, independent of MD35040 \$MA_SPIND_ACTIVE_AFTER_RESET.

Not relevant to:

- Spindle modes other than open-loop control mode.

Related to:

NC/PLC interface signal DB21-30 DBX7.7 (Reset)

NC/PLC interface signal DB31, ... DBX2.2 (Delete distance-to-go/Spindle reset)

35090	NUM_GEAR_STEPS	A06, A10	S1
-	Number of gear stages	DWORD	Reset
-			
-	-	5	1

Description: Number of set gear stages.

The first gear stage is always available.

Corresponding MDs:

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stages available/functions)

MD35012 \$MA_GEAR_STEP_CHANGE_POSITION (gear stage change position)

MD35014 \$MA_GEAR_STEP_USED_IN_AXISMODE (gear stage for axis mode with M70)

MD35110 \$MA_GEAR_STEP_MAX_VELO (max. speed for gear stage change)

MD35120 \$MA_GEAR_STEP_MIN_VELO (min. speed for gear stage change)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (max. speed of gear stage)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (min. speed of gear stage)

MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL (acceleration in speed control mode)

MD35210 \$MA_GEAR_STEP_POSCTRL_ACCEL (acceleration in position control mode)
 MD35310 \$MA_SPIND_POSIT_DELAY_TIME (positioning delay time)
 MD35550 \$MA_DRILL_VELO_LIMIT (maximum speeds for tapping)
 MD35092 \$MA_NUM_GEAR_STEPS2 (number of gear stages 2nd gear stage data set)

35092	NUM_GEAR_STEPS2	A06, A10	S1			
-	Number of gear stages of 2nd gear stage data set	DWORD	Reset			
-	-	5	1			
		5	2/2	M		

Description: Number of set gear stages of the second gear stage data set for the function 'Tapping with G331/G332'.

Activation (only makes sense for master spindle on tapping): MD 35010 \$MA_GEAR_STEP_CHANGE_ENABLE, bit 5.

The number of gear stages must not be the same in the first and second gear stage data sets.

Corresponding MD:

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stages available/functions)

MD35112 \$MA_GEAR_STEP_MAX_VELO2 (2nd gear stage data set: max. speed for gear stage change)

MD35122 \$MA_GEAR_STEP_MIN_VELO2 (2nd gear stage data set: min. speed for gear stage change)

MD35212 \$MA_GEAR_STEP_POSCTRL_ACCEL2 (2nd gear stage data set: acceleration in position control mode)

35100	SPIND_VELO_LIMIT	A06, A11, A04	TE3,G2,S1,V1,Z1			
rev/min	Maximum spindle speed	DOUBLE	Reset			
CTEQ						
-	-	10000.0	1.0e-6	-	7/2	M

Description: MD35100 \$MA_SPIND_VELO_LIMIT defines the maximum spindle speed that the spindle (the spindle chuck with the workpiece or the tool) must not exceed. The NCK limits an excessive spindle setpoint speed to this value. If the maximum spindle actual speed is exceeded, even allowing for the spindle speed tolerance (MD35150 \$MA_SPIND_DES_VELO_TOL), there is a fault with the drive and the NC/PLC interface signal DB31, ... DBX83.0 (speed limit exceeded) is set. Alarm 22100 "Maximum speed reached" is also output and all axes and spindles on the channel are decelerated (provided the encoder is still functioning correctly). The spindle has to be brought to a standstill before modifying the MD.

Corresponds with:

MD35150 \$MA_SPIND_DES_VELO_TOL (spindle speed tolerance)

SD43235 \$SD_SPIND_USER_VELO_LIMIT (speed limitation set by user)

NC/PLC interface signal DB31, ... DBX83.0 (speed limit exceeded)

Alarm 22100 "Maximum speed reached"

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35110	GEAR_STEP_MAX_VELO	A06, A11, A04	A3,S1
rev/min	Maximum speed for gear stage change	DOUBLE	NEW CONF
CTEQ			
-	6 500., 500., 1000., 2000., 4000., 8000.	- -	7/2 M

Description: MD35110 \$MA_GEAR_STEP_MAX_VELO defines the maximum speed (upper switching threshold) of the gear stage for automatic gear stage change M40 S... The speed ranges for the gear stages must be defined without gaps between them or can overlap.

Incorrect

MD35110 \$MA_GEAR_STEP_MAX_VELO [gear stage1] =1000

MD35120 \$MA_GEAR_STEP_MIN_VELO [gear stage2] =1200

Correct

MD35110 \$MA_GEAR_STEP_MAX_VELO [gear stage1] =1000

MD35120 \$MA_GEAR_STEP_MIN_VELO [gear stage2] = 950

Note:

- Programming a spindle speed which exceeds the highest numbered gear stage MD35110 \$MA_GEAR_STEP_MAX_VELO [MD35090] triggers a switch to the highest gear stage (MD35090).

Related to:

MD35120 \$MA_GEAR_STEP_MIN_VELO (min. speed for automatic gear stage selection M40)

MD35090 \$MA_NUM_GEAR_STEPS (number of gear stages)

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage change is possible)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speed of gear stage with speed control)

MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT (maximum speed of gear stage with position control)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (min. speed of gear stage)

35112	GEAR_STEP_MAX_VELO2	A06, A11, A04	S1
rev/min	2nd data set: Maximum speed for gear stage change	DOUBLE	NEW CONF
CTEQ			
-	6 500., 500., 1000., 2000., 4000., 8000.	- -	2/2 M

Description: -

The 2nd gear stage data block for tapping with G331/G332 is activated with MD 35010:\$MA_GEAR_STEP_CHANGE_ENABLE bit 5 for the master spindle.

Related to:

MD35122 \$MA_GEAR_STEP_MIN_VELO2 (minimum speed for 2nd data block gear stage selection)

MD35092 \$MA_NUM_GEAR_STEPS2 (number of gear stages 2nd gear stage data block)

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage change, 2nd data block is possible)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speed of gear stage with speed control)

MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT (maximum speed of gear stage with position control)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (min. speed of gear stage)

35120	GEAR_STEP_MIN_VELO			A06, A11, A04	S1
rev/min	Minimum speed for gear stage change			DOUBLE	NEW CONF
CTEQ					
-	6	50., 50., 400., 800., 1500., 3000.	-	-	7/2 M

Description:

-

See MD35120 \$MA_GEAR_STEP_MAX_VELO for more information.

Note:

- Programming a spindle speed which undershoots the lowest speed of the first gear stage MD35120 \$MA_GEAR_STEP_MIN_VELO[1] triggers a switch to the first gear stage.

Not relevant for:

- Programming of speed 0 (S0) if MD35120 \$MA_GEAR_STEP_MIN_VELO[1] > 0

Related to:

MD35110 \$MA_GEAR_STEP_MAX_VELO (maximum speed for automatic gear stage selection M40)

MD35090 \$MA_NUM_GEAR_STEPS (number of gear stages)

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage change is possible)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speed of the gear stage with speed control)

MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT (maximum speed of the gear stage with position control)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (min. speed of the gear stage)

35122	GEAR_STEP_MIN_VELO2			A06, A11, A04	S1
rev/min	2nd data set: Minimum speed for gear stage change			DOUBLE	NEW CONF
CTEQ					
-	6	50., 50., 400., 800., 1500., 3000.	-	-	2/2 M

Description:

The minimum speed (lower switching threshold) of the gear stage for automatic gear stage change M40 G331 S.. is set in GEAR_STEP_MIN_VELO2 for interpolatory tapping G331, G332. The speed ranges of the gear stages must be defined so that there are no gaps between them or they can overlap.

The 2nd gear stage data block for tapping with G331/G332 is activated with MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE bit 5 for the master spindle.

Related to:

MD35112 \$MA_GEAR_STEP_MAX_VELO2 (maximum speed for 2nd data block gear stage change)

MD35092 \$MA_NUM_GEAR_STEPS2 (number of gear stages 2nd gear stage data block)

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage change, 2nd data block is possible)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speed of gear stage with speed control)

MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT (maximum speed of gear stage with position control)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (min. speed of gear stage)

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35130	GEAR_STEP_MAX_VELO_LIMIT			A06, A11, A04	A2,S1,V1	
rev/min	Maximum speed of gear stage			DOUBLE	NEW CONF	
CTEQ						
-	6	500., 500., 1000., 2000., 4000., 8000.	1.0e-6	-	7/2	M

Description: The maximum speed of the current gear stage for speed control mode (position control not active) is configured in MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT. The speed setpoints generated taking the override into account are limited to this speed.

Note:

- The configured speed cannot exceed the value from MD35100 \$MA_SPIND_VELO_LIMIT.
- If position control is active for the spindle, the speed is limited to the maximum speed of MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT.
- The NC/PLC interface signal "Setpoint speed limited" is set to indicate that the speed is being limited.
- The maximum speed entered here has no effect on the automatic gear stage selection M40 S..
- The upper switching threshold for the automatic gear stage selection M40 is configured in MD35110 \$MA_GEAR_STEP_MAX_VELO.

Related to:

MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT (maximum speed of the gear stage with position control)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (minimum speed of the gear stage)

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage selection is possible)

MD35110 \$MA_GEAR_STEP_MAX_VELO (max. speed for automatic gear stage selection M40)

MD35120 \$MA_GEAR_STEP_MIN_VELO (min. speed for automatic gear stage selection M40)

35135	GEAR_STEP_PC_MAX_VELO_LIMIT			A06, A11, A04	S1	
rev/min	Maximum speed of the gear stage with position control			DOUBLE	NEW CONF	
CTEQ						
-	6	0., 0., 0., 0., 0., 0.	0	-	7/2	M

Description: The maximum speed of the current gear stage is configured in MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT with position control active. The speed setpoints generated taking the override into account are limited to this speed. If a value of 0 is set (default), 90% of the value from MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT will become the maximum speed with position control active.

Note:

- The configured speed cannot exceed the value from MD35100 \$MA_SPIND_VELO_LIMIT.
- The NC/PLC interface signal "Setpoint speed limited" is set to indicate that the speed is being limited.
- The maximum speed entered here has no effect on the automatic gear stage selection M40 S..
- The upper switching threshold for the automatic gear stage selection M40 is configured in MD35110 \$MA_GEAR_STEP_MAX_VELO.

Related to:

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speed of the gear stage with spee control)

MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT (minimum speed of the gear stage)
 MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage selection is possible)
 MD35110 \$MA_GEAR_STEP_MAX_VELO (max. speed for automatic gear stage selection M40)
 MD35120 \$MA_GEAR_STEP_MIN_VELO (min. speed for automatic gear stage selection M40)

35140	GEAR_STEP_MIN_VELO_LIMIT	A06, A11, A04	S1,V1		
rev/min	Minimum speed of gear stage	DOUBLE	NEW CONF		
CTEQ					
-	6 5., 5., 10., 20., 40., 80.	-	-	7/2	M

Description: The minimum speed of the current gear stage is configured in MD35140 \$MA_GEAR_STEP_MIN_VELO_LIMIT. The minimum speed is applied only if the spindle is in speed control mode. The speed setpoints generated taking the override into account do not undershoot the minimum speed.

Note:

- If an S value lower than the minimum speed is programmed, the setpoint speed is increased to the minimum speed.
- The NC/PLC interface signal "Setpoint speed increased" is set to indicate that the speed has been increased.
- The minimum speed entered here has no effect on the automatic gear stage selection M40 S..
- The lower switching threshold for the automatic gear stage selection M40 is configured in MD35120 \$MA_GEAR_STEP_MIN_VELO.

Not relevant for:

- Spindle oscillation mode(gear stage change)
- Positioning and axis spindle modes
- Signals which cause the spindle to stop

Related to:

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speed of gear stage with speed control)

MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT (maximum speed of gear stage with position control)

MD35010 \$MA_GEAR_STEP_CHANGE_ENABLE (gear stage change is possible)

MD35110 \$MA_GEAR_STEP_MAX_VELO (max. speed for automatic gear stage selection M40)

MD35120 \$MA_GEAR_STEP_MIN_VELO (min. speed for automatic gear stage selection M40)

35150	SPIND_DES_VELO_TOL	A03, A05, A06, A10, A04	R1,S1,Z1			
-	Spindle speed tolerance	DOUBLE	Reset			
-						
-	-	0.1	0.0	1.0	7/2	M

Description: In spindle control mode, the set speed (programmed speed x spindle offset, allowing for limits) is compared with the actual speed.

- If the actual speed deviates from the set speed by more than MD35150 \$MA_SPIND_DES_VELO_TOL, the NC/PLC interface signal is DB31, ... DBX83.5 (Spindle in setpoint range) is set to zero.

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- If the actual speed deviates from the set speed by more than MD35150 \$MA_SPIND_DES_VELO_TOL, the path feed is disabled (positioning axes continue traversing).
- If the actual speed exceeds the maximum spindle speed (MD35100 \$MA_SPIND_VELO_LIMIT) by more than MD35150 \$MA_SPIND_DES_VELO_TOL, the NC/PLC interface signal is DB31, ... DBX83.0 (Speed limit exceeded) is enabled and alarm 22050 "Maximum speed reached" is output. All axes and spindles on the channel are decelerated.

MD irrelevant to:

- Spindle oscillation mode
- Spindle positioning mode

Example:

MD 35150 \$MA_SPIND_DES_VELO_TOL = 0.1

The actual spindle speed must not deviate from the set speed by more than +/- 10%.

Related to:

MD35500 \$MA_SPIND_ON_SPEED_AT_IPO_START
(feed enable for spindle in setpoint range)

MD35100 \$MA_SPIND_VELO_LIMIT

(maximum spindle speed)

NC/PLC interface signal DB31, ... DBX83.5 (Spindle in setpoint range)

NC/PLC interface signal DB31, ... DBX83.0 (Speed limit exceeded)

Alarm 22050 "Maximum speed reached"

35160	SPIND_EXTERN_VELO_LIMIT	A06, A04	A3,S1,V1,Z1			
rev/min	Spindle speed limitation from PLC	DOUBLE	NEW CONF			
CTEQ						
-	-	1000.0	1.0e-6	-	7/2	M

Description:

A limiting value for the maximum spindle speed is entered in MD35160 \$MA_SPIND_EXTERN_VELO_LIMIT, which is taken into account exactly when the NC/PLC interface signal DB31, ... DBX3.6 (Velocity/speed limitation) is set. The control limits a spindle speed which is too high to this value.

35200	GEAR_STEP_SPEEDCTRL_ACCEL	A06, A11, A04, -	S1			
rev/s ²	Acceleration in speed control mode	DOUBLE	NEW CONF			
CTEQ						
-	6	30.0, 30.0, 25.0, 20.0, 15.0, 10.0	1.0e-7	-	7/2	M

Description:

If the spindle is in speed control mode, the acceleration is entered in MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL.

The spindle is in speed control mode with the function SPCOF.

Special cases:

The acceleration in speed control mode (MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL) can be set so that the electric current limit is reached.

Related to:

MD35210 \$MA_GEAR_STEP_POSCTRL_ACCEL (acceleration in position control mode)

MD35220 \$MA_ACCEL_REDUCTION_SPEED_POINT (speed limit for reduced acceleration)

35210	GEAR_STEP_POSCTRL_ACCEL			A06, A11, A04, -	S1	
rev/s ²	Acceleration in position control mode			DOUBLE	NEW CONF	
CTEQ						
-	6	30.0, 30.0, 25.0, 20.0, 15.0, 10.0	1.0e-7	-	7/2	M

Description: The acceleration in position control mode must be set so that the electric current limit is not reached.

Related to:

MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL

MD35212 \$MA_GEAR_STEP_POSCTRL_ACCEL2

35212	GEAR_STEP_POSCTRL_ACCEL2			A06, A11, A04, -	S1	
rev/s ²	2nd data set: Acceleration in position control mode			DOUBLE	NEW CONF	
CTEQ						
-	6	30.0, 30.0, 25.0, 20.0, 15.0, 10.0	1.0e-3	-	2/2	M

Description: Second gear stage data set for maximum acceleration capability of the gear stages in position control mode.

The acceleration in position control mode must be set so that the electric current limit is not reached.

The 2nd data set for tapping with G331/G332 is activated by MD35010
\$MA_GEAR_STEP_CHANGE_ENABLE, bit 5 for the master spindle.

Related to:

MD35210 \$MA_GEAR_STEP_POSCTRL_ACCEL

MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL

MD35220 \$MA_ACCEL_REDUCTION_SPEED_POINT

35220	ACCEL_REDUCTION_SPEED_POINT			A06, A04	S1,S3,B2	
-	Speed for reduced acceleration			DOUBLE	Reset	
-						
-	-	1.0	0.0	1.0	7/2	M

Description: This machine data defines the threshold speed/velocity for spindles/positioning/path axes from which the acceleration reduction is to start. The reference is the defined maximum speed/velocity. The starting point is a percentage of the maximum values.

Example: MD35220 \$MA_ACCEL_REDUCTION_SPEED_POINT = 0.7, the maximum speed is 3000 rpm. Acceleration reduction starts at v_on = 2100 rpm, i.e. the maximum acceleration capacity is utilized in the speed range 0...2099.99 rpm. Reduced acceleration is used from 2100 rpm to the maximum speed.

Related to:

MD32000 \$MA_MAX_AX_VELO

(maximum axis velocity)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT

(maximum gear stage speed)

MD35230 \$MA_ACCEL_REDUCTION_FACTOR

(reduced acceleration)

1.3 NC machine data

35230	ACCEL_REDUCTION_FACTOR	A06, A04	S1,S3,B2			
-	Reduced acceleration	DOUBLE	Reset			
CTEQ						
-	-	0.0	0.0	0.95	7/2	M

Description: The machine data contains the factor by which the acceleration of the spindle/positioning/path axes is reduced with reference to the maximum speed/velocity. The acceleration is reduced by this factor between the threshold speed/velocity defined in MD35220 \$MA_ACCEL_REDUCTION_SPEED_POINT and the maximum speed/velocity.

Example:

a= 10 rev/s², v_on = 2100 rpm, MD35230 \$MA_ACCEL_REDUCTION_FACTOR = 0.3. Acceleration and deceleration take place within the speed range 0...2099.99 rpm with an acceleration of 10 rev/s². From a speed of 2100 rpm up to the maximum speed, the acceleration is reduced from 10 rev/s² to 7 rev/s².

MD irrelevant to:

Errors that lead to rapid stop.

Related to:

MD32300 \$MA_MAX_AX_ACCEL (axis acceleration)

MD35200 \$MA_GEAR_STEP_SPEEDCTRL_ACCEL

(acceleration in speed control mode)

MD35210 \$MA_GEAR_STEP_POSCTRL_ACCEL

(acceleration in position control mode)

MD35242 \$MA_ACCEL_REDUCTION_SPEED_POINT

(speed for reduced acceleration)

35240	ACCEL_TYPE_DRIVE	A04	B1,B2			
-	Acceleration curve DRIVE for axes ON/OFF	BOOLEAN	Reset			
CTEQ						
-	-	FALSE	-	-	7/2	M

Description: Basic setting of the acceleration response of the axis (positioning, oscillation, JOG, path motions):

FALSE: No acceleration reduction

TRUE: Acceleration reduction active

MD is active only when MD32420 \$MA_JOG_AND_POS_JERK_ENABLE = FALSE.

The settings in MD35220 \$MA_ACCEL_REDUCTION_SPEED_POINT and MD35230

\$MA_ACCEL_REDUCTION_FACTOR are always active for spindles (in spindle mode).

Remark:

This MD also influences the path motion with SOFT, BRISK, TRAFO

35242	ACCEL_REDUCTION_TYPE	A04	B1,B2			
-	Type of acceleration reduction	BYTE	Reset			
CTEQ						
-	-	1	0	2	7/2	M

Description: Shape of acceleration reduction characteristic with DRIVE velocity control

0: Constant

1: Hyperbolic

2: Linear

35300	SPIND_POSCTRL_VELO			A06, A04	P3 pl,P3 sl,R1,S1	
rev/min	Position control activation speed			DOUBLE	NEW CONF	
CTEQ						
-	6	500.0, 500.0, 500.0, 500.0, 500.0, 500.0	-	-	7/2	M

Description: When positioning a spindle that is not in position control mode from a high speed, the position control is not activated until the spindle has reached or falls below the velocity defined in MD35300 \$MA_SPIND_POSCTRL_VELO.

The speed can be changed with FA[Sn] from the part program. Please refer to the documentation:

/FB1/ Function Manual, Basic Functions; Spindles (S1), section "Spindle mode 'positioning operation" for a description of the spindle behavior under various supplementary conditions (positioning from rotation, positioning from standstill).

Note:

The active speed from MD35300 \$MA_SPIND_POSCTRL_VELO cannot exceed the max. speed set in MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT. If MD35135 \$MA_GEAR_STEP_PC_MAX_VELO_LIMIT = 0, the value is limited to 90% of MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT.

Related to:

MD35350 \$MA_SPIND_POSITIONING_DIR (direction of rotation during positioning from standstill, if no synchronization is available)

MD35100 \$MA_SPIND_VELO_LIMIT (chuck speed)

35310	SPIND_POSIT_DELAY_TIME			A06, A04	S1	
s	Positioning delay time			DOUBLE	NEW CONF	
CTEQ						
-	6	0.0, 0.05, 0.1, 0.2, 0.4, 0.8	-	-	7/2	M

Description: Positioning delay time.

After reaching the positioning end (exact stop fine), there is a waiting time equal to the time set in this MD. The position matching the currently set gear stage is selected.

The delay time is activated for:

- Gear stage change at defined spindle position. After reaching the position configured in MD35012 \$MA_GEAR_STEP_CHANGE_POSITION, there is a waiting period equal to the time specified here. After expiry of this time, the position control is switched off for an active direct measuring system, and the NC/PLC interface signals DB31, ... DBX82.3 (Change gear) and DB31, ... DBX82.0 - .2 (Setpoint gear stage A-C) are output.
- Block search upon the output of an accumulated positioning block (SPOS, SPOSA, M19).

35350	SPIND_POSITIONING_DIR			A06	S1	
-	Direction of rotation when positioning			BYTE	Reset	
CTEQ						
-	-	3	3	4	7/2	M

Description: When SPOS or SPOSA is programmed, the spindle is switched to position control mode and accelerates with the acceleration defined in MD35210 \$MA_GEAR_STEP_POSCTRL_ACCEL (acceleration in position control mode) if the spindle is not synchronized. The direction of rotation is defined

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by MD35350 \$MA_SPIND_POSITIONING_DIR (direction of rotation for positioning from standstill).

MD35350 \$MA_SPIND_POSITIONING_DIR = 3 ---> Clockwise direction of rotation
 MD35350 \$MA_SPIND_POSITIONING_DIR = 4 ---> Counterclockwise direction of rotation

Related to:

MD35300 \$MA_SPIND_POSCTRL_VELO (position control activation speed)

35400	SPIND_OSCILL_DES_VELO	A06, A04	P3 pl,P3 sl,S1
rev/min	Oscillation speed	DOUBLE	NEW CONF
CTEQ			
-	-	500.0	-

Description: During oscillation, the NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed) is used to select a motor speed for the spindle motor. This motor speed is defined in MD35400 \$MA_SPIND_OSCILL_DES_VELO. The motor speed defined in this MD is independent of the current gear stage. In the AUTOMATIC and MDI displays, the oscillation speed is displayed in the "Spindle set-point" window until the gear is changed.

MD irrelevant to:

All spindle modes except oscillation mode

Special cases:

The acceleration during oscillation (MD35410 \$MA_SPIND_OSCILL_ACCEL) is valid for the oscillation speed defined in this MD.

Related to:

MD35410 \$MA_SPIND_OSCILL_ACCEL (acceleration during oscillation)

NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed)

NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC)

35410	SPIND_OSCILL_ACCEL	A06, A04, -	S1,Z1
rev/s ²	Acceleration during oscillation	DOUBLE	NEW CONF
CTEQ			
-	-	16.0	1.0e-7

Description: The acceleration specified here is only effective for the output of the oscillation speed (MD35400 \$MA_SPIND_OSCILL_DES_VELO) to the spindle motor. The oscillation speed is selected using the NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed).

MD irrelevant to:

All spindle modes except oscillation mode

Related to:

MD35400 \$MA_SPIND_OSCILL_DES_VELO (oscillation speed)

NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed)

NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC)

35430	SPIND_OSCILL_START_DIR	A06	S1
-	Start direction during oscillation	BYTE	Reset
CTEQ			
-	-	0	0

Description: With the NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed), the spindle motor accelerates to the speed specified in MD35400: \$MA_SPIND_OSCILL_DES_VELO.

The start direction is defined by MD35430 \$MA_SPIND_OSCILL_START_DIR if the NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC) is not enabled.

MD35430 \$MA_SPIND_OSCILL_START_DIR = 0 ---> Start direction same as the last direction of rotation

MD35430 \$MA_SPIND_OSCILL_START_DIR = 1 ---> Start direction counter to the last direction of rotation

MD35430 \$MA_SPIND_OSCILL_START_DIR = 2 ---> Start direction counter to the last direction of rotation

MD35430 \$MA_SPIND_OSCILL_START_DIR = 3 ---> Start direction is M3

MD35430 \$MA_SPIND_OSCILL_START_DIR = 4 ---> Start direction is M4

MD irrelevant to:

All spindle modes except oscillation mode

Related to:

MD35400 \$MA_SPIND_OSCILL_DES_VELO (oscillation speed)

NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed)

NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC)

35440	SPIND_OSCILL_TIME_CW	A06	S1,Z1
s	Oscillation time for M3 direction	DOUBLE	NEW CONF
CTEQ			
-	-	1.0	M

Description: The oscillation time defined here is active in the M3 direction.

MD irrelevant to:

- All spindle modes except oscillation mode
- Oscillation via PLC (NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC) enabled)

Related to:

MD35450 \$MA_SPIND_OSCILL_TIME_CCW (oscillation time for M4 direction)

MD10070 \$MN_IPO_SYSCLK_TIME_RATIO (interpolator cycle)

NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed)

NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC)

35450	SPIND_OSCILL_TIME_CCW	A06	S1,Z1
s	Oscillation time for M4 direction	DOUBLE	NEW CONF
CTEQ			
-	-	0.5	M

Description: The oscillation time defined here is active in the M4 direction.

MD irrelevant to:

- All spindle modes except oscillation mode
- Oscillation via PLC (NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC) enabled)

Related to:

MD35440 \$MA_SPIND_OSCILL_TIME_CW (oscillation time for M3 direction)

MD10070 \$MN_IPO_SYSCLK_TIME_RATIO (interpolator cycle)

NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed)

NC/PLC interface signal DB31, ... DBX18.4 (Oscillation via PLC)

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35500	SPIND_ON_SPEED_AT_IPO_START	A03, A06, A10	S1,Z1
-	Feedrate enable for spindle in the set range	BYTE	Reset
CTEQ			
-	-	1	0

Description: For SW 4.2 and higher:

Byte = 0:

The path interpolation is not affected

Byte = 1:

The path interpolation is not enabled (positioning axes continue traversing) until the spindle has reached the specified speed. The tolerance range can be set in MD 35150: \$MA_SPIND_DES_VELO_TOL. If a measuring system is active, then the actual speed is monitored, otherwise the set speed. Path axes traversing in continuous-path mode (G64) are not stopped.

Byte = 2:

In addition to 1, traversing path axes are also stopped before machining begins, e.g. continuous-path mode (G64) and the change from rapid traverse (G0) to a machining block (G1, G2,...). The path is stopped at the last G0 block, and does not start traversing until the spindle is within the set speed range.

Restriction:

If the spindle is newly programmed by the PLC (FC18) or a synchronized action "shortly" before the end of the last G0 block, then the path decelerates taking the dynamic limitations into account. Because the spindle programming is asynchronous, a traverse can be made into the machining block if necessary. If the spindle has reached the setpoint speed range, then machining starts from this position.

Byte = 3:

No longer available for SW 5.3 and higher.

Related to:

MD35150 \$MA_SPIND_DES_VELO_TOL (spindle speed tolerance)

NC/PLC interface signal DB31, ... DBX83.5 (Spindle in setpoint range)

35510	SPIND_STOPPED_AT_IPO_START	A03, A06, A10	S1
-	Feedrate enable for spindle stopped	BOOLEAN	Reset
CTEQ			
-	-	FALSE	-

Description: When a spindle is stopped (M5), the path feed is disabled (positioning axes continue traversing) if MD35510 \$MA_SPIND_STOPPED_AT_IPO_START is enabled and the spindle is in control mode.

When the spindle has come to a standstill (NC/PLC interface signal DB31, ... DBX61.4 (Axis/spindle stationary) enabled), the path feed is enabled.

Related to:

MD35500 \$MA_SPIND_ON_SPEED_AT_IPO_START (feed enable for spindle in setpoint range)

35550	DRILL_VELO_LIMIT			A06, A11, A04	-	
rev/min	Maximum speeds for tapping			DOUBLE	NEW CONF	
CTEQ						
-	6	10000., 10000., 10000., 10000., 10000., 10000.	0.1	-	7/2	M

Description: Limit speed values for tapping without compensating chuck with G331/G332.
The maximum speed of the linear motor characteristic range (constant acceleration capacity) must be specified depending on the gear stage.

35590	PARAMSET_CHANGE_ENABLE			EXP, A05	TE3,A2,S1,Z1	
-	Parameter set can be changed			BYTE	PowerOn	
CTEQ						
-	-	0	0	2	7/2	M

Description: 0: Parameter set changes cannot be controlled.
For axes and spindles in axis mode: The first parameter set is always active. In the case of spindles the parameter set is set as appropriate for the gear stage (1st gear stage uses 2nd parameter set). Exceptions: See below.
1: The parameter set applied in the servo is defined via the VDI interface or SCPARA. Parameter sets 1 to 6 can be selected. Sets are selected using the NC/PLC interface signal DB31, ... DBX9.0 - .2 (selection of parameter set servo A, B, C) in the binary-coded value range 0 to 5. Binary values 6 and 7 select parameter set no. 6. Exceptions: See below.
For 0 and 1:
With G33, G34, G35, G331, G332, the parameter set number for the axes involved is activated in accordance with the master spindle gear stage, increased by one (corresponds with parameter set numbers 2 to 6).
For spindles, parameter sets 2 to 6 are always active, depending on the set gear stage plus one.
2: The parameter set is only ever defined via the VDI interface or SCPARA. Parameter sets 1 to 6 can be selected. Sets are selected using the NC/PLC interface signal DB31, ... DBX9.0 - .2 (selection of parameter set servo A, B, C) in the binary-coded value range 0 to 5. Binary values 6 and 7 select parameter set no. 6.

Secondary conditions:

Changeover response is determined by whether the KV factor differs between the active parameter set and the new parameter set.

Changing a parameter set where the load gearbox factors differ between the active parameter set and the new parameter set will reset the referenced signal, provided that the axis has an indirect measuring system.

The parameter set contains the following axial machine data:

```
MD36200 $MA_AX_VELO_LIMIT
MD32200 $MA_POSCTRL_GAIN
MD32800 $MA_EQUIV_CURRCTRL_TIME
MD32810 $MA_EQUIV_SPEEDCTRL_TIME
MD32910 $MA_DYN_MATCH_TIME
MD31050 $MA_DRIVE_AX_RATIO_DENOM
MD31060 $MA_DRIVE_AX_RATIO_NUMERA
```

1.3 NC machine data

Corresponds with:

NC/PLC interface signals DB31, ... DBX9.0 - .2 (selection of parameter set servo A, B, C) and DB31, ... DBX69.0 - .2 (selected parameter set servo A, B, C)

References:

/FB/, H2, "Output of Auxiliary Functions to PLC"

36000	STOP_LIMIT_COARSE	A05	TE1,A3,B1,G2,S1,Z1
mm, degrees	Exact stop coarse	DOUBLE	NEW CONF
-			
-	-	0.04, 0.04, 0.04, 0.04, 0.04, 0.04, 0.04...	-

Description: Threshold for exact stop coarse

An NC block is considered as terminated if the actual position of the path axes is away from the setpoint position by the value entered for the exact stop limit. If the actual position of a path axis is not within this limit, the NC block is considered as not terminated, and further part program execution is not possible. The magnitude of the value entered influences the transition to the next block. The larger the value, the earlier the block change is initiated.

If the specified exact stop limit is not reached, then

- the block is considered as not terminated,
- further traversing of the axis is not possible,
- alarm 25080 Positioning monitoring is output after expiry of the time specified in MD36020 \$MA_POSITIONING_TIME (monitoring time for exact stop fine),
- the direction of movement +/- is indicated for the axis in the positioning display. The exact stop window is also evaluated for spindles in position control mode (SPCON instruction).

Special cases:

MD36000 \$MA_STOP_LIMIT_COARSE must not be set smaller than MD36010

\$MA_STOP_LIMIT_FINE (exact stop fine). To achieve the identical block change behavior as with the "exact stop fine" criterion, the exact stop coarse window may be identical to the exact stop fine window. MD36000

\$MA_STOP_LIMIT_COARSE must not be set equal to or greater than MD36030

\$MA_STANDSTILL_POS_TOL (standstill tolerance).

Related to:

MD36020 \$MA_POSITIONING_TIME (delay time, exact stop fine)

36010	STOP_LIMIT_FINE	A05	TE1,A3,B1,D1,G2,S1,Z1
mm, degrees	Exact stop fine	DOUBLE	NEW CONF
-			

Description: Threshold for exact stop fine

See also MD36000 \$MA_STOP_LIMIT_COARSE (exact stop coarse)

Special cases:

MD36010 \$MA_STOP_LIMIT_FINE must not be set greater than MD36000
\$MA_STOP_LIMIT_COARSE (exact stop coarse).

MD36010 \$MA_STOP_LIMIT_FINE must not be set greater than or equal to MD36030
\$MA_STANDSTILL_POS_TOL (standstill tolerance).

Related to:

MD 36020: \$MA_POSITIONING_TIME (delay time, exact stop fine)

36012	STOP_LIMIT_FACTOR	A05	G1,A3,B1,G2,S1,Z1			
-	Factor for exact stop coarse/fine and standstill	DOUBLE	NEW CONF			
-						
-	6	1.0, 1.0, 1.0, 1.0, 1.0, 1.0	0.001	1000.0	7/2	M

Description: With this factor,
MD36000 \$MA_STOP_LIMIT_COARSE,
MD36010 \$MA_STOP_LIMIT_FINE,
MD36030 \$MA_STANDSTILL_POS_TOL
can be re-assessed as a function of the parameter set. The relationship between these three values always remains the same.
Application examples:
Adapting the positioning behavior if the mass relationships change significantly with a gear change, or if it is desired to save on machine positioning time at the cost of accuracy in various operating conditions.
Related to:
MD36000 \$MA_STOP_LIMIT_COARSE,
MD36010 \$MA_STOP_LIMIT_FINE,
MD36030 \$MA_STANDSTILL_POS_TOL

36020	POSITIONING_TIME	A05	TE1,A3,B1,G2
s	Delay time exact stop fine	DOUBLE	NEW CONF
-	-	1.0	-

Description: The following error must have reached the limit value for exact stop fine by the expiry of the time entered in this MD for traveling into the position (position setpoint has reached the destination).
The current following error is therefore continuously monitored for the time limit MD36010 \$MA_STOP_LIMIT_FINE. If this time is exceeded, alarm 25080 "Positioning monitoring" is output, and the axis stopped. The time entered in this MD should be long enough to ensure that the monitoring function is not triggered under normal operating conditions, taking into account any settling times.
Related to:
MD 36010: \$MA_STOP_LIMIT_FINE (exact stop fine)

36030	STANDSTILL_POS_TOL	A05	G1,A3,D1,G2			
mm, degrees	Standstill tolerance	DOUBLE	NEW CONF			
-	-	-	-			
-	-	0.2, 0.2, 0.2, 0.2, 0.2, 0.2, 0.2, 0.2...	-	-	7/2	M

Description: This MD serves as a tolerance band for the following monitoring functions:

- After termination of a traversing block (position partial setpoint=0 at the end of the movement), whether the following error has reached the limit value for MD36030 \$MA_STANDSTILL_POS_TOL (standstill tolerance) is monitored after the programmable MD36040 \$MA_STANDSTILL_DELAY_TIME (delay time, standstill monitoring).

1.3 NC machine data

- After termination of a positioning action (exact stop fine reached), positioning monitoring is replaced by standstill monitoring. The axis is monitored for moving from its position by more than defined in MD36030 \$MA_STANDSTILL_POS_TOL (standstill tolerance).

If the setpoint position is over- or undershot by the standstill tolerance, alarm 25040 "Standstill monitoring" is output and the axis stopped.

Special cases:

The standstill tolerance must be greater than the "exact stop limit coarse".

Related to:

MD36040 \$MA_STANDSTILL_DELAY_TIME (delay time, standstill monitoring)

36040	STANDSTILL_DELAY_TIME	A05	TE1,A3,F1,G2
s	Delay time for standstill monitoring	DOUBLE	NEW CONF
-			
-	- 0.4	- -	7/2 M

Description: See MD36030 \$MA_STANDSTILL_POS_TOL (standstill tolerance)

36042	FOC_STANDSTILL_DELAY_TIME	A05	F1
s	Delay time for standstill monitoring w/ active torque or force limitation.	DOUBLE	NEW CONF
-			
-	- 0.4	- -	7/2 M

Description: Only for PROFIdrive telegrams including a torque/force limiting value:

Waiting time between the end of a movement and activation of standstill monitoring with active torque/force limitation.

If the configurable end of block criterion occurs within this time, then standstill monitoring is activated.

36050	CLAMP_POS_TOL	A05	A3,D1,Z1
mm, degrees	Clamping tolerance	DOUBLE	NEW CONF
-			
-	- 0.5	- -	7/2 M

Description: With NC/PLC interface signal DB31, ... DBX2.3 (Blocking action active), blocking monitoring is activated. If the monitored axis is forced away from the setpoint position (exact stop limit) by more than the blocking tolerance, alarm 26000 "Blocking monitoring" is output and the axis stopped.

Threshold value for clamping tolerance (half width of window).

Special cases:

The clamping tolerance must be greater than the "exact stop limit coarse".

Related to:

NC/PLC interface signal DB31, ... DBX2.3 (Blocking action active)

36052	STOP_ON_CLAMPING	A10	A3
-	Special functions with clamped axis	BYTE	NEW CONF
CTEQ			
-	- 0	0 0x07	2/1 M

Description: This MD defines how a blocked axis is taken into account.

Bit 0 =0:

If a blocked axis is to be traversed again in continuous-path mode, it must be ensured via the part program that the path axes are stopped and that there is time for releasing the blockage.

Bit 0 =1:

If a blocked axis is to be traversed again in continuous-path mode, the LookAhead function stops the path motion if required until the position controller is allowed to traverse the blocked axis again, i.e. until the controller enable is set again.

Bit 1 is relevant only if bit 0 is set:

Bit 1 =0:

If a blocked axis is to be traversed again in continuous-path mode, the LookAhead function does not release the blockage.

Bit 1 =1:

If a blocked axis is to be traversed again in continuous-path mode, a traversing command for the blocked axis is given in the preceding G0 blocks so that the PLC releases the axis blockage again.

Bit 2 =0:

If an axis is to be blocked in continuous-path mode, it must be ensured in the part program that the path axes are stopped to make sure that there is time for setting the blockage.

Bit 2 =1:

If an axis is to be blocked in continuous-path mode, the LookAhead function stops the path motion prior to the next non-G0 block, if the axis has not yet been blocked by that time, i.e. the PLC has not yet set the feedrate override to zero.

36060	STANDSTILL_VELO_TOL			A05, A04	TE1,A2,A3,D1,Z1	
mm/min, rev/min	Threshold velocity/speed 'Axis/spindle in stop'			DOUBLE	NEW CONF	
-				-		
-	-	5.00, 5.00, 5.00, 5.00, 5.00, 5.00, 5.00...	-	-	7/2	M

Description: This MD defines the standstill range for the axis velocity / spindle speed. If the current actual velocity of the axis or the actual speed of the spindle is less than the value entered in this MD, the NC/PLC interface signal DB31, ... DBX61.4 (Axis/spindle stationary) is set. To bring the axis/spindle to a standstill under control, the pulse enable should not be removed until the axis/spindle is at a standstill. Otherwise the axis will coast down.

Related to:

NC/PLC interface signal DB31, ... DBX61.4 (Axis/spindle stationary)

36100	POS_LIMIT_MINUS			A03, A05, A11, -	TE1,R2,T1,A3,Z1	
mm, degrees	1st software limit switch minus			DOUBLE	NEW CONF	
CTEQ				-		
-	-	-1.0e8	-	-	7/2	M

Description: Same meaning as 1st software limit switch plus, however the traversing range limitation is in the negative direction. The MD becomes active after reference point approach if the NC/PLC interface signal DB31, ... DBX12.2 (2nd software limit switch minus) is not set. MD irrelevant:
if axis is not referenced.
Related to:
NC/PLC interface signal DB31, ... DBX12.2 (2nd software limit switch minus)

1.3 NC machine data

36110	POS_LIMIT_PLUS	A03, A05, A11, -	TE1,R2,T1,G2,A3,Z1			
mm, degrees	1st software limit switch plus	DOUBLE	NEW CONF			
CTEQ						
-	-	1.0e8	-	-	7/2	M

Description: A software limit switch can be activated in addition to the hardware limit switch. The absolute position in the machine axis system of the positive range limit of each axis is entered.

The MD is active after reference point approach if NC/PLC interface signal DB31, ... DBX12.3 (2nd software limit switch plus) has not been set.

MD irrelevant:

if axis is not referenced.

Related to:

NC/PLC interface signal DB31, ... DBX12.3 (2nd software limit switch plus)

36120	POS_LIMIT_MINUS2	A03, A05, -	TE1,A3,Z1			
mm, degrees	2nd software limit switch minus	DOUBLE	NEW CONF			
CTEQ						
-	-	-1.0e8	-	-	7/2	M

Description: Same meaning as 2nd software limit switch plus, but the traversing range limitation is in the negative direction.

The PLC can select whether software limit switch 1 or 2 is to be active by means of the interface signal.

For example:

DB31, ... DBX12.2 = 0 (1st software limit switch minus) active for 1st axis

DB31, ... DBX12.2 = 1 (2nd software limit switch minus) active for 1st axis

MD irrelevant:

if axis is not referenced.

Related to:

NC/PLC interface signal DB31, ... DBX12.2 (2nd software limit switch minus)

36130	POS_LIMIT_PLUS2	A03, A05, -	TE1,A3,Z1			
mm, degrees	2nd software limit switch plus	DOUBLE	NEW CONF			
CTEQ						
-	-	1.0e8	-	-	7/2	M

Description: This machine data can define a 2nd software limit switch position in the positive direction in the machine axis system. The PLC can select which of the two software limit switches 1 or 2 is to be active by means of an interface signal.

For example:

DB31, ... DBX12.3 = 0 (1st software limit switch plus) active for 1st axis

DB31, ... DBX12.3 = 1 (2nd software limit switch plus) active for 1st axis

MD irrelevant:

if axis is not referenced.

Related to:

NC/PLC interface signal DB31, ... DBX12.3 (2nd software limit switch plus)

36200	AX_VELO_LIMIT			A05, A11, A04	TE3,A3,G2,S1,V1	
mm/min, rev/min	Threshold value for velocity monitoring			DOUBLE	NEW CONF	
CTEQ						
-	6	11500., 11500., 11500., 11500., 11500., 11500....	-	-	7/2	M

Description: The threshold value for actual velocity monitoring is entered in this machine data.

If the axis has at least one active encoder and if this encoder is below its limit frequency, alarm 25030 "Actual velocity alarm limit" is triggered when the threshold value is exceeded, and the axis is stopped.

Settings:

- For axes, a value should be selected that is 10 to 15 % higher than that in MD32000 \$MA_MAX_AX_VELO (maximum axis velocity). With active temperature compensation MD32750 \$MA_TEMP_COMP_TYPE, the maximum axis velocity is increased by an additional factor which is determined by MD32760 \$MA_COMP_ADD_VELO_FACTOR (velocity overshoot through compensation). The following should therefore apply to the velocity monitoring threshold value:

MD36200 \$MA_AX_VELO_LIMIT[n] > MD32000 \$MA_MAX_AX_VELO * (1.1 ... 1.15 + MD32760 \$MA_COMP_ADD_VELO_FACTOR)

- For spindles, a value should be selected for each gear stage that is 10 to 15 % higher than the corresponding values in MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT[n] (maximum speed of gear stage).

The index of the machine data has the following coding: [control parameter set no.]: 0-5

36210	CTRLOUT_LIMIT			EXP, A05	A3,D1,G2	
%	Maximum speed setpoint			DOUBLE	NEW CONF	
CTEQ						
-	1	110.0	0	200	7/2	M

Description: This MD defines the maximum speed setpoint in percent. 100% is the maximum speed setpoint, this corresponds to 10 V for an analog interface or the maximum speed for PROFIdrive drives (manufacturer-specific adjustable parameter in the drive, e.g. p1082 and, if applicable, p2000 for SINAMICS).

The maximum speed setpoint depends on whether there are any setpoint limitations in the speed and current controller.

An alarm is output and the axis is stopped when the limit is exceeded.

The limit is to be selected so that the maximum velocity (rapid traverse) can be reached, and an appropriate additional control margin is available.

36220	CTRLOUT_LIMIT_TIME			EXP, A05	A3	
s	Delay time for speed setpoint monitoring			DOUBLE	NEW CONF	
-						
-	1	0.0	-	-	7/2	M

Description: This MD defines how long the speed setpoint may be within the limit CTRLOUT_LIMIT[n] (max. speed setpoint) until the monitoring function is triggered.

Monitoring (and with it also this machine data) is always active.

1.3 NC machine data

Reaching the limit renders the position control loop non-linear, which results in contour errors provided that the speed setpoint limited axis is participating in contour generation. That is why this MD has default value 0, i.e. the monitoring function responds as soon as the speed setpoint reaches the limit.

36300	ENC_FREQ_LIMIT		EXP, A02, A05, A06	A3,D1,R1,Z1		
-	Encoder limit frequency		DOUBLE	PowerOn		
-						
-	2	3.0e5, 3.0e5	-	-	7/2	M

Description: This MD is used to enter the encoder frequency, which, in general, is a manufacturer specification (type plate, documentation).

For PROFIdrive:

No automatic, software-internal limitation for encoders on the PROFIdrive drive; here, the limit values of the measuring circuit module depend on the drive hardware used, i.e. known only by the drive. Therefore, it is the user who is responsible for taking into account the limit frequency of the measuring circuit module.

36302	ENC_FREQ_LIMIT_LOW		EXP, A02, A05, A06	A3,R1,S1,Z1		
%	Encoder limit frequency for new encoder synchronization.		DOUBLE	NEW CONF		
-						
-	2	99.9, 99.9	0	100	7/2	M

Description: Encoder frequency monitoring uses a hysteresis.

MD36300 \$MA_ENC_FREQ_LIMIT defines the encoder limit frequency. The encoder is switched off when this frequency is exceeded. The encoder is switched on again when the frequency falls below that defined in MD36302 \$MA_ENC_FREQ_LIMIT_LOW.

MD36300 \$MA_ENC_FREQ_LIMIT is entered directly in Hertz, whereas MD36302 \$MA_ENC_FREQ_LIMIT_LOW is a fraction, expressed as a percentage, of MD36300 \$MA_ENC_FREQ_LIMIT.

MD36302 \$MA_ENC_FREQ_LIMIT_LOW is therefore already correctly preset for most of the encoders used.

Exception: In the case of absolute encoders with an En-Dat interface, the limit frequency of the absolute track is significantly lower than the limit frequency of the incremental track. A low value in MD36302 \$MA_ENC_FREQ_LIMIT_LOW ensures that the encoder is not switched on again until it falls below the limit frequency of the absolute track, and therefore is not referenced until permitted by the absolute track. For spindles, this referencing is carried out automatically.

Example EnDat encoder EQN 1325:

Limit frequency of the electronics of the incremental track: 430 kHz

====> MD36300 \$MA_ENC_FREQ_LIMIT = 430 kHz

The limit frequency of the absolute track is approx. 2000 encoder rpm at 2048 increments/encoder revolution, i.e. the limit frequency is $2000/60 * 2048$ Hz = 68 kHz

====> MD36302 \$MA_ENC_FREQ_LIMIT_LOW = 68/430 = 15%

36310	ENC_ZERO_MONITORING		EXP, A02, A05	A3,R1
-	Zero mark monitoring		DWORD	NEW CONF
-				
-	2	0, 0	-	-

Description: This MD is used to activate zero mark monitoring.

For PROFIdrive drives (the corresponding diagnostics system variables are not currently supplied for incremental measuring systems) :

For PROFIdrive, the permissible deviation must be set in the drive, *not* in the NC. Zero mark monitoring reported by the drive is mapped to the NCK according to the following rule:

0: no zero mark monitoring

100: no zero mark monitoring together with suppression of all encoder monitoring operations, i.e. not only alarm 25020 but also alarms 25000, 25010 etc. are suppressed.

>0 but less than 100: direct triggering of power ON alarm 25000 (or 25001).

>100: attenuated error message: reset alarm 25010 (25011) is output instead of power ON alarm 25000 (25001).

For absolute measuring systems (\$MA_ENC_TYPE=4) :

Permissible deviation in 1/2 coarse increments between the absolute and the incremental encoder track (one 1/2 coarse increment is sufficient).

If a SIMODRIVE611U drive type is used, monitoring only takes place at a standstill

36312	ENC_ABS_ZEROMON_WARNING		EXP, A02, A05	A3
-	Zero mark monitoring warning level		DWORD	NEW CONF
-				
-	2	10, 10	-	-

Description: Only for absolute measuring systems (\$MA_ENC_TYPE=4) :

This MD activates zero mark diagnostics.

0: no zero mark diagnostics

>0: permissible deviation in 1/2 coarse increments between the absolute and the incremental encoder track (one 1/2 coarse increment is sufficient).

36314	ENC_ABS_ZEROMON_INITIAL		EXP, A02, A05	A3
-	Warning level for absolute encoder power ON		DWORD	NEW CONF
-				
-	2	1000, 1000	-	-

Description: Only for absolute measuring systems (\$MA_ENC_TYPE=4) :

Parameterization in 1/2 coarse increments

At absolute encoder power ON (deselect parking and similar) this MD parameterizes the previously permissible position offset (comparison of the new absolute position with the information last saved in SRAM). When the warning level is exceeded, system variable \$VA_ENC_ZERO_MON_ERR_CNT is incremented in coarse increments by the value 10000.

1.3 NC machine data

36400	CONTOUR_TOL	A05, A11	A3,D1,G2
mm, degrees	Tolerance band for contour monitoring	DOUBLE	NEW CONF
-			
-	-	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-

Description: Tolerance band for axial contour monitoring (dynamic following error monitoring).

The permissible deviation between the real and the modelled following error is entered in this MD.

The input of the tolerance band is intended to avoid spurious tripping of the dynamic following error monitoring caused by minor speed fluctuations, which occur during normal closed-loop control operations (e.g. during first cut).

Following error modelling and thus the input of this MD depend on the position control gain MD32200 \$MA_POSCTRL_GAIN and, in the case of precontrol or simulation, on the accuracy of the controlled system model MD32810 \$MA_EQUIV_SPEEDCTRL_TIME (equivalent time constant for precontrol of speed control loop), as well as on the accelerations and velocities used.

36500	ENC_CHANGE_TOL	A02, A05	G1,K6,K3,A3,D1,G2,Z1
mm, degrees	Tolerance at actual position value change.	DOUBLE	NEW CONF
-			
-	-	0.1	-

Description: The permissible deviation between the actual values of the two measuring systems is entered in this MD.

This difference must not be exceeded when switching over the measuring system used for closed-loop control, in order to avoid compensating processes that are too strong. Otherwise, the error message 25100 "Axis %1 Switchover of measuring system not possible" is generated and the switchover does not take place.

MD irrelevant for:

MD30200 \$MA_NUM_ENCS = 0 or 1.

36510	ENC_DIFF_TOL	A02, A05	A3,G2
mm, degrees	Tolerance of measuring system synchronization	DOUBLE	NEW CONF
-			
-	-	0.0	-

Description: Permissible deviation between the actual values of the two measuring systems. This difference must not be exceeded during the cyclic comparison of the two measuring systems used, as otherwise error message 25105 (measuring systems deviate) would be generated.

The corresponding monitoring function is not active

- with MD input value=0,
- if less than 2 measuring systems are active/available in the axis
- or if the axis has not been referenced (at least act. closed-loop control meas. system).

With modulo axes, it is always the absolute value of the shortest/direct position difference that is monitored.

36520	DES_VELO_LIMIT	A02, A05	-
%	Threshold for setpoint velocity monitoring	DOUBLE	NEW CONF
-			
-	-	125.0	-

Description: Maximum permissible setpoint velocity as a percentage of the maximum axis velocity/spindle speed.
 With MD36520 \$MA_DES_VELO_LIMIT, the position setpoint is monitored for abrupt changes. If the permissible limit value is exceeded, alarm 1016 error code 550010 is output.
 With axes, this machine data refers to MD32000 \$MA_MAX_AX_VELO.
 With spindles, this MD refers to the lower of the speeds set in MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT of the current gear stage and MD35100 \$MA_SPIND_VELO_LIMIT.

36600	BRAKE_MODE_CHOICE	EXP, A05	A3,Z1
-	Deceleration response on hardware limit switch	BYTE	PowerOn
CTEQ			
-	-	1	0

Description: If a rising edge of the axis-specific hardware limit switch is detected while the axis is traversing, the axis is braked immediately.
 The type of braking is determined by this machine data:
 Value = 0:
 Controlled braking along the acceleration ramp defined by MD32300 \$MA_MAX_AX_ACCEL (axis acceleration).
 Value = 1:
 Rapid braking (selection of setpoint = 0) with reduction of following error.
 Related to:
 NC/PLC interface signal DB31, ... DBX12.1 / 12.0 (Hardware limit switch plus or minus)

36610	AX_EMERGENCY_STOP_TIME	A05, -	TE3,K3,A2,A3,N2,Z1
s	Maximum time for braking ramp in case of error.	DOUBLE	NEW CONF
-			
-	-	0.05	0.0

Description: This MD defines the braking ramp time that an axis or spindle requires to brake from maximum velocity/speed to a standstill in the event of errors (e.g. emergency stop). At the same lead/brake acceleration, standstill is reached correspondingly earlier from lower velocities/speeds.
 Mechanically robust axes are normally stopped abruptly with speed setpoint 0; values in the lower ms range are appropriate in these cases (default setting).
 However, high moving masses or limited mechanical conditions (e.g. gear load capacity) often have to be taken into account for spindles. This means that the MD has to be changed to set a longer braking ramp.
Notice:

- With interpolating axes or axis/spindle couplings, it cannot be ensured that the contour or coupling will be maintained during the braking phase.

- If the time set for the braking ramp for error states is too long, the controller enable will be removed although the axis/spindle is still moving. Depending on the drive type used and the activation of the pulse enable, either an immediate stop with speed setpoint 0 will be initiated or the axis/spindle will coast down without power. The time selected in MD36610 \$MA_AX_EMERGENCY_STOP_TIME should therefore be shorter than the time in MD36620 \$MA_SERVO_DISABLE_DELAY_TIME (cutout delay, controller enable) so that the configured braking ramp can be fully active throughout the entire braking operation.
- The braking ramp may be ineffective or not maintained if the active drive follows its own braking ramp logic (e.g. SINAMICS).

Related to:

MD36620 \$MA_SERVO_DISABLE_DELAY_TIME (cutout delay controller enable)

MD36210 \$MA_CTRLOUT_LIMIT (maximum speed setpoint)

36620	SERVO_DISABLE_DELAY_TIME	A05, -	TE3,K3,A2,A3,N2,Z1
s	Cutout delay servo enable	DOUBLE	NEW CONF
-			
-	-	0.1	0.0
		1.0e15	7/2
			M

Description: Maximum time delay for removal of "controller enable" after faults. The speed enable (controller enable) of the drive is removed internally within the controller after the set delay time, at the latest.

The delay time entered becomes active as a result of the following events:

- Errors that lead to immediate stopping of the axes
- Removal of the interface signal DB31, ... DBX2.1 (Controller enable) from the PLC

As soon as the actual speed reaches the standstill range (MD36060 \$MA_STANDSTILL_VELO_TOL), the "controller enable" for the drive is removed. The time set should be long enough to enable the axis / spindle to brake down to a standstill from maximum traversing velocity or maximum speed. If the axis / spindle is stationary, the "controller enable" for the drive is removed immediately (i.e. the time defined in MD36620 \$MA_SERVO_DISABLE_DELAY_TIME is terminated prematurely).

Application example(s):

Speed control of the drive should be retained long enough to enable the axis / spindle to brake down to standstill from maximum traversing velocity or maximum speed.

Notice:

If the cutout delay controller enable is set too short, controller enable will be removed although the axis/spindle is still moving. This axis/spindle then coasts down without power (which may be appropriate for grinding wheels, for example); otherwise the time set in MD36620 \$MA_SERVO_DISABLE_DELAY_TIME should be longer than the duration of the braking ramp for error states (MD36610 \$MA_AX_EMERGENCY_STOP_TIME).

Related to:

NC/PLC interface signal DB31, ... DBX2.1 (Controller enable)

MD36610 \$MA_AX_EMERGENCY_STOP_TIME

For SINAMICS drives: Drive parameter P1082 (maximum speed / velocity)

36690	AXIS_DIAGNOSIS	EXP, A08	-
-	Internal data for test purposes	DWORD	PowerOn
NBUP			
-	-	0	-

Description: Internal data for test purposes

0: :Basic setting

Bit 0 (LSB) = 1 :For test case task.exp (for alarm SCAL_WARN_VEL)

Bit 1 = 1 :For test case brake test

- ACT_POS_ABS for ENC-SIM on HOST

- Additional error information in \$VA_FXS_INFO

Bit 2 = 1 :For travel to fixed stop - preliminary

- Allow rapid braking for linked axes

Bit 3 = 1 :For travel to fixed stop - preliminary

- Consider inversion of direction when switching off rapid braking for linked axes

36700	DRIFT_ENABLE	EXP, A07, A09	G2
-	Automatic drift compensation	BOOLEAN	NEW CONF
-			
-	-	FALSE	-

Description: Only for special analog and hydraulic drives (not active with PROFIdrive drives) :

Automatic drift compensation is activated with MD36700 \$MA_DRIFT_ENABLE.

1: Automatic drift compensation active (only for position-controlled axes/spindles).

With automatic drift compensation, while the axis is at a standstill, the control continually calculates the additional drift value still required to ensure that the following error reaches the value 0 (compensation criterion). The total drift value is, therefore, formed from the drift basic value (MD36720 \$MA_DRIFT_VALUE) and the drift additional value.

0: Automatic drift compensation not active.

The drift value is formed only from the drift basic value (MD36720 \$MA_DRIFT_VALUE).

Not relevant for:

Non-position-controlled spindles

Related to:

MD36710 \$MA_DRIFT_LIMIT drift limit value for automatic drift compensation

MD36720 \$MA_DRIFT_VALUE drift basic value

36710	DRIFT_LIMIT	EXP, A07, A09	-
%	Drift limit value for automatic drift compensation	DOUBLE	NEW CONF
-			
-	1	0.0	0

Description: Only for special analog and hydraulic drives (not active with PROFIdrive drives) :

The magnitude of the drift additional value calculated during automatic drift compensation can be limited with MD36710 \$MA_DRIFT_LIMIT.

If the drift additional value exceeds the limit value entered in MD36710 \$MA_DRIFT_LIMIT, alarm 25070 "Drift value too large" is output and the drift additional value is limited to this value.

1.3 NC machine data

Not relevant for:

MD36700 \$MA_DRIFT_ENABLE = 0

36720	DRIFT_VALUE		EXP, A07, A09	-		
%	Basic drift value		DOUBLE	NEW CONF		
-						
-	1	0.0	-1e15	1e15	1/1	M

Description: Only for special analog and hydraulic drives (not active with PROFIdrive drives):

The value entered in MD36720 \$MA_DRIFT_VALUE is always added as an offset to the manipulated variable. Whereas automatic drift compensation is active only for position-controlled axes, this machine data is always active.

Special case: the following applies to PROFIdrive drives:

This MD can also be used for "simple" drives that have drift problems due to drive-internal implementation as analog drives. To avoid erroneous settings, this static drift compensation only becomes active with PROFIdrive if \$MA_RATED_OUTVAL != 0 (i.e. the MD has no effect in the case of automatic interface adjustment between the NC and the drive).

Note:

Drift compensation must not be active if the DSC function (MD32640 \$MA_STIFFNESS_CONTROL_ENABLE=1) is being used, otherwise unexpected speed oscillations will occur when DSC is enabled/disabled.

Standardization: The input value is related to the corresponding interface standardization in

MD32250 \$MA_RATED_OUTVAL,

MD32260 \$MA_RATED_VELO, and

MD36210 \$MA_CTRLOUT_LIMIT.

36730	DRIVE_SIGNAL_TRACKING		A10	B3		
-	Acquisition of additional drive actual values		BYTE	PowerOn		
-						
-	-	0	0	4	7/2	M

Description: MD36730 \$MA_DRIVE_SIGNAL_TRACKING = 1 activates the acquisition of the following drive actual values (if they are made available by the drive):

- \$AA_LOAD Drive load
- \$AA_POWER Drive active power
- \$AA_TORQUE Drive torque setpoint
- \$AA_CURR Smoothed current setpoint (q-axis current) of drive

MD36730 \$MA_DRIVE_SIGNAL_TRACKING = 2 activates the acquisition of the following drive actual values:

With PROFIdrive, it must be ensured that the stated values are also transmitted in the drive actual message frame (provide sufficient message frame length on the bus, assign the values to the message frame content in the drive, e.g. use message frame 116).

- \$VA_DP_ACT_TEL shows actual value message frame words

Note: Values 3 and 4 are reserved

Note: The value range of MD36730 \$MA_DRIVE_SIGNAL_TRACKING can be restricted because of reduced functions of control systems

36750	AA_OFF_MODE	A10	2.4,5.3,6.2
-	Effect of value assignment for axial override of synchr. action.	BYTE	PowerOn
CTEQ			
-	-	0	0

Description: Mode setting for axial offset \$AA_OFF

Bit 0: Effect of value assignment within a synchronized action
 0: Absolute value
 1: Incremental value (integrator)
 Bit 1: Response of \$AA_OFF on RESET
 0: \$AA_OFF is deselected on RESET
 1: \$AA_OFF is retained beyond RESET
 Bit 2: \$AA_OFF in JOG mode
 0: No superimposed motion due to \$AA_OFF
 1: A superimposed motion due to \$AA_OFF is interpolated

36901	SAFE_FUNCTION_ENABLE	A05, -	FBSI
-	Enable safety functions	DWORD	PowerOn
-			
-	-	0	0

Description: The safe operation functions can be enabled for an axis/spindle with this data.

For each axis, only as many axes/spindles can be enabled for safe operation as are enabled by the global option.

The more subfunctions are set, the more CPU time the safety functions need.

Bit 0: Enables safe velocity, safe operational stop
 Bit 1: Enables safe limit switches
 Bit 2: Reserved for functions with absolute references (such as SE/SN)
 Bit 3: Enables actual value synchronization, 2-encoder system
 Bit 4: Enables external ESR activation (STOP E)
 Bit 5: Enables SG offset
 Bit 6: Enables external stop requests
 Bit 7: Enables cam synchronization
 Bit 8: Enables safe cams, pair 1, cam +
 Bit 9: Enables safe cams, pair 1, cam -
 Bit 10: Enables safe cams, pair 2, cam +
 Bit 11: Enables safe cams, pair 2, cam -
 Bit 12: Enables safe cams, pair 3, cam +
 Bit 13: Enables safe cams, pair 3, cam -
 Bit 14: Enables safe cams, pair 4, cam +
 Bit 15: Enables safe cams, pair 4, cam -
 Bit 16: Enables synchronization "n < nx", hysteresis and filtering

Special cases:

- When one of the bits from bit 1 is set, then bit 0 also has to be set because the control switches to safe operational stop with STOP C, D, E (parameterization alarm 27033 is displayed if there is an error).
- If the global option does not enable enough axes/spindles for safe operation, then this data can be overwritten with the value 0 during runup.

Related to: Global option

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36902	SAFE_IS_ROT_AX	A01, A06, -	FBSI			
-	Rotary axis	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: States whether the axis for safe operation is a rotary axis/spindle or a linear axis.

0: Linear axis

1: Rotary axis/spindle

The value in this MD must be equal to that in MD \$MA_IS_ROT_AX. A parameterization error is displayed if there is a difference.

36903	SAFE_CAM_ENABLE	A05, -	-			
-	Function enable safe cam track	DWORD	PowerOn			
-						
-	-	0	0	0x3FFFFFFF	7/2	M

Description: Function enables of safe cam track for "Safety Integrated".

- Bit 0: Enables safe cam track, cam 1
- Bit 1: Enables safe cam track, cam 2
- Bit 2: Enables safe cam track, cam 3
- Bit 3: Enables safe cam track, cam 4
- Bit 4: Enables safe cam track, cam 5
- Bit 5: Enables safe cam track, cam 6
- Bit 6: Enables safe cam track, cam 7
- Bit 7: Enables safe cam track, cam 8
- Bit 8: Enables safe cam track, cam 9
- Bit 9: Enables safe cam track, cam 10
- Bit 10: Enables safe cam track, cam 11
- Bit 11: Enables safe cam track, cam 12
- Bit 12: Enables safe cam track, cam 13
- Bit 13: Enables safe cam track, cam 14
- Bit 14: Enables safe cam track, cam 15
- Bit 15: Enables safe cam track, cam 16
- Bit 16: Enables safe cam track, cam 17
- Bit 17: Enables safe cam track, cam 18
- Bit 18: Enables safe cam track, cam 19
- Bit 19: Enables safe cam track, cam 20
- Bit 20: Enables safe cam track, cam 21
- Bit 21: Enables safe cam track, cam 22
- Bit 22: Enables safe cam track, cam 23
- Bit 23: Enables safe cam track, cam 24
- Bit 24: Enables safe cam track, cam 25
- Bit 25: Enables safe cam track, cam 26
- Bit 26: Enables safe cam track, cam 27
- Bit 27: Enables safe cam track, cam 28
- Bit 28: Enables safe cam track, cam 29
- Bit 29: Enables safe cam track, cam 30

36905	SAFE_MODULO_RANGE	A01, A06, -	FBSI
degrees	Modulo value Safe cams	DOUBLE	PowerOn
-			
-	-	0.0	0.0

Description: Actual value range in which the safe cams are calculated for rotary axes. The axis must be a rotary axis ($\$MA_SAFE_IS_ROT_AX = 1$).
 0: Modulo compensation after +/- 2048 revolutions (that is after 737,280 degrees)
 >0: And multiples of 360 degrees: Modulo compensation after this value, for example: value = 360 --> then the actual value range lies between 0 and 359.999 degrees. That is modulo compensation is made after each revolution.
 Special cases:
 - If the value of this data is not 0 or a multiple of 360 degrees then a corresponding alarm is issued during power on.
 - The parameterized actual value ranges of the cam positions are also checked during power on. A corresponding alarm is issued if there is a parameterization error.
 - The actual value ranges set by $\$MA_SAFE_MODULO_RANGE$ and $\$MA_MODULO_RANGE$ must be integers and divisible without a remainder.
 Related to:
 MD 30330: $\$MA_MODULO_RANGE$
 MD 36935: $\$MA_SAFE_CAM_POS_PLUS[n]$
 MD 36937: $\$MA_SAFE_CAM_POS_MINUS[n]$

36906	SAFE_CTRLROUT_MODULE_NR	A01, -	-
-	SI drive assignment	BYTE	PowerOn
-			
-	-	1, 2, 3, 4, 5, 6, 7, 8...	1

Description: Assignment of the drive for SI motion monitoring.
 The entry refers to data field MD10393 $\$MN_SAFE_DRIVE_LOGIC_ADDRESS$.
 The drive assigned must be the same as the one selected using MD30110 $\$MA_CTRLROUT_MODULE_NR$ and MD13050 $\$MN_DRIVE_LOGIC_ADDRESS$.

36907	SAFE_DRIVE_PS_ADDRESS	A01, -	-
-	PROFIsafe address of the drive	DWORD	PowerOn
-			
-	-	0	-

Description: This NCK MD contains the PROFIsafe address of the drive assigned to this axis. This MD is read out during the power on of the drive. This address must be unique across all axes.
 This MD cannot be written, the PROFIsafe address must be parameterized in the drive.
 The value of this MD is included in the calculation of MD $\$MA_SAFE_ACT_CHECKSUM[2]$.

36909	SAFE_ENC_MEAS_STEPS_RESOL	A02, -	FBSI
mm	Resolving measurement steps for linear absolute encoders	DOUBLE	PowerOn
-			
-	-	0.0001	0.0

Description: Sets the resolution of the absolute position for a linear absolute encoder.

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When powering up, this information for linear DRIVE-CLiQ encoders is read from drive parameter r0469 and is compared with the value last saved. This MD is then overwritten. If not equal, then alarm 27036 is output.

The value of this MD is incorporated in the checksum calculation of MD \$MA_SAFE_ACT_CHECKSUM[0].

Corresponds with:

MD 36913: \$MA_SAFE_ENC_MEAS_STEPS_POS1

MD 36917: \$MA_SAFE_ENC_GRID_POINT_DIST

36912	SAFE_ENC_INPUT_NR	A01, A02, -	FBSI
-	Actual value assignm.: Input on drive module/meas. circuit board	BYTE	PowerOn
-			
-	- 1 1 3 7/2 M		

Description: Number of the actual value input through which the safe actual values are recorded.

Special cases:

Related to:

p9526, p0189

36913	SAFE_ENC_MEAS_STEPS_POS1	A02, -	FBSI
-	Non-safety-relevant measurement steps POS1	DWORD	PowerOn
-			
-	- 22000 0 4294967295 ReadOnly M		

Description: Sets the non safety-relevant measurement steps of the position value POS1.

When powering up, this information for linear DRIVE-CLiQ encoders is read out of drive parameter r0473 and compared with the value last saved here. This MD is then overwritten. If not equal, then alarm 27036 is output.

The value of this MD is incorporated in the checksum calculation of MD \$MA_SAFE_ACT_CHECKSUM[0].

Corresponds with:

MD 36909: \$MA_SAFE_ENC_MEAS_STEPS_RESOL

MD 36917: \$MA_SAFE_ENC_GRID_POINT_DIST

36914	SAFE_SINGLE_ENC	A01, A02, -	-
-	SI single-encoder system	BOOLEAN	PowerOn
-			
-	- TRUE - - 7/2 M		

Description: Identifier that SI is carried out with an encoder. This MD must be parameterized to 0 if different encoders are used for the Safety Integrated monitoring functions in the NCK and in the drive.

36916	SAFE_ENC_IS_LINEAR	A02, -	FBSI
-	Linear scale	BOOLEAN	PowerOn
-			
-	- FALSE - - 7/2 M		

Description: Definition of whether a linear or a rotary encoder is connected.

0: Rotary encoder is connected, its resolution is defined by \$MA_SAFE_ENC_RESOL, and converted by \$MA_SAFE_ENC_GEAR_PITCH, \$MA_SAFE_ENC_GEAR_DENOM[n] and \$MA_SAFE_ENC_GEAR_NUMERA[n] on the load side. MD \$MA_SAFE_ENC_GRID_POINT_DIST has no significance.

1: Linear encoder is connected, its resolution is defined by \$MA_SAFE_ENC_GRID_POINT_DIST. MD \$MA_SAFE_ENC_RESOL, \$MA_SAFE_ENC_GEAR_PITCH, \$MA_SAFE_ENC_GEAR_DENOM[n] and \$MA_SAFE_ENC_GEAR_NUMERA[n] have no meaning. If the value changes, alarm 27036 is triggered.

Related to:

With 0:

\$MA_SAFE_ENC_RESOL
\$MA_SAFE_ENC_GEAR_PITCH
\$MA_SAFE_ENC_GEAR_DENOM[n]
\$MA_SAFE_ENC_GEAR_NUMERA[n]

With 1:

\$MA_SAFE_ENC_GRID_POINT_DIST

36917	SAFE_ENC_GRID_POINT_DIST	A02, -	FBSI			
mm	Scale division for linear scale	DOUBLE	PowerOn			
-						
-	-	0.01	0.00001	250	7/2	M

Description: Definition of the grid spacing of the linear scale used.
Not relevant for a rotary encoder.

36918	SAFE_ENC_RESOL	A02, -	FBSI			
-	Encoder lines per revolution	DWORD	PowerOn			
-						
-	-	2048	1	100000000	7/2	M

Description: Definition of the lines per revolution for a rotary encoder.
Not relevant for a linear encoder.

36919	SAFE_ENC_PULSE_SHIFT	A02, -	-			
-	Shift factor of encoder multiplication	BYTE	PowerOn			
-						
-	-	11	2	18	ReadOnly	M

Description: Slide factor of the multiplication factor (high-resolution) of the encoder used for the Safety Integrated monitoring functions in the NCK. The encoder value must be divided by 2, the number of times needed to get the number of encoder lines. A slide factor of 11 corresponds to an encoder multiplication factor of 2048. If the drive provides this information (r0979[3,13,23]), this MD is automatically assigned internally after power ON of the drive. If the value changes during this process, alarm 27036 is triggered.

36920	SAFE_ENC_GEAR_PITCH	A02, -	FBSI			
mm	Lead screw pitch	DOUBLE	PowerOn			
-						
-	-	10.0	0.1	10000.	7/2	M

Description: Gear ratio between encoder and load for a linear axis with a rotary encoder.

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36921	SAFE_ENC_GEAR_DENOM	A02, -	FBSI
-	Denominator of gearbox encoder/load	DWORD	PowerOn
-			
-	8 1, 1, 1, 1, 1, 1, 1, 1 1	2147000000	7/2 M

Description: Numerator of the gearbox between encoder and load, that is the numerator of the fraction: number of encoder revolutions / number of load revolutions
n = 0, 1, ... , 7 stand for gear stages 1, 2, ... 8
The current value is selected via safety-relevant input signals (SGE).
Related to:
MD 36922: \$MA_SAFE_ENC_GEAR_NUMERA[n]

36922	SAFE_ENC_GEAR_NUMERA	A02, -	FBSI
-	Numerator of gearbox encoder/load	DWORD	PowerOn
-			
-	8 1, 1, 1, 1, 1, 1, 1, 1 1	2147000000	7/2 M

Description: Numerator of the gearbox between encoder and load, that is the numerator of the fraction:
number of encoder revolutions / number of load revolutions
n = 0, 1, ... , 7 stand for gear stages 1, 2, ... 8
The current value is selected via safety-relevant input signals (SGE).
Related to:
MD 36921: \$MA_SAFE_ENC_GEAR_DENOM[n]

36923	SAFE_INFO_ENC_RESOL	A02, A08, -	-
mm, degrees	Safe encoder resolution	DOUBLE	PowerOn
-			
-	8 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0 -	-	ReadOnly M

Description: Display data: Resolution of the encoder used in the relevant gear stage for the Safety Integrated monitoring functions. A single encoder system can monitor safe positions with this accuracy. This MD is 0 if different encoders are used in the drive and in the NCK for the Safety Integrated monitoring functions.

36924	SAFE_ENC_NUM_BITS	A02, -	-
-	Bit information of the redundant actual value	DWORD	PowerOn
-			
-	4 16, 2, 16, 16 -16 32	32	ReadOnly M

Description: Information about the redundant actual value:

- Array index 0: Number of valid bits of the redundant actual value
- Array index 1: Number of fine resolution bits of the redundant actual value
- Array index 2: Number of relevant bits of the redundant actual value
- Array index 3: Most significant bit of the redundant coarse positon

This information is read out during ramp-up (for DRIVE-CLiQ encoders from drive parameters r0470, r0471, r0472, and r0475; the default values apply for SMI/SMC/SME encoders) and compared with the most recent values saved here. This MD is then overwritten. In the case of inequality, alarm 27035 or 27036 is output. The values from \$MA_SAFE_ENC_NUM_BITS[0,1] are included in the calculation of MD \$MA_SAFE_ACT_CHECKSUM[1]. The values from \$MA_SAFE_ENC_NUM_BITS[2,3] are included in the calculation of MD \$MA_SAFE_ACT_CHECKSUM[0].

If the combination of several values is incorrect or the number of the relevant bits (index 2) equal to 0, then alarm 27038 is output.

36925	SAFE_ENC_POLARITY	A02, -	FBSI
-	Direction reversal of actual value	DWORD	PowerOn
-			
-	- 1 -1 1 7/2 M		

Description: A direction reversal of the actual value can be set with this data.
 -1: Direction reversal
 0: No direction reversal or
 1: No direction reversal

36927	SAFE_ENC_MOD_TYPE	A02, -	-
-	Encoder evaluation type	BYTE	PowerOn
-			
-	- 1 - - - ReadOnly M		

Description: Type of encoder evaluation used for Safety Integrated on this axis.
 1 = Sensor Module (SMI, SMC, SME)
 2 = DRIVE-CLiQ encoder
 This type is read out from drive parameter r9527 during ramp-up. If a valid value has not been entered (permissible values are 1 and 2), alarm 27038 is output. If the drive parameter contains a valid value, this is compared with the last value stored in this MD. This MD is then overwritten. In the event of inequality, alarm 27035 is output. The value of this MD is included in the calculation of MD36998 \$MA_SAFE_ACT_CHECKSUM[1].

36928	SAFE_ENC_IDENT	A02, -	-
-	Encoder identification	DWORD	PowerOn
-			
-	3 0, 0, 0 - - - ReadOnly M		

Description: Identification of the encoder evaluation used for Safety Integrated on this axis. This identification is read out during power on by the encoder evaluation, and compared with the last value stored here. This MD is then overwritten. The value of this MD is included in the calculation of MD36998 \$MA_SAFE_ACT_CHECKSUM[1].
Related to:
 r9881: SI Motion Sensor Module Node Identifier control

36929	SAFE_ENC_CONF	A02, -	-
-	Configuration of the redundant actual value	DWORD	PowerOn
-			
-	- 0 - - - ReadOnly M		

Description: Configuration of the redundant actual value on DRIVE-CLiQ encoder:
 Bit 0: Up-down counter

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= 0: Up counter
 = 1: Down counter
 Bit 1: Encoder CRC: Processing of redundant coarse position
 = 0: Most significant byte first
 = 1: Least significant byte first
 Bit 2: Redundant coarse position MSB-/LSB-justified
 = 0: Redundant coarse position LSB-justified
 = 1: Redundant coarse position MSB-justified
 Bit 4: binary comparison not possible
 = 0: binary comparison possible
 = 1: binary comparison not possible

This information is read out from drive parameter r0474 during ramp-up and compared with the last value stored here. This MD is then overwritten. In the event of inequality, alarm 27035 is output. The value of this MD is included in the calculation of MD36998 \$MA_SAFE_ACT_CHECKSUM[1].

If an unknown bit is set in drive parameter r0474, then alarm 27038 is output. The alarm output can be suppressed at this position using MD \$MN_SAFE_DIAGNOSIS_MASK, bit 3 = 1

36930	SAFE_STANDSTILL_TOL	A05, -	FBSI
mm, degrees	Standstill tolerance	DOUBLE	PowerOn
-			
-	-	1.	0.

Description: Definition of the tolerance for safe operational stop.

The control triggers alarm 27010 with STOP B if the difference between position limit value und position actual value is greater than this tolerance when safe operational stop is selected. The position limit value is the position actual value at the time safe operational stop was selected.

Related to:

MD 36956: \$MA_SAFE_PULSE_DISABLE_DELAY

36931	SAFE_VELO_LIMIT	A05, A04, -	FBSI
mm/min, rev/min	Limit value for safe velocity	DOUBLE	PowerOn
-			
-	4	2000., 2000., 2000., 2000.	-

Description: Definition of the limit values for the safe velocities 1, 2, 3 and 4.

If SG1, SG2, SG3 or SG4 is selected and the current velocity exceeds this limit value, the control triggers alarm 27011 with the stop response configured in \$MA_SAFE_VELO_STOP_MODE or \$MA_SAFE_VELO_STOPREACTION.

n = 0, 1, 2, 3 stand for the limit values of SG1, SG2, SG3, SG4

Special cases:

In a 1-encoder system with SBH/SG active, the velocity is monitored according to the encoder frequency set in MD \$MA_SAFE_ENC_FREQ_LIMIT. A corresponding alarm is output if this is exceeded.

Related to:

MD 36961: \$MA_SAFE_VELO_STOP_MODE

MD 36963: \$MA_SAFE_VELO_STOPREACTION

36932	SAFE_VELO_OVR_FACTOR			A05, A04, -	FBSI	
%	SG offset values			DOUBLE	PowerOn	
-						
-	16	100.0, 100.0, 100.0, 100.0, 100.0, 100.0, 100.0, 100.0, 100.0...	1.0	100.0	7/2	M

Description: Overrides for the limit values of safe velocities 2 and 4 can be selected via the SGEs, and the associated override value (percentage values) can be set with this MD.

n = 0, 1, ... , 15 stand for overrides 0, 1, ... 15

Special cases:

- The function "Override safe speed" is enabled by MD 36901 \$MA_SAFE_FUNCTION_ENABLE.

- This override is inactive for the limit values of velocities 1 and 3.

Related to:

MD 36978: \$MA_SAFE_OVR_INPUT[n]

MD 36931: \$MA_SAFE_VELO_LIMIT[n]

36933	SAFE_DES_VELO_LIMIT			A05, A04, -	FBSI	
%	NCK setpoint speed limit			DOUBLE	Reset	
-						
-	MD_MAXNUM_SF_	0.0, 0.0, 0.0, 0.0	0	100	7/2	M

Description: Weighting factors for determining the setpoint limit from the current actual speed limit.

The active weighting factor is selected by the axial NC/PLC interface DB31, ... DBX34.0 - .1 .

The active actual speed limit value is weighted with the selected factor and transferred to the interpolator as setpoint limit.

Parameterization:

To optimally set this MD, it may be necessary to make several changes in order to take into account the dynamic performance of the drives.

Special cases:

- When selecting SBH, setpoint 0 is entered.
- When entering 100%, the setpoint is limited to the active SG level.
- When entering 0%, the setpoint velocity limiting is inactive.
- This data is not included in the cross-check with the drive.
- This data is not included in the axial checksum MD36998 \$MA_SAFE_ACT_CHECKSUM, as it involves a 1-channel function.

36934	SAFE_POS_LIMIT_PLUS			A03, A05, -	FBSI	
mm, degrees	Upper limit of safe end position			DOUBLE	PowerOn	
-						
-	2	100000., 100000.	-2147000	2147000	7/2	M

Description: Definition of the upper limit value for safe end positions 1 and 2.

If SE1 or SE2 is selected and the current actual position is greater than this limit value, the control triggers alarm 27012 with the stop response configured in \$MA_SAFE_POS_STOP_MODE and switches to SBH. Stop responses STOP B and A follow if SBH is violated.

n = 0, 1 stand for the upper limit values of SE1, SE2

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Related to:

MD 36962: \$MA_SAFE_POS_STOP_MODE
 MD 36935: \$MA_SAFE_POS_LIMIT_MINUS[n]
 MD 36901: \$MA_SAFE_FUNCTION_ENABLE

Special cases:

A parameterization error is displayed if a value is entered in MD: \$MA_SAFE_POS_LIMIT_PLUS[n] which is less than or equal to that in MD: \$MA_SAFE_POS_LIMIT_MINUS[n].

36935	SAFE_POS_LIMIT_MINUS	A03, A05, -	FBSI
mm, degrees	Lower limit of safe end position	DOUBLE	PowerOn
-			
-	2	-100000., -100000.	2147000

Description: Definition of the lower limit value for safe end positions 1 and 2.

If SE1 or SE2 is selected and the current actual position is less than this limit value, the control triggers alarm 27012 with the stop response configured in \$MA_SAFE_POS_STOP_MODE and switches to SBH. Stop responses STOP B and A follow if SBH is violated.

n = 0, 1 stand for the lower limit values of SE1, SE2

Related to:

MD 36962: \$MA_SAFE_POS_STOP_MODE
 MD 36934: \$MA_SAFE_POS_LIMIT_PLUS[n]

Special cases:

A parameterization error is displayed if a value is entered in MD: \$MA_SAFE_POS_LIMIT_PLUS[n] which is less than or equal to that in MD: \$MA_SAFE_POS_LIMIT_MINUS[n].

36936	SAFE_CAM_POS_PLUS	A03, A05, -	FBSI
mm, degrees	Plus cam position for safe cams	DOUBLE	PowerOn
-			
-	30	10., 10., 10., 10., 10., 10., 10., 10., 10., 10., 10., 10., 10....	2147000

Description: Definition of the plus cam positions for the safe cams SN1 +, SN2 +, SN3 + and SN4 +, ...

The following applies to the function "Safe cams":

If, with activated safe cams, the actual position is greater than this value, the corresponding safety-relevant output signal (SGA) is set to 1. If the actual position falls below this value, the SGA is set to 0.

n = 0, 1, 2, 3 stand for plus cam positions of SN1 +, SN2 +, SN3 +, SN4 +

The following applies to the function "Safe cam track":

If the function "Safe cam track" has been enabled, the safety-related output signals "Cam track" and "Cam range" are set in accordance with the cam parameterization. For this purpose, the parameterization of the cam range in MD \$MA_SAFE_CAM_TRACK_ASSIGN[n] must be viewed.

n = 0 ... 29 stand for plus cam positions of SN1+, SN2+, ..., SN30+.

Related to:

MD 36988: \$MA_SAFE_CAM_PLUS_OUTPUT[n]
 MD 36937: \$MA_SAFE_CAM_POS_MINUS[n]
 MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[n]

MD 37900: \$MA_SAFE_CAM_TRACK_OUTPUT [n]
 MD 37901: \$MA_SAFE_CAM_RANGE_OUTPUT_1 [n]
 MD 37902: \$MA_SAFE_CAM_RANGE_OUTPUT_2 [n]
 MD 37903: \$MA_SAFE_CAM_RANGE_OUTPUT_3 [n]
 MD 37904: \$MA_SAFE_CAM_RANGE_OUTPUT_4 [n]

36937	SAFE_CAM_POS_MINUS			A03, A05, -	FBSI
mm, degrees	Minus cam position for safe cams			DOUBLE	PowerOn
-					
-	30	-10., -10., -10., -10., -10., -10., -10., -10., -10., -10....	-2147000	2147000	7/2 M

Description: Definition of the minus cam positions for the safe cams SN1 -, SN2 -, SN3 -, ...

The following applies to the function "Safe cams":

If, with activated safe cams, the actual position is greater than this value, the corresponding, safety-relevant output signal (SGA) is set to 1. If the actual position falls below this value, the SGA is set to 0.

n = 0, 1, 2, 3 stand for minus cam positions of SN1 -, SN2 -, SN3 -, SN4 -

The following applies to the function "Safe cam track":

If the function "Safe cam track" has been enabled, the safety-related output signals "Cam track" and "Cam range" are set in accordance with the cam parameterization. For this purpose, the parameterization of the cam range in MD \$MA_SAFE_CAM_TRACK_ASSIGN[n] must be viewed.

n = 0 ... 29 stand for minus cam positions of SN1-, SN2-, ..., SN30-.

Related to:

MD 36989: \$MA_SAFE_CAM_MINUS_OUTPUT [n]
 MD 36936: \$MA_SAFE_CAM_POS_PLUS [n]
 MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN [n]
 MD 37900: \$MA_SAFE_CAM_TRACK_OUTPUT [n]
 MD 37901: \$MA_SAFE_CAM_RANGE_OUTPUT_1 [n]
 MD 37902: \$MA_SAFE_CAM_RANGE_OUTPUT_2 [n]
 MD 37903: \$MA_SAFE_CAM_RANGE_OUTPUT_3 [n]
 MD 37904: \$MA_SAFE_CAM_RANGE_OUTPUT_4 [n]

36938	SAFE_CAM_TRACK_ASSIGN			A01, A05, -	FBSI
-	Cam track assignment			DWORD	PowerOn
-					
-	30	100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112...	100	414	7/2 M

Description: Assignment of the individual cams to the max. 4 cam tracks including definition of the numerical value for SGA "Cam range".

>The hundreds digit defines to which cam track the cam is assigned. Valid values are 1, 2, 3 or 4.

The tens and ones digits include the numerical value that is to be reported to the safe logics as SGA "Cam range" and processed there. Valid values are 0 to 14, while each numerical value per cam track may be used only once.

Therefore the valid value range of this machine data is:

100...114, 200...214, 300...314, 400...414

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Examples:

MD36938[0] = 207: cam 1 (index 0) is assigned to cam track 2.

If the position is within the range of this cam, a 7 is entered in SGA "Cam range" of the 2nd cam track.

MD36938[5] = 100: cam 6 (index 5) is assigned to cam track 1.

If the position is within the range of this cam, a 0 is entered in SGA "Cam range" of the 1st cam track.

Related to:

MD 36936: \$MA_SAFE_CAM_POS_PLUS[n]

MD 36937: \$MA_SAFE_CAM_POS_MINUS[n]

MD 37900: \$MA_SAFE_CAM_TRACK_OUTPUT[n]

MD 37901: \$MA_SAFE_CAM_RANGE_OUTPUT_1[n]

MD 37902: \$MA_SAFE_CAM_RANGE_OUTPUT_2[n]

MD 37903: \$MA_SAFE_CAM_RANGE_OUTPUT_3[n]

MD 37904: \$MA_SAFE_CAM_RANGE_OUTPUT_4[n]

36940	SAFE_CAM_TOL	A05, -	FBSI
mm, degrees	Tolerance for safe cams	DOUBLE	PowerOn
-			
-	-	0.1	0.001

Description: As a result of differing encoder mounting positions and differing cycle and run times, the cam signals of the two monitoring channels never switch at exactly the same position or at exactly the same time.

This data defines the tolerance as a load-side path for all cams, within which the monitoring channels can have different signal states for the same cam without triggering alarm 27001.

Recommendation:

Enter a value equal to or slightly larger than that in MD 36942.

36942	SAFE_POS_TOL	A05, -	FBSI
mm, degrees	Tolerance actual value cross-check	DOUBLE	PowerOn
-			
-	-	0.1	0.001

Description: Because of varying installation locations for the encoder, backlash, torsion, lead screw error etc, the two actual positions acquired by NCK and drive at the same time can differ from one another.

The tolerance for the cross-check of the actual positions in the two monitoring channels is entered in this data.

Special cases:

- The prime consideration for defining this tolerance is the "finger protection" (ca. 10 mm).
- If this tolerance is exceeded, stop reaction STOP F ensues.

36944	SAFE_REFP_POS_TOL	A05, -	FBSI
mm, degrees	Tolerance actual value check (referencing)	DOUBLE	PowerOn
-			
-	-	0.01	0

Description: This data defines the tolerance for checking the actual values after referencing (for an incremental encoder) or during power on (for an absolute encoder).

Referencing determines an absolute actual position of the axis. A second absolute actual position is derived from the last stored standstill position before the control was switched off and the path traversed since power on. The control checks the actual values after referencing with these two absolute positions, the path traversed and this data.

The following influences must be taken into account when determining the tolerance values:

backlash, leadscrew error, compensations (max. compensation values with LEC, sag and temperature compensations), temperature errors, torsion (2-encoder system), gear tolerance in variable gears, coarser resolution (2-encoder system), oscillation distance with variable gears.

Special cases:

Given user agreement, if the two absolute actual positions differ by more than the value in this data, alarm 27001 is displayed with error code 1003, and renewed user agreement is required for referencing.

36945	SAFE_VELO_X_FILTER_TIME	A04, A05, -	FBSI			
s	Filter n < nx	DOUBLE	PowerOn			
-						
-	-	0	0	0.1	7/2	M

Description: Setting the filter time to form the SGA "n < nx"
 The filtering must be activated by setting bit 16 in \$MA_SAFE_FUNCTION_ENABLE.
 Filtering is not active with default value 0.
 Parameterizing a filter time not equal to 0 increases the reaction time of SGA "n < nx".
 Related to:
 MD 36946: \$MA_SAFE_VELO_X
 MD 36947: \$MA_SAFE_VELO_X_HYSTERESIS

36946	SAFE_VELO_X	A04, A05, -	FBSI			
mm/min, rev/min	Velocity limit n < nx	DOUBLE	PowerOn			
-						
-	-	(20./ 20)	(0./0.)	(1000./1000.)	7/2	M

Description: This data defines the limit speed n_x for the SGA "n < nx".
 The SGA "n < nx" is set if this speed limit is undershot.

36947	SAFE_VELO_X_HYSTERESIS	A04, A05, -	FBSI			
mm/min, rev/min	Velocity hysteresis n < nx	DOUBLE	PowerOn			
-						
-	-	(10./10)	(0./0.)	(500./500.)	7/2	M

Description: Setting of the hysteresis threshold to form the SGA "n < nx".
 This MD is used in addition to the hysteresis to check the velocity in both monitoring channels at the threshold nx. The velocity must not differ more than the value of this MD, otherwise a Stop F will be output with error code 2.
 \$MA_SAFE_VELO_X_HYSTERESIS must be less than or equal to 1/2 \$MA_SAFE_VELO_X. The function "Synchronization "n < nx", hysteresis and filtering" must be active (\$MA_SAFE_FUNCTION_ENABLE, bit 16 = 1).

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Related to:

MD 36945: \$MA_SAFE_VELO_X_FILTER_TIME
MD 36946: \$MA_SAFE_VELO_X

36948	SAFE_STOP_VELO_TOL	A04, A05, -	FBSI			
mm/min, rev/min	Velocity tolerance for Safe monitoring of acceleration	DOUBLE	PowerOn			
-						
-	-	(300./ 50.)	(0./ 0.)	(120000./ 20000.)	7/2	M

Description: Tolerance of the actual velocity for safe monitoring of the acceleration (SBR).

This tolerance is added to the actual velocity after safe monitoring of the acceleration has been activated (by triggering a Stop B or C).

The actual velocity must not be greater than the limit thus defined.

Otherwise a Stop A is triggered. This reveals an acceleration of the drive as quickly as possible.

36949	SAFE_SLIP_VELO_TOL	A04, A05, -	FBSI			
mm/min, rev/min	Slip velocity tolerance	DOUBLE	PowerOn			
-						
-	-	(6./ 1.)	(0./ 0.)	(1000./ 1000.)	7/2	M

Description: Difference in velocity between the motor and load sides tolerated by a 2-encoder system, without the data cross-check between SIMODRIVE611D and NCK signaling an error.

MD36949 \$MA_SAFE_SLIP_VELO_TOL is only evaluated if MD36901 \$MA_SAFE_FUNCTION_ENABLE, bit3 is set.

Related to:

MD1349 \$MD_SAFE_SLIP_VELO_TOL

36950	SAFE_MODE_SWITCH_TIME	A05, -	FBSI			
s	Tolerance time for SGE switchover	DOUBLE	PowerOn			
-						
-	-	0.5	0	10.	7/2	M

Description: SGE switchovers are not active simultaneously because the data transfer run-times of the SGEs differ in the two monitoring channels. The data cross-check would report an error in this case.

This data defines the length of time after SGE switchovers during which the actual values and the monitoring results are not cross-checked (the machine data continue to be compared!). The selected monitoring continues to run uninterrupted in both monitoring channels.

A safe function becomes active in a monitoring channel as soon as the selection or switchover is detected in this channel.

The differing runtime is mainly determined by the PLC cycle time.

System-related minimum tolerance time: 2 x PLC cycle time (maximum cycle) + 1 x IPO cycle time.

The runtime differences must also be taken into account in the external circuit (e.g. relay switching times).

36951	SAFE_VELO_SWITCH_DELAY	A05, -	FBSI
s	Delay time for velocity changeover	DOUBLE	PowerOn
-			
-	-	0.1	0

Description: A timer is started with this value when transferring from a higher to a lower safe speed or when selecting safe operational stop with safe speed active. The parameterized value selected must be as low as possible. The last selected speed limit value continues to be monitored while the timer is running. During this time, the axle/spindle can be decelerated, for example via the PLC user program, without the monitoring reporting an error and triggering a stop reaction.

Special cases:

1. The timer is canceled immediately on switching to a limit greater than or equal to the previously active SG limit.
2. The timer is canceled immediately on switching to "Non-safe operation" (SGE "Deselect SBH/SG=1").
3. The timer is retriggered (restarted) on switching to a limit less than the previously active SG limit or to SBH while the timer is running.

36952	SAFE_STOP_SWITCH_TIME_C	A05, -	FBSI
s	Transition time STOP C to safe standstill	DOUBLE	PowerOn
-			
-	-	0.1	0

Description: This data defines the time after which a switch is made to safe operational stop when a STOP C has been triggered. The parameterized value selected must be as low as possible. Safe operational stop is monitored after this time has expired. STOP A or B is triggered if the axis/spindle could not be stopped.

36953	SAFE_STOP_SWITCH_TIME_D	A05, -	FBSI
s	Transition time STOP D to safe standstill	DOUBLE	PowerOn
-			
-	-	0.1	0

Description: This data defines the time after which a switch is made to safe operational stop when a STOP D has been triggered. The parameterized value selected must be as low as possible. Safe operational stop is monitored after this time has expired. STOP B is triggered if the axis/spindle could not be stopped.

36954	SAFE_STOP_SWITCH_TIME_E	A05, -	FBSI
s	Transitional period STOP E to safe standstill	DOUBLE	PowerOn
-			
-	-	0.1	0

Description: Time period after which a switch over takes place from STOP E to safe operational stop. The parameterized value selected must be as small as possible.

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36955	SAFE_STOP_SWITCH_TIME_F	A05, -	FBSI
s	Transition time STOP F to STOP B	DOUBLE	PowerOn
-			
-	-	0.0	0

Description: Time period after which a switch over takes place from stop F to stop B with active monitoring functions.
The parameterized value selected must be as low as possible.
During this time, another deceleration reaction can be activated, e.g. by means of synchronized actions.
The switch over also takes place if a C/D/E stop occurs during this time.

36956	SAFE_PULSE_DISABLE_DELAY	A05, -	FBSI
s	Delay time for pulse suppression	DOUBLE	PowerOn
-			
-	-	0.1	0

Description: On STOP B, deceleration is made with speed setpoint 0 at the current limit and changed to STOP A for pulse suppression after the delay time defined with this data.
The parameterized value selected must be as low as possible.
Special cases:
The pulse suppression is performed earlier than defined in this data if the condition for pulse suppression is present via MD 36960: \$MA_SAFE_STANDSTILL_VELO_TOL or via MD 36620: \$MA_SERVO_DISABLE_DELAY_TIME.
If the time is set in this data to ZERO, then on STOP B an immediate change is made to STOP A (immediate pulse suppression).
Relating to:
MD 36960: \$MA_SAFE_STANDSTILL_VELO_TOL
MD 36620: \$MA_SERVO_DISABLE_DELAY_TIME
MD 36060: \$MA_STANDSTILL_VELO_TOL

36957	SAFE_PULSE_DIS_CHECK_TIME	A05, -	FBSI
s	Time for checking pulse suppression	DOUBLE	PowerOn
-			
-	-	0.1	0

Description: Definition of the time after which pulses have to be disabled after a request to disable pulses.
The time between deleting the SGA "Enable pulse" and detecting the disabling of pulses via the SGE "Status pulses disabled" must not exceed the value of this data.
Special cases:
STOP A is triggered if this time is exceeded.

36958	SAFE_ACCEPTANCE_TST_TIMEOUT	A05, -	FBSI
s	Time limit for acceptance test duration	DOUBLE	PowerOn
-			
-	-	40.0	5

Description: On the NCK side, a time limit can be specified for the duration of an acceptance test.
The NCK terminates the test if an acceptance test lasts longer than the time defined in MD 36958.

The acceptance test status is set to zero on the NCK side. When the acceptance test status is reset, SI-power-ON-alarms are reset again from reset-acknowledgeable to power-ON-acknowledgeable on the NCK and drive sides.

The NCK clears alarm 27007 and the drive clears alarm 300952.

This MD is also used to limit the duration of an SE (safe limit position) acceptance test. After the programmed time has elapsed, the SE acceptance test is canceled and alarm 27008 deleted. The software limit positions then once again act as defined in the machine data.

36960	SAFE_STANDSTILL_VELO_TOL	A05, A04, -	FBSI
mm/min, rev/min	Creep speed for pulse suppression	DOUBLE	PowerOn
-			
-	-	(0./0.)	(0./0.) (1000./1000.) 7/2 M

Description: Speed below which the axle/spindle is regarded as being at a standstill and the pulses are disabled with STOP B (through transition to STOP A).

Related to:

MD 36956: \$MA_SAFE_PULSE_DISABLE_DELAY

36961	SAFE_VELO_STOP_MODE	A05, -	FBSI
-	Stop reaction for safe velocity	BYTE	PowerOn
-			
-	-	5	0 14 7/2 M

Description: The stop reaction defined in this data is triggered if the limit value for the safe velocity 1, 2, 3 or 4 is exceeded.

= 0, 1, 2, 3 correspond to STOP A, B, C, D, common to each safe velocity stage

= 5 means that the stop reaction can be configured specifically for each safe velocity in MD 36963.

The units digit defines the selection of the stop reaction when the safe velocity is exceeded.

The tens digit defines the behavior in the case of failure of communication to the drive if a time greater than 0 is parameterized in \$MN_SAFE_PULSE_DIS_TIME_BUSFAIL.

0: Stop A

1: Stop B

2: Stop C

3: Stop D

4: Stop E

5: SAFE_VELO_STOP_MODE invalid, stop reaction is parameterized via MD SAFE_VELO_STOPREACTION

10: Stop A, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if safe velocity is active

11: Stop B, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if safe velocity is active

12: Stop C, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if safe velocity is active

13: Stop D, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if safe velocity is active

14: Stop E, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if safe velocity is active

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Special cases:

- If the value in this MD is 5, the stop reaction for each safe velocity stage is defined selectively in \$MA_SAFEVELO_STOPREACTION.

Related to:

MD 36931: \$MA_SAFEVELOLIMIT[n]
MD 36963: \$MA_SAFEVELOSTOPREACTION[n]

36962	SAFE_POS_STOP_MODE	A05, -	FBSI
-	Stop reaction for safe end position	BYTE	PowerOn
-			
-	- 2 2 4 7/2 M		

Description: The stop reaction defined in this data is triggered if safe end position 1 or 2 is overrun.

- 2: Stop C
3: Stop D
4: Stop E

Related to:

MD 36934: \$MA_SAFEPOS_LIMIT_PLUS[n]
MD 36935: \$MA_SAFEPOS_LIMIT_MINUS[n]

36963	SAFEVELOSTOPREACTION	A05, -	FBSI
-	Stop reaction for safe velocity	BYTE	PowerOn
-			
-	4 2, 2, 2, 2 0 14 7/2 M		

Description: The stop reaction defined in this data is triggered if the limit value for the safe velocity 1, 2, 3 or 4 is exceeded.

= 0, 1, 2, 3 stand for SG1, SG2, SG3, SG4

The units digit defines the selection of the stop reaction for each specific safe velocity when the safe velocity is exceeded.

The tens digit defines the behavior in the case of a failure of communication to the drive for each specific safe velocity if a time greater than 0 has been parameterized in \$MN_SAFE_PULSE_DIS_TIME_BUSFAIL.

Value Meaning

- 0: Stop A
1: Stop B
2: Stop C
3: Stop D
4: Stop E

10: Stop A, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if this safe velocity level is active

11: Stop B, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if this safe velocity level is active

12: Stop C, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if this safe velocity level is active

13: Stop D, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if this safe velocity level is active

14: Stop E, additionally, in the event of failure of communication to the drive, pulses are not disabled immediately if this safe velocity level is active

Special cases:

This MD is only active when MD 36961 and drive parameter p9561 have the value 5.

Related to:

MD 10089: \$MN_SAFE_PULSE_DIS_TIME_BUSFAIL

MD 36961: \$MA_SAFE_VELO_STOP_MODE

36964	SAFE_IPO_STOP_GROUP	A01, A05, -	FBSI
-	Safety-integrated IPO-response grouping	BYTE	Reset
-			
-	-	0	0

Description: This MD is only active with Safety Integrated axes and spindles.

It influences the channel-wide IPO response distribution of Safety Integrated:

0 = Default: All other axes/spindles in the channel are informed of the IPO stop response of this axis.

1 = For internal stops, the axes and machining spindles interpolating with the axis in question are also influenced via the triggered safety alarms.

Other axes/spindles in the channel, however, continue without disturbance. In the case of external stops (without an alarm) all other axes/spindles are not influenced by the safety axis/spindle stop. This allows, for example, the safe cancellation of the pulses of a spindle (using external Stop A) so that the spindle can be turned manually but still move the axes safely with monitoring.

If the other axes/spindles stop together with the safety axis/spindle in certain machining situations, the user must implement this at his own responsibility using the PLC or synchronous action operations.

36965	SAFE_PARK_ALARM_SUPPRESS	A01, -	FBSI
-	Alarm suppression on parking axis	BOOLEAN	PowerOn
-			
-	-	FALSE	-

Description: This MD is only active for Safety Integrated axes/spindles.

0 = Default setting: Alarms 27000/A01797 are displayed when parking is selected.

1 = Alarms 27000/A01797 are not displayed when parking is selected. This is necessary for axes that are disconnected on the encoder side during the machining process (e.g. dressing axes). The alarms are displayed when parking is deselected again.

36966	SAFE_BRAKETEST_TORQUE	A05, -	FBSI
%	Holding torque for brake test	DOUBLE	PowerOn
CTEQ			
-	-	5.0	0.0

Description: Specification of the torque and force for the functional test of the brake mechanism.

This torque and force must be able to be exerted on the applied brake during the test without the axis starting to move.

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SINAMICS: The percentage value entered here is related to drive parameter p2003 of the axis.

The following supplementary conditions apply to SINAMICS:

If the current torque is more than 85% of the test torque when the brake test is selected (that is with the brake off) the brake test is canceled with alarm 20095. This ensures that the motor can stop the axis even if the brake is defective.

If the brake test is made with the drive parameter p1532 (MD36968 \$MA_SAFE_BRAKETEST_CONTROL bit0 = 0), the safety reserve required is increased by double the difference between the current holding torque and the value in parameter p1532.

Release of the corresponding test function via MD37000 \$MA_FIXED_STOP_MODE bit 1.

36967	SAFE_BRAKETEST_POS_TOL	A05, -	FBSI			
mm, degrees	Position tolerance for brake test	DOUBLE	PowerOn			
CTEQ						
-	-	1.0	-	-	7/2	M

Description: Maximum position tolerance for the functional test of the brake mechanics. The functional test of the brake mechanics is canceled if the axis position deviates by more than this tolerance from the position at selection of the brake test. The corresponding test function is enabled by MD37000 \$MA_FIXED_STOP_MODE bit 1.

36968	SAFE_BRAKETEST_CONTROL	A05, -	-			
-	Advanced settings for the brake test	DWORD	PowerOn			
CTEQ						
-	-	0	0	3	7/2	M

Description: Advanced settings for the brake test.

Bit 0: Selection of the average value of the torque limit
 = 0: SINAMICS: Drive parameter p1532 is used as the average value of the torque limit
 = 1: The torque measured at the time of selection of the brake test is used as the average value of the torque limit

Bit 1: Criterion for reaching the torque limit in the PLC
 = 0: The torque limit must be reached during the programmed traversing distance
 = 1: The torque limit must be reached during the programmed time (PLC)

36969	SAFE_BRAKETEST_TORQUE_NORM	A05, -	FBSI			
kNm ²	Reference variable for brake test holding torque	DOUBLE	PowerOn			
CTEQ						
-	-	0.0	-	-	ReadOnly	M

Description: Setting of the reference variable for torques
 All torques indicated as relative value refer to this reference variable.
 This MD is an image of drive parameter p2003

36970	SAFE_SVSS_DISABLE_INPUT	A01, -	FBSI
-	Input assignment SBH/SG deselection	DWORD	PowerOn
-			
-	-	0	-

Description: This data defines the NCK input for selecting/deselectng the functions SBH and SG.

Signal Meaning

= 0 SG or SBH is selected

= 1 SG and SBH are deselected

Structure:

Special cases:

- Entry of 0 means there is no existing assignment, the input remains fixed at 0, SG and SBH cannot be deselected.

- Entry of 80 00 00 00 means there is no existing assignment, the input remains fixed at 1.

- If a single output signal is placed on a terminal, the signal is processed inverted if MD bit 31 is set.

- If several output signals are placed on the same terminal, the signal concerned is initially inverted if MD bit 31 is set.

If MD bit 31 is set, the signal concerned is initially inverted. The (if applicable inverted) output signals are then AND-ed. The result is output on the terminal.

Related to:

MD 10366: \$MN_HW_ASSIGN_DIG_FASTIN

MD 13010: \$MN_DRIVE_LOGIC_NR

References: /FB/, A4, Digital and Analog NCK I/Os

36971	SAFE_SS_DISABLE_INPUT	A01, -	FBSI
-	Input assignment SBH deselection	DWORD	PowerOn
-			
-	-	0	-

Description: Assignment of the NCK input for deselecting the function safe operational stop.

Structure: See \$MA_SAFE_SVSS_DISABLE_INPUT

Assignment of the terminal level for the safe functions if either safe velocity or safe operational stop have been activated.

Signal Meaning

= 0 Safe operational stop is selected

= 1 Safe operational stop is deselected (only if other functions have not triggered a STOP C, D or E)

Special cases:

- The signal is processed inverted if MD bit 31 is set.

- This input is irrelevant if SG and SBH have been deselected (see \$MA_SAFE_SVSS_DISABLE_INPUT).

Related to:

MD 36970: \$MA_SAFE_SVSS_DISABLE_INPUT

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36972	SAFE_VELO_SELECT_INPUT	A01, -	FBSI
-	Input assignment SG selection	DWORD	PowerOn
-			
-	2	0, 0	-

Description: This data defines the two inputs for selecting SG1, SG2, SG3 or SG4.

Structure: See \$MA_SAFE_SVSS_DISABLE_INPUT

n = 1, 0 stand for bit 1, 0 for selecting SG1 to SG4

Assignment of the input bits to the safe velocities:

Bit 1	Bit 0	Selected SG
0	0	SG1
0	1	SG2
1	0	SG3
1	1	SG4

Special cases:

The signal is processed inverted if the MD bits 31 are set.

36973	SAFE_POS_SELECT_INPUT	A01, -	FBSI
-	Input assignment SE selection	DWORD	PowerOn
-			
-	-	0	-

Description: This data defines the input for selecting safe limit positions 1 or 2.

Structure see: \$MA_SAFE_SVSS_DISABLE_INPUT

Signal Meaning

- = 0 SE1 is active
- = 1 SE2 is active

Special cases:

The signal is processed inverted if MD bit 31 is set.

Related to:

MD 36970: \$MA_SAFE_SVSS_DISABLE_INPUT.

36974	SAFE_GEAR_SELECT_INPUT	A01, -	FBSI
-	Input assignment speed ratio selection	DWORD	PowerOn
-			
-	3	0, 0, 0	-

Description: Assignment of the input terminals for selecting the gear ratio (gear stage).

Structure: See \$MA_SAFE_SVSS_DISABLE_INPUT

n = 2, 1, 0 stand for bit 2, 1, 0 for selecting gear stages 1 to 8

Bit 2	Bit 1	Bit 0	Active gear stage
0	0	0	Stage 1
0	0	1	Stage 2
0	1	0	Stage 3
...
1	1	1	Stage 8

Special cases:

The signals are processed inverted if the MD bits 31 are set.

Related to:

MD 36970: \$MA_SAFE_SVSS_DISABLE_INPUT

36977	SAFE_EXT_STOP_INPUT	A01, -	FBSI
-	Input assignment for external stop request	DWORD	PowerOn
-			
-	4	0, 0, 0, 0	-

Description: This data defines the NCK inputs for selecting/deselecting the external brake requests.
n = 0, 1, 2, 3 stand for the various braking modes
n = 0: Assignment for "Deselect external stop A" (SH, disabling of pulses)
n = 1: Assignment for "Deselect external stop C" (braking at the current limit)
n = 2: Assignment for "Deselect external stop D" (path braking)
n = 3: Assignment for "Deselect external stop E" (ESR + path braking)
Structure: See \$MA_SAFE_SVSS_DISABLE_INPUT
Special cases:
The signals are processed inverted if the MD bits 31 are set. The signal "Deselect external stop A" cannot be parameterized inverted. A parameter error is reported if there is an error.

36978	SAFE_OVR_INPUT	A01, -	FBSI
-	Input assignment for SG override	DWORD	PowerOn
-			
-	4	0, 0, 0, 0	-

Description: Assignment of the NCK inputs for the override of the limit values of safe velocities 2 and 4.
Structure: See \$MA_SAFE_SVSS_DISABLE_INPUT
n = 3, 2, 1, 0 stand for the override selection bits 3, 2, 1, 0
Assignment of the input bits to the SG override values:
Bit 3 Bit 2 Bit 1 Bit 0
0 0 0 0 Override 0 is selected
0 0 0 1 Override 1 is selected
to ...
1 1 1 1 Override 15 is selected
The following machine data defines the override factor itself (percentage value) :
MD 36932: \$MA_SAFE_VELO_OVR_FACTOR [n]
Special cases:
- The function "Override safe velocity" is enabled by MD 36901 \$MA_SAFE_FUNCTION_ENABLE.
- The signals are processed inverted if the MD bits 31 are set.
Related to:
MD 36932: \$MA_SAFE_VELO_OVR_FACTOR [n]

36980	SAFE_SVSS_STATUS_OUTPUT	A01, -	FBSI
-	Output assignment SBH/SG active	DWORD	PowerOn
-			
-	-	0	-

Description: Assignment of the output for reporting the status of the functions safe velocity and safe operational stop.

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Signal Meaning
 = 0 SG and SBH are not active
 = 1 SG or SBH is active
 Special cases:
 - Entry of 0 means
 there is no existing assignment, the output is not affected.
 - Entry of 80 00 00 00 means there is no existing assignment, the output remains fixed at 1.
 - If a single output signal is placed on a terminal, the the signal is processed inverted if MD bit 31 is set.
 - If several output signals are placed on the same terminal, then the signal concerned is initially inverted if MD bit 31 is set. The (if applicable inverted) output signals are then AND-ed. The result is output on the terminal.
 Related to:
 MD 10368: \$MN_HW_ASSIGN_DIG_FASTOUT
 MD 13010: \$MN_DRIVE_LOGIC_NR
 References: /FB/, A4, Digital and Analog NCK I/Os

36981	SAFE_SS_STATUS_OUTPUT	A01, -	FBSI
-	Output assignment SBH active	DWORD	PowerOn
-			
-	- 0 - - 7/2 M		

Description: This data defines the output or the system variable for the message "SBH active".

Structure see: \$MA_SAFE_EXT_STOP_INPUT

Signal Meaning

- = 0 SBH is inactive
- = 1 SBH is active

Special cases:

The signal is processed inverted if MD bit 31 is set.

36982	SAFE_VELO_STATUS_OUTPUT	A01, -	FBSI
-	Output assignment for active SG selection	DWORD	PowerOn
-			
-	2 0, 0 - - 7/2 M		

Description: This data defines the outputs or the system variables for the messages "SBH active bit 0" and "SBH active bit 1".

Structure see: \$MA_SAFE_EXT_STOP_INPUT

n = 1, 0 stand for SG active bits 1, 0

SG active

Bit 1 Bit 0 Meaning:

- | | |
|--------------|---|
| = 0 = 0 | SG1 active if SBH/SG are active and SBH is not active |
| | SBH active if SBH/SG are active and SBH is active |
| = 1 = 0 | SG2 active |
| = 0 = 1 | SG3 active |
| = 1 = 1 | SG4 active |

Special cases:

The signal is processed inverted if MD bit 31 is set.

36985	SAFE_VELO_X_STATUS_OUTPUT	A01, -	FBSI
-	Output assignment n < n_x	DWORD	PowerOn
-			
-	- 0 - - 7/2 M		

Description: This data defines the output or the system variable for the message "n < nx".
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
Signal Meaning
= 0 Actual speed is greater than the limit speed in \$MA_SAFE_VELO_X
= 1 Actual speed is less than or equal to the limit speed in \$MA_SAFE_VELO_X
Related to: \$MA_SAFE_VELO_X
Special cases:
The signal is processed inverted if MD bit 31 is set.

36987	SAFE_REFP_STATUS_OUTPUT	A01, -	FBSI
-	Output assignment axis safely referenced	DWORD	PowerOn
-			
-	- 0 - - 7/2 M		

Description: This data defines the output for the message "Axis safely referenced".
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
Signal Meaning
= 0 Axis is not safely referenced (that is the safe limit monitoring is inactive!)
= 1 Axis is safely referenced
Special cases:
The signal is processed inverted if MD bit 31 is set.

36988	SAFE_CAM_PLUS_OUTPUT	A01, -	FBSI
-	Output assignment SN1 + to SN4 +	DWORD	PowerOn
-			
-	4 0, 0, 0, 0 - - 7/2 M		

Description: This data defines the outputs for the cam signals SN1 + to SN4 +.
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
n = 0, 1, 2, 3 correspond to the assignments for plus cams SN1 +, SN2 +, SN3 +, SN4 +
Signal Meaning
= 0 Axis is left of the cam (actual value < cam position)
= 1 Axis is right of the cam (actual value > cam position)
Special cases:
The signal is processed inverted if MD bit 31 is set.

36989	SAFE_CAM_MINUS_OUTPUT	A01, -	FBSI
-	Output assignment SN1 - to SN4 -	DWORD	PowerOn
-			
-	4 0, 0, 0, 0 - - 7/2 M		

Description: This data defines the outputs for the minus cams SN1 - to SN4 -.
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
n = 0, 1, 2, 3 correspond to the assignments for minus cams SN1 -, SN2 -, SN3 -, SN4 -

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Signal Meaning
 = 0 Axis is left of the cam (actual value < cam position)
 = 1 Axis is right of the cam (actual value > cam position)
 Special cases:
 - If a cam is negated and placed with another cam on an output, it is AND-ed and a single cam signal is generated for range recognition.

36990	SAFE_ACT_STOP_OUTPUT	A01, -	FBSI			
-	Output assignment of active stop	DWORD	PowerOn			
-						
-	4	0, 0, 0, 0	-	-	7/2	M

Description: Assignment of the output terminals for displaying the currently active stop.
 Index 0: Assignment for "Stop A/B active"
 Index 1: Assignment for "Stop C active"
 Index 2: Assignment for "Stop D active"
 Index 3: Assignment for "Stop E active"

36992	SAFE_CROSSCHECK_CYCLE	A01, A08, -	FBSI			
s	Display of axial cross-check cycle	DOUBLE	PowerOn			
-						
-	-	0.0	-	-	ReadOnly	M

Description: Display data for safety functions: Effective axial cross-check cycle in seconds.
 The cycle derives from INFO_SAFETY_CYCLE_TIME and the number of data to be cross-checked.
 The axial value displayed depends on the associated drive module as the length of cross-check lists varies between performance-1/standard-2 and performance-2 modules.

36993	SAFE_CONFIG_CHANGE_DATE	A08, -	FBSI			
-	Date/time of last change of SI axis MD	STRING	PowerOn			
-						
-	7	, , , , ,	-	-	ReadOnly	M

Description: Display data for safety functions:
 Date and time of the last configuration change to safety related NCK axis machine data.
 Changes to the machine data included in the calculation of axial checksums SAFE_ACT_CHECKSUM are recorded.

36994	SAFE_PREV_CONFIG	EXP, -	FBSI			
-	Data of previous safety axis configuration	DWORD	PowerOn			
-						
-	9	0, 0, 0, 0, 0, 0, 0, 0, 0	-	-	ReadOnly	M

Description: Intermediate buffer for storing previous safety configuration data
 Index [0]: Status flag for change history
 Index [1]: Previous value of function enable
 Index [2]: Previous value of set checksum SAFE_DES_CHECKSUM[0]
 Index [3]: Last value of function enable before standard data were loaded

Index [4]: Last value of set checksum SAFE_DES_CHECKSUM[0] before standard data were loaded.

Index [5]: Previous value of set checksum SAFE_DES_CHECKSUM[1]

Index [6]: Last value of set checksum SAFE_DES_CHECKSUM[1] before standard data were loaded

Index [7]: Previous value of set checksum SAFE_DES_CHECKSUM[2]

Index [8]: Last value of set checksum SAFE_DES_CHECKSUM[2] before standard data were loaded

36995	SAFE_STANDSTILL_POS	EXP, A08, -	FBSI
-	Standstill position	DWORD	PowerOn
-			
-	-	0	-

Description: This MD displays the current standstill position.

In order to be able to test the referencing of the axis for plausibility at the next control Power ON, the current position of the axis is stored in non-volatile memory in the following cases:

- On selection of safe operational stop (SBH)
- Cyclically, if SE/SN are activated

Special cases:

If the MD is changed manually, this will be detected at the next Power ON and plausibility test. Another user agreement is required after referencing.

36997	SAFE_ACKN	A08, -	FBSI
-	User acknowledge	DWORD	PowerOn
-			
-	-	0	-

Description: This data displays the status of the user agreement.

The user agreement can be given or withdrawn by the user by means of a corresponding screen.

If the software detects internally that the reference to the machine has been lost, then it is "automatically" withdrawn (e.g. on changing gear or if the plausibility comparison with the stored standstill position fails during referencing).

Special cases:

If the MD is changed manually, then this will be detected at the next Power ON and plausibility test. Another user agreement is required after referencing.

36998	SAFE_ACT_CHECKSUM	A01, A08, -	FBSI
-	Actual checksum	DWORD	PowerOn
-			
-	3	0, 0, 0	-

Description: The actual checksum calculated after POWER ON or on RESET is entered here over the current values of the safety relevant machine data.

Assignment of the field indices:

Index 0: Axial monitoring functions

Index 1: Hardware component recognition

Index 2: Drive assignment

1.3 NC machine data

36999	SAFE_DES_CHECKSUM	A01, A08, -	FBSI
-	Desired (expected) checksum	DWORD	PowerOn
-			
-	3	0, 0, 0	-

Description: In this data, the set checksum stored at the last machine acceptance appears above the current values of the safety relevant machine data.

Assignment of the field indices:

Index 0: Axial monitoring functions

Index 1: Hardware component recognition

Index 2: MDs for drive assignment

37000	FIXED_STOP_MODE	A10, -	-
-	Travel to fixed stop mode	BYTE	PowerOn
CTEQ			
-	-	0x0	0x0

Description: Activation of subfunctions of "Travel to fixed stop".

Bit 0: Reserved

Bit 1: Enable the Safe brake test

= 0: Safe brake test not available

= 1: Safe brake test can be executed under the control of the PLC

Note: The user must ensure that Travel to fixed stop and Safe brake test are not assigned simultaneously.

37002	FIXED_STOP_CONTROL	A10	F1
-	Sequence control for travel to fixed stop	BYTE	PowerOn
-			
-	-	0x0	0x0

Description: Sequence control for travel to fixed stop.

Bit 0: behavior on pulse disable at fixed stop

= 0: travel to fixed stop is canceled

= 1: travel to fixed stop is interrupted, i.e. the drive is without power.

As soon as the pulse disable is canceled again, the drive continues with the limited torque.

Control of the torque injection see bit 1.

Bit 1: behavior after pulse disable at the fixed stop

= 0: the torque is applied in steps.

= 1: the torque is applied in ramps (see MD37012
\$MA_FIXED_STOP_TORQUE_RAMP_TIME)

37010	FIXED_STOP_TORQUE_DEF	A10	-
%	Default fixed stop clamping torque	DOUBLE	PowerOn
CTEQ			
-	-	5.0	0.0

Description: The clamping torque is set in this machine data as a % of the maximum motor torque (in the case of FDD this corresponds to the % of the max. current set-point).

The clamping torque becomes active as soon as the fixed stop is reached or the NC/PLC interface signal DB31, ... DBX1.1 (Acknowledge fixed stop reached) has been set.

The entered value is a default and is active only as long as

- no clamping torque has been programmed with command FXST[x]
- the clamping torque set in SD 43510: FIXED_STOP_TORQUE was not changed after fixed stop had been reached.

In the case of "Travel to fixed stop" with an analog drive (611-A) and fixed clamping torque, the torque limit set in the drive should be the same as the limit entered in MD37070 \$MA_FIXED_STOP_ANA_TORQUE.

Related to:

MD37070 \$MA_FIXED_STOP_ANA_TORQUE

(torque limit on approach to fixed stop for analog drives)

SD 43510: FIXED_STOP_TORQUE

(clamping torque for travel to fixed stop)

37012	FIXED_STOP_TORQUE_RAMP_TIME	A10	-
s	Time period until reaching the changed torque limit	DOUBLE	NEW CONF
-			
-	-	0.0	-

Description: Period in seconds until the changed torque limit is reached.

The value 0.0 deactivates the ramp function.

37014	FIXED_STOP_TORQUE_FACTOR	A10	TE3
-	Adaption factor torque limit	DOUBLE	NEW CONF
-			
-	-	1.0	-

Description: Interface factor torque limit.

With this factor, the torque limit of linked slave axes (MD 37250) can be weighted additionally.

Even with different motors, the torque limits can be kept equal in all linked axes.

37020	FIXED_STOP_WINDOW_DEF	A05, A10	-
mm, degrees	Default fixed-stop monitoring window	DOUBLE	PowerOn
CTEQ			
-	-	1.0	0.0

Description: This machine data is used to enter the default for the standstill monitoring window at fixed stop.

Fixed stop monitoring becomes active as soon as the fixed stop is reached, i.e. NC/PLC interface signal DB31, ... DBX62.5 (Fixed stop reached) is set.

If the position at which the fixed stop is detected is left by more than the tolerance specified in MD37020 \$MA_FIXED_STOP_WINDOW_DEF alarm 20093 "Fixed stop monitoring has responded" is output and the "FXS" function is deselected.

The value entered is a default setting and is active only as long as

- no fixed stop monitoring window is programmed with command FXSW[x],
- the fixed stop monitoring window is not changed via SD 43520: FIXED_STOP_WINDOW (after reaching of fixed stop).

Related to:

SD43520 \$SA_FIXED_STOP_WINDOW (fixed stop monitoring window)

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37030	FIXED_STOP_THRESHOLD	A10, -	-
mm, degrees	Threshold for fixed stop detection	DOUBLE	NEW CONF
-			
-	-	2.0	0.0

Description: Threshold value for fixed stop detection.

The contour deviation is checked for this threshold as a criterion for reaching the fixed stop. Waiting until the set torque limit is reached is a further condition for digital drives.

This machine data is only active if MD37040 \$MA_FIXED_STOP_BY_SENSOR = 0.

The NC/PLC interface signal DB31, ... DBX62.5 (Fixed stop reached) is set if the axial contour deviation exceeds the threshold value set in MD37030 \$MA_FIXED_STOP_THRESHOLD.

MD irrelevant to:

MD37040 \$MA_FIXED_STOP_BY_SENSOR = 1

Related to:

NC/PLC interface signal DB31, ... DBX62.5 (Fixed stop reached)

37040	FIXED_STOP_BY_SENSOR	A10	-
-	Fixed stop detection by sensor	BYTE	Immediately
CTEQ			
-	-	0	0

Description: This machine data defines how the criterion "Fixed stop reached" is determined.

A change of this machine data becomes active with the next selection of travel to fixed stop.

MD=0

The criterion "Fixed stop reached" is determined internally on the basis of the axial FIXED_STOP_THRESHOLD.

MD=1

The criterion "Fixed stop reached" is determined via an external sensor and signalled to the NC via the NC/PLC interface signal DB31, ... DBX1.2 (Sensor fixed stop).

MD=2

The criterion "Fixed stop reached" is accepted if either the contour monitoring (MD = 0) or the signal of the external sensor (MD = 1) has responded.

MD=3

Triggering through movement analysis (only as an alternative to triggering via sensor)

Related to:

MD37030 \$MA_FIXED_STOP_THRESHOLD

(threshold for fixed stop detection)

NC/PLC interface signal DB31, ... DBX1.2 (Sensor fixed stop)

37050	FIXED_STOP_ALARM_MASK	A05, A10	-
-	Enable of the fixed stop alarms	BYTE	NEW CONF
-			
-	-	1	0

Description: This machine data defines whether the alarms

20091 "Fixed stop not reached",

20094 "Fixed stop canceled" and

25042 "FOC: Standstill monitoring" are output.
MD= 0
Suppression of alarm 20091 "Fixed stop not reached"
MD= 2
Suppression of alarms
20091 "Fixed stop not reached" and
20094 "Fixed stop canceled" (SW 4 and higher)
MD=3
Suppression of alarm 20094 "Fixed stop canceled" (SW 4 and higher)
Add value 8
Suppression of alarm 25042 "FOC: Standstill monitoring" (SW 7 and higher)
Errors occurring during travel to fixed stop can be read out from the status variable \$AA_FXS irrespective of the setting of the alarm screen.
Standard: 1 = Alarms 20091, 20094 and 25042 are triggered

37052	FIXED_STOP_ALARMREACTION	A05, A10	-			
-	Reaction with fixed stop alarms	BYTE	PowerOn			
-						
-	-	0	-	-	7/1	M

Description: Behavior of VDI signal "Mode group ready" in case of fixed stop alarms:
Bit value = 0: "Mode group ready" will be deleted (drives de-energized)
Bit value = 1: "Mode group ready" remains active
Bit0: Alarm 20090 Travel to fixed stop not possible
Bit1: Alarm 20091 Fixed stop not reached
Bit2: Alarm 20092 Travel to fixed stop still active
Bit3: Alarm 20093 Standstill monitoring at fixed stop has triggered
Bit4: Alarm 20094 Travel to fixed stop canceled
All other bits without meaning.
Standard: 0 = All alarms de-energize the drives

37060	FIXED_STOP_ACKN_MASK	A10	-			
-	Waiting for PLC acknowledgements during travel to fixed stop	BYTE	PowerOn			
CTEQ						
-	-	0x0	0x0	0x3	7/2	M

Description: This machine data defines whether or not the NC waits for acknowledgment messages from the PLC when the "Travel to fixed stop" function is active.
Bit 0 = 0
Once the NC has transmitted the interface signal DB31, ... DBX62.4 (Activate travel to fixed stop) to the PLC, it starts the programmed traversing.
Bit 0 = 1
After the NC has transmitted the interface signal DB31, ... DBX62.4 (Activate travel to fixed stop) to the PLC, it waits for the PLC to acknowledge with the interface signal DB31, ... DBX3.1 (Enable travel to fixed stop) and then starts the programmed traversing.
Bit 0 = 1 should be set for analog drives so that the motion is not started before the PLC has limited the torque in the drive.
Bit 1 = 0
Once the NC has transmitted the interface signal DB31, ... DBX62.5 (Fixed stop reached) to the PLC, the program advances to the next block.

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Bit 1 = 1

After the NC has transmitted the interface signal DB31, ... DBX62.5 (Fixed stop reached) to the PLC, it waits for the PLC to acknowledge with the interface signal DB31, ... DBX1.1 (Acknowledge fixed stop reached), outputs the programmed torque and then advances to the next block.

Bit 1 should be set for analog drives so that the PLC can switch the drive to torque-controlled operation if a programmable clamping torque has to be specified.

With digital drives (PROFIdrive), the "Travel to fixed stop" function can be executed without any acknowledgments, thus allowing program run times to be reduced.

Related to:

NC/PLC interface signal DB31, ... DBX62.4 (Activate travel to fixed stop)

NC/PLC interface signal DB31, ... DBX3.1 (Enable travel to fixed stop)

NC/PLC interface signal DB31, ... DBX62.5 (Fixed stop reached)

NC/PLC interface signal DB31, ... DBX1.1 (Acknowledge fixed stop reached)

37070	FIXED_STOP_ANA_TORQUE	A10	-			
%	Torque limit when approaching the fixed stop for analog drives	DOUBLE	PowerOn			
CTEQ						
-	-	5.0	0.0	100.0	7/2	M

Description: Only for analog drives (not relevant for PROFIdrive digital drives):

This machine data defines an internal NC torque limit for analog drives. It is specified as a percentage of the maximum drive torque (corresponds to % of max. current setpoint with FDD).

This torque limit is active in the NC from the start of the motion (acceleration torque) until the instant the fixed stop is reached.

The torque limit must have the same effect as the torque limit set in the drive.

This torque limit is required to ensure that:

- There are no step changes in torque during switchover from speed-controlled to current-controlled or torque-controlled operation
- The acceleration is reduced to the correct value in the NC

37080	FOC_ACTIVATION_MODE	A10	-			
-	Initial setting of modal torque/force limitation	BYTE	PowerOn			
-						
-	-	0x0	0x0	0x3	7/2	M

Description: The initial setting of the modal torque/force limitation is set with this MD after reset and PowerOn:

Bit 0: Response after PowerON

= 0 : FOCOF

= 1 : FOCON (modal)

Bit 1: Response after reset

= 0 : FOCOF

= 1 : FOCON (modal)

Default setting: FOCOF after reset and PowerOn

37100	GANTRY_AXIS_TYPE	A01, A10	G1,TE1,Z3
-	Gantry axis definition	BYTE	PowerOn
CTEQ			
-	-	0	0

Description: General: decimal representation, with a b

a

0: Leading axis

1: Synchronized axis

b

0: No gantry axis

1: Axis in gantry grouping 1

2: Axis in gantry grouping 2

3: Axis in gantry grouping 3

...

A max. of 8 gantry groupings is possible.

Examples:

11: Axis is a synchronized axis in a gantry grouping 1

2: Axis is a leading axis in gantry a grouping 2

12: Axis is a synchronized axis in a gantry grouping 2

3: Axis is a leading axis in a gantry grouping 3

13: Axis is a synchronized axis in a gantry grouping 3

Special cases:

Alarm 10650 "Incorrect gantry machine data" and 10651 "Gantry unit not defined" in the case of an incorrect gantry axis definition.

Related to:

MD37110 \$MA_GANTRY_POS_TOL_WARNING (gantry warning limit)

MD37120 \$MA_GANTRY_POS_TOL_ERROR (gantry trip limit)

MD37130 \$MA_GANTRY_POS_TOL_REF (gantry trip limit during referencing)

37110	GANTRY_POS_TOL_WARNING	A05, A10	G1,Z3
mm, degrees	Gantry warning limit	DOUBLE	Reset
-			
-	-	0.0	-1e15

Description: Value > 0

With gantry axes, the difference between the position actual values of the leading and synchronized axes is constantly monitored.

MD37110 \$MA_GANTRY_POS_TOL_WARNING is used to define a limit value for the position actual value difference; when the limit is exceeded, warning 10652 "Warning limit exceeded" is output. However, the gantry axes are not stopped internally in the control. The warning threshold must therefore be selected so that the machine can withstand the position actual value deviation between the gantry axes without sustaining mechanical damage.

Furthermore, the NC/PLC interface signal DB31, ... DBX101.3 (Gantry warning limit exceeded) to the PLC is set to "1". The PLC user program can thus initiate the necessary measures (e.g. program interruption at block end) when the warning limit is exceeded.

As soon as the current position actual value difference has dropped below the warning limit again, the message is canceled and the interface signal "Gantry warning limit exceeded" is reset.

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Effect of the gantry warning limit on the gantry synchronization process:
The position actual value difference between the leading and synchronized axes is determined during gantry synchronization. If the deviation is less than the gantry warning limit, the synchronizing motion of the gantry axes is automatically started internally in the control.

Otherwise the synchronizing motion has to be initiated via the PLC interface (interface signal DB31, ... DBX29.4 (Start gantry synchronization process))

Value = 0

The setting MD37110 \$MA_GANTRY_POS_TOL_WARNING = 0 is the monitoring for violation of the warning limit deactivated.

The gantry synchronization is not initiated internally in the control.

Special cases:

Alarm 10652 "Warning limit exceeded" in response to violation of the gantry warning limit.

Related to:

MD37100 \$MA_GANTRY_AXIS_TYPE Gantry axis definition

MD37120 \$MA_GANTRY_POS_TOL_ERROR Gantry trip limit

MD37130 \$MA_GANTRY_POS_TOL_REF

Gantry trip limit during referencing

NC/PLC interface signal DB31, ... DBX101.3 (Gantry warning limit exceeded)

NC/PLC interface signal DB31, ... DBX29.4 (Start gantry synchronization process)

37120	GANTRY_POS_TOL_ERROR	A05, A10	G1,Z3			
mm, degrees	Gantry trip limit	DOUBLE	PowerOn			
-						
-	-	0.0	-1e15	1e15	7/2	M

Description: With gantry axes, the difference between the position actual values of the leading and synchronized axes is continuously monitored. MD37120 \$MA_GANTRY_POS_TOL_ERROR defines the maximum permissible deviation in position actual value between the synchronized axis and the leading axis in the gantry axis grouping. Violation of this limit value is monitored only if the gantry axis grouping is already synchronized (NC/PLC interface signal DB31, ... DBX101.5 (Gantry grouping is synchronized) = 1); otherwise the value set in MD37130 \$MA_GANTRY_POS_TOL_REF is used.

When this limit value is exceeded, alarm 10653 "Error limit exceeded" is output. The gantry axes are immediately stopped internally in the control to prevent any damage to the machine.

In addition, the NC/PLC interface signal DB31, ... DBX101.2 (Gantry trip limit exceeded) to the PLC is set to "1".

Special cases:

Alarm 10653 "Error limit exceeded" in response to violation of the gantry trip limit.

Related to:

MD37100 \$MA_GANTRY_AXIS_TYPE Gantry axis definition

MD37110 \$MA_GANTRY_POS_TOL_WARNING Gantry warning limit

MD37130 \$MA_GANTRY_POS_TOL_REF

Gantry trip limit during referencing

NC/PLC interface signal DB31, ... DBX101.5 (Gantry grouping is synchronized)

NC/PLC interface signal DB31, ... DBX101.2 (Gantry trip limit exceeded)

37130	GANTRY_POS_TOL_REF	A05, A10	G1,Z3
mm, degrees	Gantry trip limit during referencing	DOUBLE	PowerOn
-			
-	-	0.0	-1e15

Description: With gantry axes, the difference between the position actual values of the leading and synchronized axes is continuously monitored. MD37130 \$MA_GANTRY_POS_TOL_REF defines the maximum permissible difference between the position actual values of the synchronized axis and the leading axis that is monitored if the gantry axis grouping has not yet been synchronized (NC/PLC interface signal DB31, ... DBX101.5 (Gantry grouping is synchronized) = 0).

Alarm 10653 "Error limit exceeded" is output if the limit value is exceeded. The gantry axes are immediately stopped internally in the control to prevent any damage to the machine.

In addition, the NC/PLC interface signal DB31, ... DBX101.2 (Gantry trip limit exceeded) to the PLC is set to "1".

Special cases:

Alarm 10653 "Error limit exceeded" in response to violation of the gantry trip limit.

Related to:

MD37100 \$MA_GANTRY_AXIS_TYPE Gantry axis definition
MD37110 \$MA_GANTRY_POS_TOL_WARNING Gantry warning limit
MD37120 \$MA_GANTRY_POS_TOL_ERROR Gantry trip limit
NC/PLC interface signal DB31, ... DBX101.5 (Gantry grouping is synchronized)
NC/PLC interface signal DB31, ... DBX101.2 (Gantry trip limit exceeded)

37135	GANTRY_ACT_POS_TOL_ERROR	A05, A10	-
mm, degrees	Current gantry trip limit	DOUBLE	Reset
-			
-	-	0.0	-

Description: Actual value difference between master axis and slave axis in the case of alarm 10653.

Leads to alarm 10657 after Power ON.

37140	GANTRY_BREAK_UP	EXP, A01, A10	G1,Z3
-	Invalidate gantry axis grouping	BOOLEAN	Reset
CTEQ			
-	-	FALSE	-

Description: GANTRY_BREAK_UP = "0"
The forced coupling of the gantry axis grouping remains valid! Monitoring of violation of the gantry warning or trip limit is active!

GANTRY_BREAK_UP = "1"
This breaks up the forced coupling of the gantry grouping, thus allowing all gantry axes in this grouping to be traversed individually in JOG, AUTOMATIC, and MDI modes. Monitoring for violation of the gantry warning or trip limit is deactivated! The NC/PLC interface signal DB31, ... DBX101.5 "gantry grouping is synchronized" is set to "0".

Notice:

In cases where the gantry axes continue to be mechanically coupled, the machine may sustain damage in this operating state when the leading or synchronized axis is traversed!

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The gantry axes cannot be referenced individually.

Corresponds with:

MD 37100: \$MA_GANTRY_AXIS_TYPE Gantry axis definition

MD 37110: \$MA_GANTRY_POS_TOL_WARNING Gantry warning limit

MD 37130: \$MA_GANTRY_POS_TOL_REF

Gantry trip limit during referencing

NC/PLC interface signal DB31, ... DBX101.5 (gantry grouping is synchronized)

NC/PLC interface signal DB31, ... DBX101.2 (gantry trip limit exceeded)

37150	GANTRY_FUNCTION_MASK	A10	-			
-	Gantry functions	DWORD	Reset			
-						
-	-	0x00	0	0x7	7/2	M

Description: Special gantry functions are set with this MD.

The MD is bit-coded, the following bits are assigned:

Bit 0 == 0:

Extended monitoring of the actual value difference is inactive.

An offset between master and slave axes occurring in tracking or BREAK_UP is not taken into account in the monitoring of the actual value difference.

Alarm 10657 is not output if alarm 10563 occurs before Power OFF.

Bit 0 = 1:

Extended monitoring of the actual value difference is active.

An offset between master and slave axes occurring in tracking or BREAK_UP is taken into account in the monitoring of the actual value difference.

Prerequisite: The gantry grouping must be rereferenced or resynchronized after control startup.

Alarm 10657 is output if alarm 10563 occurs before Power OFF.

Bit 1 = 0:

Zero mark search direction of the slave axis analogous to MD 34010

Bit 1 = 1:

Zero mark search direction of the slave axis same as for master axis

Bit 2 = 0 :

Alarm 10655 "Synchronization in progress" is output

Bit 2 = 1

Alarm 10655 "Synchronization in progress" is not output

37160	LEAD_FUNCTION_MASK	A10	M3			
-	Functions for master value coupling	DWORD	NEW CONF			
CTEQ						
-	-	0x01	0	0x3	1/1	M

Description: With this MD, special functions of master value coupling are set.

The MD is bit-coded, the following bits are assigned:

Bit 0 = 0:

Dead time compensation is not active at actual value coupling.

Bit 0 = 1:

Dead time compensation is active at actual value coupling.

During actual value coupling, a systematic position offset is created between master and following axis. It is caused by the IPO/position controller dead time between the actual values of master axis and following axis.

For SW 6.4 and higher, this position offset can be compensated by a linear extrapolation of the master value.

Possible velocity fluctuations in the master axis may have an increased impact on the following axis.

The bit must be set for the relevant master axis.

Bit 1 = 0:

The spindle/axis disable of the axis will not become effective with the master value coupling active.

The spindle/axis disable of the master axis becomes effective.

Bit 1 = 1:

The spindle/axis disable is effective for this axis even with the master value coupling active.

The bit must be set for the relevant following axis.

37200	COUPLE_POS_TOL_COARSE	A05, A10	M3,S3,2.4,6.2			
mm, degrees	Threshold value for 'Synchronism coarse'	DOUBLE	NEW CONF			
-						
-	-	1.0	0.0	1.0e15	7/2	M

Description: In synchronous mode, the positional difference between the leading and following axis(axes)/spindle(s) is monitored (only DV and AV mode or cmdpos and actpos in the case of CP programming).

The NC/PLC interface signal DB31, ... DBX98.1 (synchronism coarse) is set if the current positional difference is within the tolerance band specified by the threshold value.

Furthermore, this threshold value can be used to define the criterion for block change on activation of synchronous mode or on modification of the speed ratio parameters when the coupling is active in cases where "synchronism coarse" is selected as the block change response condition (see channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1 or language instruction COUPDEF, WAITC, CPBC).

Entering a value of "0" always sets the NC/PLC interface signal DB31, ... DBX98.1 "synchronism coarse" to "1" in DV/AV mode or with cmd/actpos.

Corresponds with:

Channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1

(block change response in synchronous mode)

NC/PLC interface signal DB31, ... DBX98.1 (synchronism coarse)

37202	COUPLE_POS_TOL_COARSE_2	A05, A10	-			
mm, degrees	Second threshold value for 'synchronism monitoring coarse'	DOUBLE	NEW CONF			
-						
-	-	0.0	0.0	1.0e15	7/2	M

Description: Generic coupling - second synchronism monitoring of the synchronism difference on the actual value side in the case of positional couplings - coarse threshold value.

Entering a value of "0" deactivates monitoring.

Entering a value other than "0" starts synchronism monitoring (2) once 'synchronism coarse' has been reached:

The NC/PLC interface signal DB31, ... DBX103.5 (synchronism 2 coarse) indicates whether the synchronism difference on the actual value side violates the threshold value.

If the threshold value is violated, this is indicated by show alarm 22026, which can be canceled.

1.3 NC machine data

Corresponds with:

MD37200 \$MA_COUPLE_POS_TOL_COARSE

NC/PLC interface signal DB31, ... DBX98.1 (synchronism coarse)

37210	COUPLE_POS_TOL_FINE	A05, A10	M3,S3,2,4
mm, degrees	Threshold value for 'Synchronism fine'	DOUBLE	NEW CONF
-			
-	-	0.5	0.0

Description: In synchronous mode, the positional difference between the leading and following axis(axes)/spindle(s) is monitored (only DV and AV mode or cmdpos and actpos in the case of CP programming).

The NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine) is set if the current positional difference is within the tolerance band specified by the threshold value.

Furthermore, this threshold value can be used to define the criterion for block change on selection of synchronous mode or on modification of the speed ratio parameters when the coupling is active in cases where "synchronism fine" is selected as the block change response condition (see channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1 or language instruction COUP-DEF, WAITC, CPBC).

Entering a value of "0" always sets the NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine) to "1" in DV/AV mode or with cmd/actpos.

Corresponds with:

Channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1

(block change response in synchronous mode)

NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine)

37212	COUPLE_POS_TOL_FINE_2	A05, A10	-
mm, degrees	Second threshold value for 'synchronism monitoring fine'	DOUBLE	NEW CONF
-			
-	-	0.0	0.0

Description: Generic coupling - second synchronism monitoring of the synchronism difference on the actual value side in the case of positional couplings - fine threshold value.

Entering a value of "0" deactivates monitoring.

Entering a value other than "0" starts synchronism monitoring (2) once 'synchronism fine' has been reached:

The NC/PLC interface signal DB31, ... DBX103.4 (synchronism 2 fine) indicates whether the synchronism difference on the actual value side violates the threshold value.

If the threshold value is violated, this is indicated by show alarm 22025, which can be canceled.

Corresponds with:

MD37210 \$MA_COUPLE_POS_TOL_FINE

NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine)

37220	COUPLE_VELO_TOL_COARSE	A05, A10	S3
mm/min, rev/ min	Velocity tolerance 'coarse'	DOUBLE	NEW CONF
-			
-	-	60.0	-

Description: In synchronous mode, the velocity difference between the leading and following axis(axes)/spindle(s) is monitored (only VV mode or cmdvel in the case of CP programming).

The NC/PLC interface signal DB31, ... DBX98.1 (synchronism coarse) is set if the current velocity difference is within the tolerance band specified by the threshold value.

Furthermore, this threshold value can be used to define the criterion for block change on activation of synchronous mode or on modification of the speed ratio parameters when the coupling is active in cases where "synchronism coarse" is selected as the block change response condition (see channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1 or language instruction COUPDEF, WAITC, CPBC).

Entering a value of "0" always sets the NC/PLC interface signal DB31, ... DBX98.1 (synchronism coarse) to "1" in VV mode or with cmdvel.

Corresponds with:

Channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1

(block change response in synchronous mode)

NC/PLC interface signal DB31, ... DBX98.1 (synchronism coarse)

37230	COUPLE_VELO_TOL_FINE	A05, A10	S3
mm/min, rev/ min	Velocity tolerance 'fine'	DOUBLE	NEW CONF
-			
-	-	30.0	-

Description: In synchronous mode, the velocity difference between the leading and following axis(axes)/spindle(s) is monitored (only VV mode or cmdvel in the case of CP programming).

The NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine) is set if the current velocity difference is within the tolerance band specified by the threshold value.

Furthermore, this threshold value can be used to define the criterion for block change on activation of synchronous mode or on modification of the speed ratio parameters when the coupling is active in cases where "synchronism fine" is selected as the block change response condition (see channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1 or language instruction COUPDEF, WAITC, CPBC).

Entering a value of "0" always sets the NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine) to "1" in VV mode or with cmdvel.

Corresponds with:

Channel-specific MD21320 \$MC_COUPLE_BLOCK_CHANGE_CTRL_1

(block change response in synchronous mode)

NC/PLC interface signal DB31, ... DBX98.0 (synchronism fine)

1.3 NC machine data

37240	COUP_SYNC_DELAY_TIME	A05, A10	-
s	Delay time actual value synchronism	DOUBLE	NEW CONF
-			
-	2	60, 30	-

Description: Synchronous spindle coupling: delay time - monitors the time taken to reach actual value synchronism after reaching setpoint synchronism.

\$MA_COUP_SYNC_DELAY_TIME[0]: time to reach 'Synchronism fine'

\$MA_COUP_SYNC_DELAY_TIME[1]: time to reach 'Synchronism coarse'

If the value "0" is entered, the relevant monitoring is inactive

Related to:

MD 37200 \$MA_COUPLE_POS_TOL_COARSE

MD 37210 \$MA_COUPLE_POS_TOL_FINE

MD 37220 \$MA_COUPLE_VELO_TOL_COARSE

MD 37230 \$MA_COUPLE_VELO_TOL_FINE

37250	MS_ASSIGN_MASTER_SPEED_CMD	A10	TE3
-	Master axis for speed setpoint coupling	DWORD	PowerOn
-			
-	-	0	0

Description: A master/slave speed setpoint linkage is configured by indicating the machine axis number of the master axis belonging to this slave.

Related to:

MD37252 \$MA_MS_ASSIGN_MASTER_TORQUE_CTR

37252	MS_ASSIGN_MASTER_TORQUE_CTR	A10	TE3
-	Master axis number for torque control	DWORD	PowerOn
-			
-	-	0	0

Description: Torque distribution between master and slave axes is configured by stating the machine axis number of the master axis belonging to the slave.

Homogenous torque distribution is achieved by using the torque compensatory controller.

In order to do this, the controller has to know the torque actual values of the drives involved (with PROFIdrive, the message frame used must include and transfer these values, e.g. use message frame 116)

With default setting = 0, the same master axis is used for torque control as for speed setpoint coupling MD37250 \$MA_MS_ASSIGN_MASTER_SPEED_CMD.

Related to:

MD37250 \$MA_MS_ASSIGN_MASTER_SPEED_CMD

MD37254 \$MA_MS_TORQUE_CTRL_MODE

MD37256 \$MA_MS_TORQUE_CTRL_P_GAIN

MD37258 \$MA_MS_TORQUE_CTRL_I_TIME

MD37268 \$MA_MS_TORQUE_WEIGHT_SLAVE

37253	MS_FUNCTION_MASK	A10	TE3
-	Master/slave settings	DWORD	NEW CONF
-			
-	-	0x0	-

Description: Parameterizing a master/slave coupling

Bit 0 = 0:

The scaling of MD37256 \$MA_MS_TORQUE_CTRL_P_GAIN, MD37260 \$MA_MS_MAX_CTRL_VELO is smaller than described in the documentation by the factor 1s/IPO cycle.

Bit 0 = 1:

The scaling of MD37256 \$MA_MS_TORQUE_CTRL_P_GAIN, MD37260 \$MA_MS_MAX_CTRL_VELO corresponds to the documentation.

Bit 1 = 0:

With MASLDEF, the master axis for torque compensation control is the programmed axis

Bit 1 = 1:

With MASLDEF, the master axis for torque compensation control is the axis configured in MD37252.

37254	MS_TORQUE_CTRL_MODE	A10	TE3
-	Torque compensatory controller interconnection	DWORD	Immediately
-			
-	-	0	0

Description: The output of the torque compensatory controller is connected to

0: Master and slave axis

1: Slave axis

2: Master axis

3: No axis

when the torque control is active.

Related to:

MD37252 \$MA_MS_ASSIGN_MASTER_TORQUE_CTR

MD37250 \$MA_MS_ASSIGN_MASTER_SPEED_CMD

MD37254 \$MA_MS_TORQUE_CTRL_MODE

37255	MS_TORQUE_CTRL_ACTIVATION	A10	TE3
-	Torque compensatory controller activation	BYTE	NEW CONF
-			
-	-	0	0

Description: The torque compensatory controller can be switched ON and OFF by means of MD37254 \$MA_MS_TORQUE_CTRL_MODE or via the NC/PLC interface signal DB31, ... DBX24.4 (torque compensatory controller on).

In order to do this, the controller has to know the torque actual values of the drives involved (with PROFIdrive, the message frame used must include and transfer these values, e.g. use message frame 116).

In the case of the PLC, MD37254 \$MA_MS_TORQUE_CTRL_MODE is only used for configuring the interconnection of the torque compensatory controller.

0: Switch ON/OFF via MD37254

1: Switch ON/OFF via the NC/PLC interface signal DB31, ... DBX24.4 (torque compensatory controller on)

1.3 NC machine data

37256	MS_TORQUE_CTRL_P_GAIN	A10	TE3			
%	Torque compensatory controller gain factor	DOUBLE	NEW CONF			
-						
-	-	0.0	0.0	100.0	7/2	M

Description: Gain factor of the torque compensatory controller

The gain factor is entered in percent as the ratio of the maximum axis velocity of the slave axis on the load side to the rated torque.

The maximum axis velocity is derived from MD32000 \$MA_MAX_AX_VELO, the rated torque from the product of drive machine data MD1725.

Related to:

MD37254 \$MA_MS_TORQUE_CTRL_MODE

MD37258 \$MA_MS_TORQUE_CTRL_I_TIME

MD32000 \$MA_MAX_AX_VELO

37258	MS_TORQUE_CTRL_I_TIME	A10	TE3			
s	Torque compensatory controller integral action time	DOUBLE	NEW CONF			
-						
-	-	0.0	0.0	100.0	7/2	M

Description: Integral time of the torque compensatory controller

The integral time does not become active until the P gain factor is greater than 0.

Related to:

MD37254 \$MA_MS_TORQUE_CTRL_MODE

MD37256 \$MA_MS_TORQUE_CTRL_P_GAIN

MD32000 \$MA_MAX_AX_VELO

37260	MS_MAX_CTRL_VELO	A10	TE3			
%	Torque compensatory controller limit	DOUBLE	NEW CONF			
-						
-	-	100.0	0.0	100.0	7/2	M

Description: Torque compensatory controller limitation

The speed setpoint value calculated by the torque compensatory controller is limited.

The limit that can be entered as a percentage refers to MD32000 \$MA_MAX_AX_VELO of the slave axis.

Related to:

MD37254 \$MA_MS_TORQUE_CTRL_MODE

MD37256 \$MA_MS_TORQUE_CTRL_P_GAIN

MD37258 \$MA_MS_TORQUE_CTRL_I_TIME

MD32000 \$MA_MAX_AX_VELO

37262	MS_COUPLING_ALWAYS_ACTIVE	A10	TE3			
-	Permanent master/slave link	BYTE	NEW CONF			
-						
-	-	0	0	1	7/2	M

Description: Activation behavior of a master/slave coupling

0: Temporary coupling

The coupling is activated/deactivated via PLC interface signals and language commands.

1: Permanent coupling

This machine data activates the permanent coupling.

PLC interface signals and language commands do not have any effect.

Related to:

MD37252 \$MA_MS_ASSIGN_MASTER_TORQUE_CTR

MD37250 \$MA_MS_ASSIGN_MASTER_SPEED_CMD

37263	MS_SPIND_COUPLING_MODE	A10	TE3
-	Link response of a spindle	BYTE	NEW CONF
-			
-	- 0 0 1 7/2 M		

Description: Link behavior of a speed-controlled spindle:

0: Link is closed/released in standstill only.

1: Link is closed/released already during motion.

The configuration is valid both for activation/deactivation via DB3x.DBX24.5 and for MASLON, MASLOF, MASLOFs, MASLDEL

37264	MS_TENSION_TORQUE	A10	TE3
%	Master-slave tension torque	DOUBLE	Immediately
-			
-	- 0.0 -100.0 100.0 7/2 M		

Description: A constant tension torque between the master and the slave axis can be entered as a percentage of the rated drive torque of the slave axis.

Use of a tension torque requires an active torque compensatory controller (compare MD37255 \$MA_MS_TORQUE_CTRL_ACTIVATION).

Related to:

MD37252 \$MA_MS_ASSIGN_MASTER_TORQUE_CTR

MD37266 \$MA_MS_TENSION_TORQ_FILTER_TIME

MD37255 \$MA_MS_TORQUE_CTRL_ACTIVATION

37266	MS_TENSION_TORQ_FILTER_TIME	A10	TE3
s	Filter time constant tension torque	DOUBLE	NEW CONF
-			
-	- 0.0 0.0 100.0 7/2 M		

Description: The tension torque between the master and slave axes can be activated via a PT1 filter. Any change of MD37264 \$MA_MS_TENSION_TORQUE is then travelled out with the time constant of the filter.

As default, the filter is inactive; any torque change becomes active unfiltered.

Related to:

MD37264 \$MA_MS_TENSION_TORQUE

37268	MS_TORQUE_WEIGHT_SLAVE	A10	TE3
%	Torque weighting of slave axis	DOUBLE	NEW CONF
-			
-	- 50.0 1.0 100.0 7/2 M		

Description: The torque share that the slave axis contributes to the total torque can be configured via the weighting. This enables different torque shares to be implemented between the master and slave axes.

1.3 NC machine data

In the case of motors with the same rated torque, a 50% to 50% torque sharing is suggested.

The torque share of the master axis results implicitly from 100% - MD37268.

Related to:

MD37252 \$MA_MS_ASSIGN_MASTER_TORQUE_CTR

MD37266 \$MA_MS_TENSION_TORQ_FILTER_TIME

37270	MS_VELO_TOL_COARSE	A10	TE3,Z3
%	Master/slave speed tolerance coarse	DOUBLE	NEW CONF
-			
-	-	5.0	-

Description: Tolerance window, coarse, for the differential speed between the master and the slave.

If the speed difference is within the tolerance window, the NC/PLC interface signal DB31, ... DBX96.4 (Master-Slave compensatory controller active) is set.

The tolerance value is entered as a percentage of MD32000 \$MA_MAX_AX_VELO.

37272	MS_VELO_TOL_FINE	A10	TE3,Z3
%	Master/slave speed tolerance fine	DOUBLE	NEW CONF
-			
-	-	1.0	-

Description: Tolerance window, fine, for the differential speed between the master and the slave.

If the speed difference is within the tolerance window, the NC/PLC interface signal DB31, ... DBX96.3 (Master/Slave coarse) is set.

The tolerance value is entered as a percentage of MD32000 \$MA_MAX_AX_VELO.

37274	MS_MOTION_DIR_REVERSE	A10	-
-	Inverting traversing direction slave axis	BYTE	NEW CONF
-			
-	-	0	0

Description: Inverting the traversing direction of a slave axis in the linked status.

0: Equidirectional to the master axis

1: Inverse to the master axis

37400	EPS_TLIFT_TANG_STEP	A10	T3
mm, degrees	Tangent angle for corner recognition	DOUBLE	Reset
CTEQ			
-	-	5.0	-

Description: If TLIFT has been programmed and the axis is tracked tangentially, a step of the position setpoint larger than MD37400 \$MA_EPS_TLIFT_TANG_STEP causes an intermediate block to be inserted. The intermediate block traverses the axis to the position corresponding to the start tangent in the next block.

MD irrelevant if: TLIFT not activated

Related to:

TLIFT instruction

37402	TANG_OFFSET	A10	T3			
mm, degrees	Default angle for tangential correction	DOUBLE	Reset			
CTEQ						
-	-	0.0	-	-	7/2	M

Description: Default offset (angle), which the tracked axis forms with the tangent. The angle acts in addition to the angle programmed in the TANGON block.
MD irrelevant if tangential tracking not active.
Related to:
TANGON instruction

37500	ESRREACTION	EXP, A01, A10, -	M3,P2			
-	Axial mode of "Extended Stop and Retract"	BYTE	NEW CONF			
CTEQ						
-	-	0	0	22	7/2	M

Description: Selection of the response to be triggered via system variable "\$AN_ESR_TRIGGER".
0 = No response Reaktion (or only external response through synchronized action programming of rapid digital outputs).
21 = NC-controlled retraction axis
22 = NC-controlled stopping axis

37510	AX_ESR_DELAY_TIME1	EXP, A01, A10, -	P2			
s	Delay time ESR single axis	DOUBLE	NEW CONF			
CTEQ						
-	-	0.0	-	-	7/2	M

Description: If, for example, an alarm occurs, the deceleration time can be delayed by means of this MD, e.g. to allow in case of gear hobbing the retraction from the tooth gap first.

37511	AX_ESR_DELAY_TIME2	EXP, A01, A10, -	P2			
s	ESR time for interpolatory deceleration of single axis	DOUBLE	NEW CONF			
CTEQ						
-	-	0.0	-	-	7/2	M

Description: The time for interpolatory braking specified here in MD37511 \$MA_AX_ESR_DELAY_TIME2 still remains after expiry of the time MD37510 \$MA_AX_ESR_DELAY_TIME1.
Rapid braking with subsequent tracking is initiated after expiry of the time MD37511 \$MA_AX_ESR_DELAY_TIME2.

37550	EG_VEL_WARNING	A05, A10	M3,Z3			
%	Threshold value for velocity warning threshold.	DOUBLE	NEW CONF			
CTEQ						
-	-	90.0	0	100	7/2	M

Description: Threshold value for VDI signals
If, with active EG axis link, the maximum velocities stored in MD 32000: \$MA_MAX_AX_VELO have been reached for the current velocity of the axis by the percentage set here, a warning (signal) for velocity is output.

Machine and setting data

1.3 NC machine data

Related to:

MD32000 \$MA_MAX_AX_VELO

37560	EG_ACC_TOL	A05, A10	M3,Z3
%	Threshold value for 'Axis accelerating'	DOUBLE	NEW CONF
-			
-	-	25.0	-

Description: Threshold value for VDI signal "Axis accelerates"

If, with active EU axis link, the maximum accelerations stored in MD 32300: \$MA_MAX_AX_ACCEL have been reached for the current acceleration of the axis by the percentage set here, a warning (signal) for acceleration is output.

Korrespondiert mit:

MD32300 \$MA_MAX_AX_ACCEL

37600	PROFIBUS_ACTVAL_LEAD_TIME	EXP, A01, A02	-
s	Actual value acquisition time (PROFIBUS/PROFINET Ti)	DOUBLE	PowerOn
-			
-	-	0.000125	0.0

Description: For PROFIBUS/PROFINET only:

Machine data for setting the actual value acceptance time (Ti) of the encoder on the PROFIBUS/PROFINET.

Unit: seconds; therefore default is 125µs

(this is also the default which STEP 7 sets for a 611U).

NOTICE:

The actual Ti value is read directly from the SDB configuration or the drive, if possible.

In this case, the machine data value is set to the read value and will only serve for display purposes.

37602	PROFIBUS_OUTVAL_DELAY_TIME	EXP, A01, A02	-
s	Setpoint delay time (PROFIBUS/PROFINET To)	DOUBLE	PowerOn
-			
-	-	0.003	0.0

Description: For PROFIBUS/PROFINET only:

Machine data for setting the setpoint acceptance time (To) on the PROFIBUS/PROFINET.

Unit: seconds

NOTICE:

The actual To value is read directly from the SDB configuration or the drive, if possible.

In this case, the value of the machine data is set to the read value and serves for display purposes only.

37610	PROFIBUS_CTRL_CONFIG	EXP, A01	-
-	PROFIdrive control bit configuration	BYTE	PowerOn
-			
-	-	0	0

Description: For PROFIdrive only:

Machine data for setting special PROFIdrive control word functionality:

0 =
 default = no change of standard behavior
 1 =
 STW2, bits 0-1 are set depending on mode of operation/rapid traverse suppressing the setting of defaults for the VDI control bits "Parameter set bit0/1" from the PLC.
 Bits 0-1 get the following combinations depending on the mode of operation, and controlled by NCK:
 00 = Default (after Power-On)
 01 = JOG (except for JOG-INC) or ((AUTOMATIC or MDI) and G0)
 10 = ((AUTOMATIC or MDI) and not G0), other
 11 = JOG-INC
 2 =
 Combination of MD=0 (preset by VDI) and MD=1 (internally preset):
 MD=2 acts as MD=1, as long as there are no VDI control bits from the PLC, i.e. if the VDI control bits "Parameter set bit0/1" are both reset (0).
 MD=2 acts as MD=0, if the VDI control bits "Parameter set bit0/1" are set both or individually (!=0). In this case, the VDI control bits are transferred directly to the drive (priority of VDI signals higher than that of internally created signals).

37620	PROFIBUS_TORQUE_RED_RESOL	EXP, A01	-			
%	Resolution PROFIdrive torque reduction	DOUBLE	NEW CONF			
-						
-	-	1.0	0.005	10.0	7/2	M

Description: For PROFIdrive only:
 Resolution of torque reduction on the PROFIdrive (LSB significance)
 The MD is only relevant for controls with PROFIdrive drives. For these controls, it defines the resolution of the cyclic interface data "Torque reduction value" (only exists for MD13060 \$MN_DRIVE_TELEGRAM_TYPE = 101 ff. or 201 ff.), which is required for the "Travel to fixed stop" functionality.
 The 1% default value corresponds to the original significance. The torque limit is transferred on the PROFIdrive with increments of 1%; the value 100 in the corresponding PROFIdrive message frame data cell corresponds to full torque reduction (i.e. without force).
 By changing this MD to 0.005%, for example, the value can be entered in increments of 0.005%, i.e. the increments for the torque limit value become finer by a factor of 200.
 For limitation to the rated torque, the value 0 is transmitted in this case; complete torque reduction (i.e. without force) characterizes the transmittable value 10000.
 To avoid misadaptation, the setting value of the MD must be selected to match the interpretation configured on the drive side or the firmly defined interpretation of the torque reduction value. If the setting of the control on the drive (manufacturer-specific drive parameter) is known (i.e. with SIEMENS drives), the software automatically sets the MD; in other words, in this case the MD is merely used for display purposes.

1.3 NC machine data

37800	OEM_AXIS_INFO	A01, A11	-
-	OEM version information	STRING	PowerOn
-			
-	2 , - , -	7/2	M

Description: A version information freely available to the user
(is indicated in the version screen)

37900	SAFE_CAM_TRACK_OUTPUT	A01, -	FBSI
-	Output assignment cam track 1 to 4	DWORD	PowerOn
-			
-	4 0, 0, 0, 0	7/2	M

Description: This data defines the outputs for the cam tracks 1 to 4.
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
n = 0, 1, 2, 3 correspond to the assignment for cam track 1 to 4
Signal Meaning
= 0 Axis is not placed on a cam of the cam track
= 1 Axis is placed on a cam of the cam track
Special cases:
The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.

37901	SAFE_CAM_RANGE_OUTPUT_1	A01, -	FBSI
-	Output assignment cam range for cam track 1	DWORD	PowerOn
-			
-	4 0, 0, 0, 0	7/2	M

Description: This data defines the outputs for the cam range of cam track 1.
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
n = 0, 1, 2, 3 correspond to the 4 bits for the indicated range on cam track 1
Bit 3 Bit 2 Bit 1 Bit 0
0 0 0 0 Cam range 0 active
0 0 0 1 Cam range 1 active
to ...
1 1 1 1 Cam range 15 active
The cam range is defined via the following machine data:
MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[n]
Signal Meaning
= 0...14 Axis is placed within the cam range, to which the range ID 0...14 on cam track 1 was assigned
= 15 Axis is placed within the range to the right of the cam with the highest position of cam track 1
Special cases:
The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.

37902	SAFE_CAM_RANGE_OUTPUT_2	A01, -	FBSI
-	Output assignment cam range for cam track 2	DWORD	PowerOn
-			
-	4 0, 0, 0, 0	7/2	M

Description: This data defines the outputs for the cam range of cam track 2.
Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT

$n = 0, 1, 2, 3$ correspond to the 4 bits for the indicated range on cam track 2

Bit 3 Bit 2 Bit 1 Bit 0

0 0 0 0 Cam range 0 active

0 0 0 1 Cam range 1 active

to ...

1 1 1 1 Cam range 15 active

The cam range is defined via the following machine data:

MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[n]

Signal Meaning

= 0...14 Axis is placed within the cam range, to which the range ID 0...14 on cam track 2 was assigned

= 15 Axis is placed within the range to the right of the cam with the highest position of cam track 2

Special cases:

The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.

37903	SAFE_CAM_RANGE_OUTPUT_3	A01, -	FBSI
-	Output assignment cam range for cam track 3	DWORD	PowerOn
-			
-	4	0, 0, 0, 0	- - 7/2 M

Description: This data defines the outputs for the cam range of cam track 3.

Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT

$n = 0, 1, 2, 3$ correspond to the 4 bits for the indicated range on cam track 3

Bit 3 Bit 2 Bit 1 Bit 0

0 0 0 0 Cam range 0 active

0 0 0 1 Cam range 1 active

to ...

1 1 1 1 Cam range 15 active

The cam range is defined via the following machine data:

MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[n]

Signal Meaning

= 0...14 Axis is placed within the cam range, to which the range ID 0...14 on cam track 3 was assigned

= 15 Axis is placed within the range to the right of the cam with the highest position of cam track 3

Special cases:

The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.

37904	SAFE_CAM_RANGE_OUTPUT_4	A01, -	FBSI
-	Output assignment cam range for cam track 4	DWORD	PowerOn
-			
-	4	0, 0, 0, 0	- - 7/2 M

Description: This data defines the outputs for the cam range of cam track 4.

Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT

$n = 0, 1, 2, 3$ correspond to the 4 bits for the indicated range on cam track 4

Bit 3 Bit 2 Bit 1 Bit 0

0 0 0 0 Cam range 0 active

0 0 0 1 Cam range 1 active

to ...

1.3 NC machine data

1 1 1 1 Cam range 15 active
 The cam range is defined via the following machine data:
 MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[n]
 Signal Meaning
 = 0...14 Axis is placed within the cam range, to which the range ID 0...14 on cam track 4 was assigned
 = 15 Axis is placed within the range to the right of the cam with the highest position of cam track 4
 Special cases:
 The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.

37906	SAFE_CAM_RANGE_BIN_OUTPUT_1	A01, -	FBSI
-	Output assignment cam range bit for cam track 1	DWORD	PowerOn
-			
-	15	0, 0, 0, 0, 0, 0, 0, - 0, 0, 0, 0, 0, 0, 0, 0	- 7/2 M

Description: This data defines the outputs for the cam range bits of cam track 1.
 Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
 Field index n corresponds to the parameterizable cam range numbers on cam track 1.
 The cam range number is defined via the following machine data:
 MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[k]
 Signal Meaning
 = 0 Axis is not placed on cam with cam range number n
 = 1 Axis is placed on cam with cam range number n
 Example:
 The signal addressed with field index 5 changes to 1, if the axis is placed on the cam, to which cam range number 5 on cam track 1 was assigned during parameterization.
 Special cases:

- The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.
- If cam range number n on cam track 1 is not parameterized, the signal of field index can never change to 1. In this case the output MD with field index n does not have to be parameterized.

37907	SAFE_CAM_RANGE_BIN_OUTPUT_2	A01, -	FBSI
-	Output assignment cam range bit for cam track 2	DWORD	PowerOn
-			
-	15	0, 0, 0, 0, 0, 0, 0, - 0, 0, 0, 0, 0, 0, 0, 0	- 7/2 M

Description: This data defines the outputs for the cam range bits of cam track 2.
 Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT
 Field index n corresponds to the parameterizable cam range numbers on cam track 2.
 The cam range number is defined via the following machine data:
 MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[k]
 Signal Meaning
 = 0 Axis is not placed on cam with cam range number n
 = 1 Axis is placed on cam with cam range number n

Example:

The signal addressed with field index 5 changes to 1, if the axis is placed on the cam, to which cam range number 5 on cam track 2 was assigned during parameterization.

Special cases:

- The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.
- If cam range number n on cam track 2 is not parameterized, the signal of field index n can never change to 1. In this case the output MD with field index n does not have to be parameterized.

37908	SAFE_CAM_RANGE_BIN_OUTPUT_3	A01, -	FBSI
-	Output assignment cam range bit for cam track 3	DWORD	PowerOn
-			
-	15	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	- - 7/2 M

Description: This data defines the outputs for the cam range bits of cam track 3.

Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT

Field index n corresponds to the parameterizable cam range numbers on cam track 3.

The cam range number is defined via the following machine data:

MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[k]

Signal Meaning

- = 0 Axis is not placed on cam with cam range number n
- = 1 Axis is placed on cam with cam range number n

Example:

The signal addressed with field index 5 changes to 1, if the axis is placed on the cam, to which cam range number 5 on cam track 3 was assigned during parameterization.

Special cases:

- The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.
- If cam range number n on cam track 3 is not parameterized, the signal of field index n can never change to 1. In this case the output MD with field index n does not have to be parameterized.

37909	SAFE_CAM_RANGE_BIN_OUTPUT_4	A01, -	FBSI
-	Output assignment cam range bit for cam track 4	DWORD	PowerOn
-			
-	15	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	- - 7/2 M

Description: This data defines the outputs for the cam range bits of cam track 4.

Structure see: \$MA_SAFE_SVSS_STATUS_OUTPUT

Field index n corresponds to the parameterizable cam range numbers on cam track 4.

The cam range number is defined via the following machine data:

MD 36938: \$MA_SAFE_CAM_TRACK_ASSIGN[k]

Signal Meaning

- = 0 Axis is not placed on cam with cam range number n
- = 1 Axis is placed on cam with cam range number n

1.3 NC machine data

Example:

The signal addressed with field index 5 changes to 1, if the axis is placed on the cam, to which cam range number 5 on cam track 4 was assigned during parameterization.

Special cases:

- The function "Safe cam track" is enabled via MD 36903 \$MA_SAFE_CAM_ENABLE.
- If cam range number n on cam track 4 is not parameterized, the signal of field index n can never change to 1. In this case the output MD with field index n does not have to be parameterized.

38000	MM_ENC_COMP_MAX_POINTS	A01, A09, A02	K3
-	Number of intermediate points for interpol. compensation (SRAM)	DWORD	PowerOn
-			
-	2	0, 0	0
		5000	7/2
			M

Description: The number of interpolation points required per measuring system must be defined for the leadscrew error compensation.

The required number can be calculated as follows using the defined parameters:

$$\text{MD38000 } \$\text{MA_MM_ENC_COMP_MAX_POINTS} = \frac{\$AA_ENC_COMP_MAX - \$AA_ENC_COMP_MIN}{\$AA_ENC_COMP_STEP} + 1$$

\$AA_ENC_COMP_MIN Initial position (system variable)

\$AA_ENC_COMP_MAX End position (system variable)

\$AA_ENC_COMP_STEP Distance between interpolation points (system variable)

When selecting the number of interpolation points and/or the distances between them, it is important to take into account the size of the resulting compensation table and the space required in the buffered NC user memory (SRAM). 8 bytes are required for each compensation value (interpolation point).

The index [n] has the following coding: [encoder no.]: 0 or 1

Special cases: Notice:

After any change in MD38000 \$MA_MM_ENC_COMP_MAX_POINTS, the buffered NC user memory is automatically re-allocated on system power-on.

All data in the buffered NC user memory are then lost (e.g. part programs, tool offsets etc.). Alarm 6020 "Machine data changed - memory reallocated" is output.

If reallocation of the NC user memory fails because the total memory capacity available is insufficient, alarm 6000 "Memory allocation made with standard machine data" is output.

In this case, the NC user memory division is allocated using the default values of the standard machine data.

References:

/FB/, S7, "Memory Configuration"

/DA/, "Diagnostics Guide"

Related to:

MD32700 \$MA_ENC_COMP_ENABLE[n] LEC active

References:

/FB/, S7, "Memory Configuration"

38010	MM_QEC_MAX_POINTS	A01, A09	K3			
-	Number of values for quadrant error compens. with neural network	DWORD	PowerOn			
-						
-	1	0	0	1040	7/2	M

Description: In quadrant error compensation with neural networks (QEC), the number of compensation values required has to be entered for each axis that is to be compensated.

The required number can be calculated as follows using the defined parameters: MD38010 \$MA_MM_QEC_MAX_POINTS _ (\$AA_QEC_COARSE_STEPS + 1) ^

\$AA_QEC_FINE_STEPS

\$AA_QEC_COARSE_STEPS Coarse quantization of the characteristic (system variable)

\$AA_QEC_FINE_STEPS Fine quantization of the characteristic (system variable)

For "direction-dependent" compensation, the number must be greater than or equal to double the value of this product.

When selecting coarse or fine quantization, the resulting size of the compensation table and its memory requirement in the buffered user memory must be taken into account. 4 bytes are required for each compensation value. If the value 0 is entered, no memory is reserved for the table; i.e. the table does not exist and the function cannot therefore be activated.

Special cases:

Caution!

If MD38010 \$MA_MM_QEC_MAX_POINTS is altered, the buffered NC user memory is automatically re-allocated on system power-on. This deletes all the user data in the buffered user memory (e.g. drive and HMI machine data, code, tool offsets, part programs etc.).

Note:

For better handling, a large number should be chosen initially, because the exact number of interpolation points that are required is not known when the compensation is started for the first time. This number can be reduced to the required size as soon as the characteristics have been recorded and saved.

After performing another power-on, the saved characteristics can be reloaded.

References:

/FB/, S7, "Memory Configuration"

1.4 NC setting data

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

41010	JOG_VAR_INCR_SIZE	-	H1
-	Size of the variable increment for JOG	DOUBLE	Immediately
-			
-	-	0.	7/7 M

Description: This setting data defines the number of increments when variable increment (INCvar) is selected. This increment size is traversed by the axis in JOG mode each time the traverse key is pressed or the handwheel is turned one detent position and variable increment is selected (PLC interface signal "Active machine function: INC variable" for machine or geometry axes is set to 1). The defined increment size also applies to DRF.

Note:

Please note that the increment size is active for incremental jogging and handwheel jogging. So, if a large increment value is entered and the handwheel is turned, the axis might cover a large distance (depends on setting in MD31090 \$MA_JOG_INCR_WEIGHT).

SD irrelevant to

JOG continuous

Related to

NC/PLC interface signal DB21-30 DBX41.5,DBX47.5,DBX53.5 (Geometry axis 1-3 active machine function: INC variable) or NC/PLC interface signal DB31, ... DBX65.5 (Active machine function: INC variable)

MD31090 \$MA_JOG_INCR_WEIGHT (weighting of an increment for INC/handwheel)

41050	JOG_CONT_MODE_LEVELTRIGGRD	-	H1
-	Jog mode / continuous operation with continuous JOG	BOOLEAN	Immediately
-			
-	-	TRUE	7/7 M

Description: 1: Jog mode for JOG continuous

In jog mode (default setting) the axis traverses as long as the traverse key is held down and an axis limitation has not been reached. When the key is released the axis is decelerated to zero speed and the movement is considered complete.

0: Continuous operation for JOG continuous

In continuous operation the traverse movement is started with the first rising edge of the traverse key and continues to move even after the key is released. The axis can be stopped again by pressing the traverse key again (second rising edge).

SD irrelevant for

Incremental jogging (JOG INC)

Reference point approach (JOG REF)

41100	JOG_REV_IS_ACTIVE	-	-
-	JOG mode: revolutional feedrate / linear feedrate	BYTE	Immediately
-			
-	-	0x0E	-

Description: Bit 0 = 0:

The behavior depends on the following:

- in the case of an axis/spindle:
on the axial SD43300 \$SA_ASSIGN_FEED_PER_REV_SOURCE
- in the case of a geometry axis with an active frame with rotation:
on the channel-specific SD42600 \$SC_JOG_FEED_PER_REV_SOURCE
- in the case of an orientation axis:
on the channel-specific SD42600 \$SC_JOG_FEED_PER_REV_SOURCE

Bit 0 = 1:

A JOG motion with revolutional feedrate shall be traversed depending on the master spindle.

The following must be considered:

- If a spindle is the master spindle itself, it will be traversed without revolutional feedrate.
- If the master spindle is in stop position and if SD43300 \$SA_ASSIGN_FEED_PER_REV_SOURCE (with an axis/spindle) or SD42600 \$SC_JOG_FEED_PER_REV_SOURCE (with a geometry axis with an active frame with rotation, or with an orientation axis) = -3, traversing will be carried out without revolutional feedrate.

Bit 1 = 0:

The axis/spindle, geometry axis or orientation axis will be traversed with revolutional feedrate even during rapid traverse (see bit 0 for selection).

Bit 1 = 1:

The axis/spindle, geometry axis or orientation axis is always traversed without revolutional feedback during rapid traverse.

Bit 2 = 0:

The axis/spindle, geometry axis or orientation axis is traversed with revolutional feedrate during JOG handwheel travel, too (see bit 0 for selection).

Bit 2 = 1:

The axis/spindle, geometry axis or orientation axis is always traversed without revolutional feedrate during JOG handwheel travel.

Bit 3 = 0:

The axis/spindle is traversed with revolutional feedrate during DRF handwheel travel, too (see bit 0 for selection).

Bit 3 = 1:

The axis/spindle is always traversed without revolutional feedrate during DRF handwheel travel.

41110	JOG_SET_VELO	-	H1
mm/min	Axis velocity in JOG	DOUBLE	Immediately
-			
-	-	0.0	-

Description: Value not equal to 0:

The velocity value entered applies to linear axes traversed in JOG mode if linear feedrate (G94) is active for the relevant axis (SD41100 \$SN_JOG_REV_IS_ACTIVE = 0).

1.4 NC setting data

The axis velocity is active for

- continuous jogging
- incremental jogging (INC1, ... INCvar)
- handwheel traversing.

The value entered is valid for all linear axes and must not exceed the maximum permissible axis velocity (MD32000 \$MA_MAX_AX_VELO).

In the case of DRF, the velocity defined by SD41110 \$SN_JOG_SET_VELO is reduced by

MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR.

Value = 0:

If 0 has been entered in the setting data, the active linear feedrate in JOG mode is

MD32020 \$MA_JOG_VELO "Jog axis velocity". Each axis can be given its own JOG velocity with this MD (axial MD).

SD irrelevant for

- Linear axes if SD41100 \$SN_JOG_REV_IS_ACTIVE = 1
- Rotary axes (SD41130 \$SN_JOG_ROT_AX_SET_VELO is active here)

Application example(s)

The operator can thus define a JOG velocity for a specific application.

Related to

SD41100 \$SN_JOG_REV_IS_ACTIVE (revolutional feedrate with JOG active)

Axial MD32020 \$MA_JOG_VELO (JOG axis velocity)

Axial MD32000 \$MA_MAX_AX_VELO (maximum axis velocity)

Axial MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR (ratio of JOG velocity to handwheel velocity (DRF))

SD41130 \$SN_JOG_ROT_AX_SET_VELO (JOG speed with rotary axes)

41120	JOG_REV_SET_VELO	-	H1			
mm/rev	Revolutional feedrate of axes in JOG mode	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Value not equal to 0:

The velocity value entered applies to axes traversed in JOG mode if revolutional feedrate (G95) is active for the relevant axis (SD41100 \$SN_JOG_REV_IS_ACTIVE = 1). The axis velocity is active for

- continuous jogging
- incremental jogging (INC1, ... INCvar)
- handwheel traversing. The value entered is valid for all axes and must not exceed the maximum permissible axis velocity (MD32000 \$MA_MAX_AX_VELO).

Value = 0:

If 0 has been entered in the setting data, the active revolutional feedrate in JOG mode is MD32050 \$MA_JOG_REV_VELO "revolutional feedrate with JOG".

Each axis can be given its own revolutional feedrate with this MD (axial MD). SD irrelevant for

- For axes if SD41100 \$SN_JOG_REV_IS_ACTIVE = 0

Application example(s)

The operator can define a JOG velocity for a particular application.

Related to

Axial SD41100 \$SN_JOG_REV_IS_ACTIVE (revolutional feedrate for JOG active)

Axial MD32050 \$MA_JOG_REV_VELO (revolutional feedrate with JOG)
Axial MD32000 \$MA_MAX_AX_VELO (maximum axis velocity)

41130	JOG_ROT_AX_SET_VELO	-	H1			
rev/min	Axis velocity for rotary axes in JOG mode	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Value not equal to 0:

The velocity entered applies to rotary axes in JOG mode (to continuous jogging, incremental jogging, jogging with handwheel). The value entered is common to all rotary axes, and must not exceed the maximum permissible axis velocity (MD32000 \$MA_MAX_AX_VELO).

With DRF, the velocity set with SD41130 \$SN_JOG_ROT_AX_SET_VELO must be reduced by MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR.

Value equal to 0:

If the value 0 is entered in the setting data, the velocity applied to rotary axes in JOG mode is the axial MD32020 \$MA_JOG_VELO (jog axis velocity). In this way, it is possible to define a separate JOG velocity for each axis.

Application example(s)

The operator can define a JOG velocity for a particular application.

Related to

MD32020 \$MA_JOG_VELO (JOG axis velocity)

MD32000 \$MA_MAX_AX_VELO (maximum axis velocity)

MD32090 \$MA_HANDWH_VELO_OVERLAY_FACTOR (ratio JOG velocity to handwheel velocity (DRF))

41200	JOG_SPIND_SET_VELO	-	H1			
rev/min	Speed for spindle JOG mode	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Value not equal to 0:

The speed entered applies to spindles in JOG mode if they are traversed manually by the "Plus and minus traversing keys" or the handwheel. The speed is active for

- continuous jogging
- incremental jogging (INC1, ... INCvar)
- handwheel traversing. The value entered is valid for all spindles, and must not exceed the maximum permissible speed (MD32000 \$MA_MAX_AX_VELO).

Value = 0:

If 0 has been entered in the setting data, MD32020 \$MA_JOG_VELO (JOG axis velocity) acts as the JOG velocity. Each axis can thus be given its own JOG velocity with this MD (axial MD).

The maximum speeds of the active gear stage (MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT) are taken into account when traversing the spindle with JOG.

SD irrelevant for

Application example(s). The operator can thus define a JOG speed for the spindles for a specific application.

Related to

Axial MD32020 \$MA_JOG_VELO (JOG axis velocity)

MD35130 \$MA_GEAR_STEP_MAX_VELO_LIMIT (maximum speeds of the gear stages)

1.4 NC setting data

41300	CEC_TABLE_ENABLE	-	K3
-	Compensation table enable	BOOLEAN	Immediately
-			
-	62	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: 1: The evaluation of the compensation table [t] is enabled.
 The compensation table is now included in the calculation of the compensation value for the compensation axis.
 The compensation axis \$AN_CEC_OUTPUT_AXIS can be taken from the table configuration.
 The effective total compensation value in the compensation axis can be adapted to the current machining by the targeted activation of tables (from NC part programm or PLC user program).
 The function does not become active until the following conditions have been fulfilled:

- The option "Interpolatory compensation" is set
- The associated compensation tables in the NC user memory have been loaded and enabled ($SD41300 \$SN_CEC_TABLE_ENABLE[t] = 1$)
- The current position measuring system is referenced (NC/PLC interface signal DB31, ... DBX60.4 / 60.5 (Referenced/synchronized 1 or 2) = 1).

0: The evaluation of the sag compensation table [t] is not enabled.

Related to

MD18342 \$MN_MM_CEC_MAX_POINTS[t] Number of interpolation points with sag compensation

SD41300 \$SN_CEC_TABLE_ENABLE[t] Evaluation of the sag compensation table t is enabled

NC/PLC interface signal DB31, ... DBX60.4 (Referenced/synchronized 1)

NC/PLC interface signal DB31, ... DBX60.5 (Referenced/synchronized 2)

41310	CEC_TABLE_WEIGHT	-	K3
-	Weighting factor compensation table	DOUBLE	Immediately
-			
-	62	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-

Description: The compensation value stored in the table [t] is multiplied by the weighting factor.
 When selecting the weighting factor it should be ensured that the total compensation value in the compensation axis does not exceed the maximal value of (MD18342 \$MN_CEC_MAX_SUM). With [t] = index of the compensation table (see MD18342 \$MN_MM_CEC_MAX_POINTS)
 If, for example, the weight of the tools used on the machine or the work-pieces to be machined are too different and this affects the error curve by changing the amplitude, this can be corrected by changing the weighting factor. In the case of sag compensation, the weighting factor in the table can be changed for specific tools or workpieces from the PLC user program or the NC program by overwriting the setting data. However, different compensation tables are to be used if the course of the error curve is substantially changed by the different weights.

Related to

SD41300 \$SN_CEC_TABLE_ENABLE[t] Evaluation of the sag compensation table t is enabled

MD18342 \$MN_CEC_MAX_SUM Maximum compensation value for sag compensation

41500	SW_CAM_MINUS_POS_TAB_1	-	N3			
mm/inch, degrees	Trigger points at falling cam 1-8	DOUBLE	Immediately			
-						
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/7	M

Description: The cam positions of minus cams 1 - 8 are entered in this machine data.

The positions are entered in the machine coordinate system.

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ..., 7 corresponds to cam pair 1, 2, ..., 8

When the set switching points are overtraveled in the positive axis direction, the associated "minus" cam signals in the PLC interface (and any applied fast output signals) switch from 1 to 0.

41501	SW_CAM_PLUS_POS_TAB_1	-	N3			
mm/inch, degrees	Trigger points at rising cam edge 1-8	DOUBLE	Immediately			
-						
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/7	M

Description: The cam positions of plus cams 1 - 8 are entered in this machine data.

The positions are entered in the machine coordinate system.

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ..., 7 corresponds to cam pair 1, 2, ..., 8

When the set switching points are overtraveled in the positive axis direction, the associated "plus" cam signals in the PLC interface (and any applied fast output signals) switch from 0 to 1.

41502	SW_CAM_MINUS_POS_TAB_2	-	N3			
mm/inch, degrees	Trigger points at falling cam edge 9-16	DOUBLE	Immediately			
-						
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/7	M

Description: The cam positions of minus cams 9-16 are entered in this machine data.

The positions are entered in the machine coordinate system.

Index [n] of the setting data addresses the cam pair:

n = 8, 9, ..., 15 corresponds to cam pair 9, 10, ..., 16

Switching points with falling edges of cams 9 - 16.

When the set switching points are overtraveled in the positive axis direction, the associated "minus" cam signals in the PLC interface (and any applied fast output signals) switch from 1 to 0.

1.4 NC setting data

41503	SW_CAM_PLUS_POS_TAB_2	-	N3
mm/inch, degrees	Trigger points at rising cam edge 9-16	DOUBLE	Immediately
-			
-	8	0.0,0.0,0.0,0.0,0.0, 0.0,0.0,0.0	-

Description: The cam positions of plus cams 9-16 are entered in this machine data.

The positions are entered in the machine coordinate system.

Index [n] of the setting data addresses the cam pair:

n = 8, 9, ... , 15 corresponds to cam pair 9, 10, ... , 16

Switching points with rising edges of cams 9 - 16.

When the set switching points are overtraveled in the positive axis direction, the associated "plus" cam signals in the PLC interface (and any applied fast output signals) switch from 0 to 1.

41504	SW_CAM_MINUS_POS_TAB_3	-	N3
mm/inch, degrees	Trigger points at falling cam edge 17-24	DOUBLE	Immediately
-			
-	8	0.0,0.0,0.0,0.0,0.0, 0.0,0.0,0.0	-

Description: The cam positions of minus cams 17 - 24 are entered in this machine data.

The positions are entered in the machine coordinate system.

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ... , 7 corresponds to cam pair 17, 18, ... , 24

Switching points with falling edges of cams 17 - 24.

When the set switching points are overtraveled in the positive axis direction, the associated "minus" cam signals in the PLC interface (and any applied fast output signals) switch from 1 to 0.

41505	SW_CAM_PLUS_POS_TAB_3	-	N3
mm/inch, degrees	Trigger points at rising cam edge 17-24	DOUBLE	Immediately
-			
-	8	0.0,0.0,0.0,0.0,0.0, 0.0,0.0,0.0	-

Description: The cam positions of plus cams 17 - 24 are entered in this machine data.

The positions are entered in the machine coordinate system.

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ... , 7 corresponds to cam pair 17, 18, ... , 24

Switching points with rising edges of cams 17 - 24

When the set switching points are overtraveled in the positive axis direction, the associated "plus" cam signals in the PLC interface (and any applied fast output signals) switch from 0 to 1.

41506	SW_CAM_MINUS_POS_TAB_4			-	N3
mm/inch, degrees	Trigger points at falling cam edge 25-32			DOUBLE	Immediately
-					
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/7 M

Description: The cam positions of minus cams 25 - 32 are entered in this machine data. The positions are entered in the machine coordinate system. Index [n] of the setting data addresses the cam pair:
 n = 8, 9, ... , 15 corresponds to cam pair 25, 26, ... , 32
 Switching points with falling edges of cams 25 - 32.
 When the set switching points are overtraveled in the positive axis direction, the associated "minus" cam signals in the PLC interface (and any applied fast output signals) switch from 1 to 0.

41507	SW_CAM_PLUS_POS_TAB_4			-	N3
mm/inch, degrees	Trigger points at rising cam edge 25-32			DOUBLE	Immediately
-					
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/7 M

Description: The cam positions of plus cams 25 - 32 are entered in this machine data. The positions are entered in the machine coordinate system. Index [n] of the setting data addresses the cam pair:
 n = 8, 9, ... , 15 corresponds to cam pair 25, 26, ... , 32
 Switching points with rising edges of cams 25 - 32.
 When the set switching points are overtraveled in the positive axis direction, the associated "plus" cam signals in the PLC interface (and any applied fast output signals) switch from 0 to 1.

41520	SW_CAM_MINUS_TIME_TAB_1			-	N3
s	Rate time for '-' trigger points of cams 1-8			DOUBLE	Immediately
-					
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/7 M

Description: A lead or delay time can be assigned to each cam 1-8 in this setting data to compensate for delay times.
 The switching edge of the associated cam signal is advanced or delayed by the time value entered.
 Positive value: Lead time
 Negative value: Delay time
 Index [n] of the setting data addresses the cam pair:
 n = 0, 1, ... , 7 corresponds to cam pair 1, 2, ... , 8
 This setting data is added to MD: MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n].
 Related to
 MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n] (lead or delay time on minus cams 1 - 16)

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41521	SW_CAM_PLUS_TIME_TAB_1	-	N3
s	Rate time for '+' trigger points of cams 1-8	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each plus cam 1-8 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ..., 7 corresponds to cam pair 1, 2, ..., 8

This setting data is added to MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n].

Related to

MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n] (lead or delay time on plus cams 1 - 16)

41522	SW_CAM_MINUS_TIME_TAB_2	-	N3
s	Rate time for '-' trigger points of cams 9-16	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each minus cam 9 - 16 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 8, 9, ..., 15 corresponds to cam pair 9, 10, ..., 16

This setting data is added to MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n+8].

Related to

MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n] (lead or delay time on minus cams 1 - 16)

41523	SW_CAM_PLUS_TIME_TAB_2	-	N3
s	Rate time for '+' trigger points of cams 9-16	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each plus cam 9 - 16 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 8, 9, ..., 15 corresponds to cam pair 9, 10, ..., 16

This setting data is added to MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n+8].

Related to

MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n] (lead or delay time on plus cams 1 - 16)

41524	SW_CAM_MINUS_TIME_TAB_3	-	N3
s	Rate time for '-' trigger points of cams 17-24	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each minus cam 17-24 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ... , 7 corresponds to cam pair 17, 18, ... , 24

This setting data is added to MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n].

Related to

MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n] (lead or delay time on minus cams 1 - 16)

41525	SW_CAM_PLUS_TIME_TAB_3	-	N3
s	Rate time for '+' trigger points of cams 17-24	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each plus cam 17-24 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 0, 1, ... , 7 corresponds to cam pair 17, 18, ... , 24

This setting data is added to MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n].

Related to

MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME (lead or delay time on plus cams 1 - 16)

41526	SW_CAM_MINUS_TIME_TAB_4	-	N3
s	Rate time for '-' trigger points of cams 25-32	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each minus cam 25-32 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 8, 9, ... , 15 corresponds to cam pair 25, 26, ... , 32

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This setting data is added to MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n+8].

Related to

MD10460 \$MN_SW_CAM_MINUS_LEAD_TIME[n] (lead or delay time on minus cams 1 - 16)

41527	SW_CAM_PLUS_TIME_TAB_4	-	N3
s	Rate time for '+' trigger points of cams 25-32	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: A lead or delay time can be assigned to each plus cam 25 - 32 in this setting data to compensate for delay times.

The switching edge of the associated cam signal is advanced or delayed by the time value entered.

Positive value: Lead time

Negative value: Delay time

Index [n] of the setting data addresses the cam pair:

n = 8, 9, ..., 15 corresponds to cam pair 25, 26, ..., 32

This setting data is added to MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n+8].

Related to

MD10461 \$MN_SW_CAM_PLUS_LEAD_TIME[n] (lead or delay time on plus cams 1 - 16)

41600	COMPAR_THRESHOLD_1	-	A4
-	Threshold value of the 1st comparator	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: COMPAR_THRESHOLD_1[b] defines the threshold values for the individual input bits [b] of comparator byte 1.

The output bit n of the 1st comparator is created by comparing the threshold value n according to the comparison type defined in bit n of COMPAR_TYPE_1.

For example:

```
COMPAR_ASSIGN_ANA_INPUT_1[2] = 4
COMPAR_THRESHOLD_1[2] = 5000.0
COMPAR_TYPE_1 = 5
```

The 3rd output bit of comparator 1 is set if the input value at AnalogIn 4 is greater than or equal to 5 volts.

Index [b]: Bits 0 - 7

Related to

MD10530 \$MN_COMPAR_ASSIGN_ANA_INPUT_1

MD10531 \$MN_COMPAR_ASSIGN_ANA_INPUT_2

MD10540 \$MN_COMPAR_TYPE_1

MD10541 \$MN_COMPAR_TYPE_2

41601	COMPAR_THRESHOLD_2	-	A4
-	Threshold value of the 2nd comparator	DOUBLE	Immediately
-			
-	8	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-

Description: COMPAR_THRESHOLD_1[b] defines the threshold values for the individual input bits [b] of comparator byte 1.

Output bit n of the 1st comparator is created by comparing the threshold value n according to the comparison type defined in bit n of COMPAR_TYPE_2.

Index [b]: Bits 0 - 7

Related to

MD10530 \$MN_COMPAR_ASSIGN_ANA_INPUT_1

MD10531 \$MN_COMPAR_ASSIGN_ANA_INPUT_2

MD10540 \$MN_COMPAR_TYPE_1

MD10541 \$MN_COMPAR_TYPE_2

41700	AXCT_SWWIDTH	-	B3			
-	Default rotation of axis container	DWORD	NEW CONF			
CTDE						
-	16	0, 0, 0, 0, 0, 0, 0...	-32	32	7/7	M

Description: The number of entries (slots) by which the entries in the axis container are advanced on execution of the rotation. The value is interpreted modulo of the actually existing entries. Negative values reverse the direction of rotation. Related to the container rotation command, container axes.

This machine data is distributed via the NCU-link.

Contrary to the the definition for setting data, this SD is not immediately active, but first with NEWCONF.

42000	THREAD_START_ANGLE	-	K1			
degrees	Starting angle for thread	DOUBLE	Immediately			
-						
-	-	0., 0., 0., 0., 0., 0., 0....	-	-	7/7	M

Description: In the case of multiple thread cutting, the offset of the individual threads can be programmed with the aid of this setting data.

This SD can be changed by the part program with the command SF.

Note:

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

42010	THREAD_RAMP_DISP	-	V1			
mm	Acceleration behavior of axis when thread cutting	DOUBLE	Immediately			
-						
-	2	-1., -1., -1., -1., -1. 1., -1., -1....	-1.	999999.	7/7	M

Description: The SD is active for thread cutting with G33 (G34, G35).

It features two elements that define the behavior of the thread axis during runup (1st element) and during deceleration/smoothing (2nd element).

The values have the same properties for thread run-in and thread run-out:

<0:

The thread axis is started/decelerated with configured acceleration. Jerk is according to the current programming of BRISK/SOFT. Behavior is compatible with MD 20650__THREAD_START_IS_HARD = FALSE used until now.

0:

Starting/deceleration of the feed axis during thread cutting is stepped. Behavior is compatible with MD 20650__THREAD_START_IS_HARD = TRUE used until now.

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>0:

The maximum thread starting or deceleration path is specified. The specified distance can lead to acceleration overload of the axis. The SD is written from the block when DITR (displacement thread ramp) is programmed.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

42100	DRY_RUN_FEED	-	V1			
mm/min	Dry run feedrate	DOUBLE	Immediately			
-						
-	-	5000., 5000., 5000., 5000., 5000., 5000....	-	-	7/7	M

Description: The feedrate for the active dry run is entered in this setting data. The setting data can be altered on the operator panel in the "Parameters" operating area.

The entered dry run feedrate is always interpreted as a linear feed (G94). If the dry run feedrate is activated via the PLC interface, the dry run feedrate is used as the path feed after a reset instead of the programmed feed. The programmed velocity is used for traversing if it is greater than the velocity stored here.

Application example(s)

Program testing

Related to

NC/PLC interface signal DB21-30 DBX0.6 (Activate dry run feedrate)

NC/PLC interface signal DB21-30 DBX24.6 (Dry run feedrate selected)

42101	DRY_RUN_FEED_MODE	-	V1			
-	Mode for dry run velocity	BYTE	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	0	12	7/7	M

Description: This SD can be used to set the method of operation of the dry run velocity set by SD42100 \$SC_DRY_RUN_FEED.

The following values are possible:

0:

The maximum of SD42100 \$SC_DRY_RUN_FEED and the programmed velocity become active. This is the standard setting and corresponds to the behavior up to SW 5.

1:

The minimum of SD42100 \$SC_DRY_RUN_FEED and the programmed velocity become active.

2:

SD42100 \$SC_DRY_RUN_FEED becomes active directly, irrespective of the programmed velocity.

The values 3...9 are reserved for extensions.

10:

As configuration 0, except for thread cutting (G33, G34, G35) and tapping (G331, G332, G63). These functions are executed as programmed.

11:

As configuration 1, except for thread cutting (G33, G34, G35) and tapping (G331, G332, G63). These functions are executed as programmed.

12:

As configuration 2, except for thread cutting (G33, G34, G35) and tapping (G331, G332, G63). These functions are executed as programmed.

42110	DEFAULT_FEED	-	V1,FBFA			
mm/min	Path feed default value	DOUBLE	Immediately			
-						
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-	7/7	M

Description: Default value for path feedrate, This setting data is evaluated when the part program starts taking into account the feedrate type active at this time (see MD20150 \$MC_GCODE_RESET_VALUES and MD20154 \$MC_EXTERN_GCODE_RESET_VALUES).

42120	APPROACH_FEED	-	-			
mm/min	Path feedrate in approach blocks	DOUBLE	Immediately			
-						
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-	7/7	M

Description: Default value for path feedrate in approach blocks (after repos., block search, SERUPRO etc).
The contents of this setting data are only used when it is non-zero.
It is evaluated like an F word programmed for G94.

42122	OVR_RAPID_FACTOR	-	\$MN_OVR_FACTOR_RAPID _TRA,\$AC_OVR			
%	Add. rapid traverse override can be specified through operation	DOUBLE	Immediately			
-						
-	-	100., 100., 100., 100., 100., 100., 100....	-	-	7/7	M

Description: Additional channel-specific rapid traverse override in %. The value is calculated to the path depending on OPI variable enablOvrRapidFactor. The value multiplies the other rapid traverse overrides (rapid traverse override of the machine control panel, override default through synchronized actions \$AC_OVR).

42125	SERUPRO_SYNC_MASK	-	-			
-	Synchronization in approach blocks	DWORD	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0....	-	-	7/7	M

Description: A synchronized approach can be set for the search type SERUPRO with the setting data SERUPRO_SYNC_MASK.
SERUPRO uses the function REPOS to move from the current machine position to the target block of the search. A synchronization of the channels can be forced between the reapproach block and the target block via SERUPRO_SYNC_MASK which would correspond to the use of WAIT markers.

Note:

The user cannot program WAIT markers between reapproach block and target block in a part program.

SERUPRO_SYNC_MASK activates this internal WAIT marker, and defines for which other channels this channel is to wait.

Example for channel 3: \$SC_SERUPRO_SYNC_MASK= 0x55

A new block is now inserted in the Serupro approach between the reapproach block and the target block, the function of which corresponds to the following programming: WAITM(101, 1,3,5,7), i.e. a WAIT marker synchronizes the channels 1, 3, 5 and 7.

The WAIT markers used internally cannot be explicitly programmed by the user.

NOTICE:

Similarly to the part program, the user can make the error of not setting the marker in a channel, so that the other channels naturally wait for ever!

Note:

The bit mask can contain a channel that does not exist (channel gaps) without a deadlock occurring.

Example for channel 3: \$SC_SERUPRO_SYNC_MASK= 0x55 and channel 5 do not exist, so WAITM(101, 1,3,7) is set.

Note: The block content corresponds to "WAITM(101, 1,3,5,7)", the user does not see this block content, he sees REPOSA!

Note:

SERUPRO_SYNC_MASK is evaluated as soon as the part program command REPOSA is interpreted.

SERUPRO_SYNC_MASK can still be changed if SERUPRO is in the state "search target found".

If REPOSA has already been executed, a change to SERUPRO_SYNC_MASK can only become active if a new REPOS is set. This occurs, for example, by:

- Starting a new ASUB.
- STOP-JOG-AUTO-START
- STOP - select a new REPOS mode RMI/RMN/RME/RMB - START

Note:

If one uses the prog. event for search and if the NCK is at alarm 10208 then a change of SERUPRO_SYNC_MASK is not active unless one sets a new REPOS.

SERUPRO_SYNC_MASK == 0 A block is NOT inserted.

Note:

If the bit for the current channel is not set in SD42125
\$SC_SERUPRO_SYNC_MASK then a block is NOT inserted.

Example:

If \$SC_SERUPRO_SYNC_MASK= 0xE is programmed in channel 1, then a block is NOT inserted.

This assignment is reserved for a future function!

42140	DEFAULT_SCALE_FACTOR_P	-	FBFA
-	Default scaling factor for address P	DWORD	Immediately
-			
-	-	1, 1, 1, 1, 1, 1, 1, 1...	-

Description: The value in this machine data is active if no scaling factor P has been programmed in the block.

Related to:

WEIGHTING_FACTOR_FOR_SCALE

42150	DEFAULT_ROT_FACTOR_R	-	-			
-	Default rotation factor for address R	DOUBLE	Immediately			
-						
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-	7/7	M

Description: The value in this machine data is active if no factor for rotation R is programmed in the block.

42160	EXTERN_FIXED_FEEDRATE_F1_F9	-	FBFA			
-	Fixed feedrates F1 - F9	DOUBLE	Immediately			
-						
-	10	0., 0., 0., 0., 0., 0., 0., 0....	-	-	7/7	M

Description: Fixed feedrate values for programming with F1 - F9. If the machine data \$MC_FEEDRATE_F1_F9_ON = TRUE is set with the programming of F1 - F9, the feedrate values are read from SD42160 \$SC_EXTERN_FIXED_FEEDRATE_F1_F9[0] - \$SC_EXTERN_FIXED_FEEDRATE_F1_F9[8], and activated as the machining feedrate. The rapid traverse feedrate must be entered in SD42160 \$SC_EXTERN_FIXED_FEEDRATE_F1_F9[0].

42162	EXTERN_DOUBLE_TURRET_DIST	-	FBFA			
-	Double turret head tool distance	DOUBLE	Immediately			
-						
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-	-	7/7	M

Description: Distance between both tools of a double turret head.

The distance is activated using G68 as additive zero point offset if MD10812 \$MN_EXTERN_DOUBLE_TURRET_ON is set to TRUE.

42200	SINGLEBLOCK2_STOPRE	-	BA			
-	Activate SBL2 debug mode	BOOLEAN	Immediately			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: Value = TRUE:

A preprocessing stop is made with every block if SBL2 (single block with stop after every block) is active. This suppresses the premachining of part program blocks. This variant of the SBL2 is not true-to-contour.

This means that a different contour characteristic might be generated as a result of the preprocessing stop than without single block or with SBL1.

Application: Debug mode for testing part programs.

42300	COUPLE_RATIO_1	-	-			
-	Speed ratio for synchr. spindle mode, numerator, denominator	DOUBLE	Immediately			
-						
-	2	1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0...	-1.0e8	1.0e8	7/7	M

Description: This setting data defines the speed ratio parameters for the fixed coupling configuration defined with the channel-specific MD21300 \$MC_COUPLE_AXIS_1[n].

1.4 NC setting data

-
 $k_{\ddot{U}} = \text{Speed ratio parameter of numerator} / \text{Speed ratio parameter of denominator}$
 $= \$SC_COUPLE_RATIO[0] / \$SC_COUPLE_RATIO[1]$

The speed ratio parameters can be altered in the NC part program with the language instruction COUPDEF provided that this is not locked by the channel-specific MD21340 \$MC_COUPLE_IS_WRITE_PROT_1.

However, the parameterized values of SD42300 \$SC_COUPLE_RATIO_1 are not changed.

The calculation of $k_{\ddot{U}}$ is initiated with POWER ON.

SD irrelevant for

User-defined coupling

Related to

SD42300 \$SC_COUPLE_RATIO_1 currently has the same action as a machine data (e.g. active after POWER ON). The SD data are therefore displayed and input in the same way as channel-specific machine data.

42400	PUNCH_DWELLTIME	-	N4			
s	Dwell time for punching and nibbling	DOUBLE	Immediately			
-						
-	-	1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: This data sets the dwell time between reaching the position and triggering the stroke.

The set value is rounded to an integer multiple of the interpolation cycle. (This means that the value set here can only differ slightly from that which is actually executed.)

Note:

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred into the active file system on reset (i.e. the value is retained even after the reset).

42402	NIBPUNCH_PRE_START_TIME	-	N4			
s	Delay time (punch/nibble) with G603	DOUBLE	Immediately			
-						
-	-	.02, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: This setting data has exactly the same effect as MD26018 \$MC_NIBBLE_PRE_START_TIME. Its primary purpose is to allow the pre-start time to be altered from the NC program so that it can be adapted to different metal sheet sizes and thicknesses. However, the setting data is active only when the machine data has been set to zero.

Related to NIBBLE_PRESTART_TIME

42404	MINTIME_BETWEEN_STROKES	-	N4			
s	Minimum time between 2 strokes in seconds	DOUBLE	Immediately			
-						
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-	-	7/7	M

Description: Minimum time between 2 strokes in seconds

42440	FRAME_OFFSET_INCR_PROG			-	K1,K2	
-	Work offsets in frames			BOOLEAN	Immediately	
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M
-	-					

Description: 0: When incremental programming is used on an axis, only the programmed position delta is traversed after a frame change. Work offsets in FRAMES are only traversed when an absolute position is specified.

1: When incremental programming is used on an axis, changes to work offsets are traversed after a frame change (standard response up to software version 3).

Related to

SD42442 \$SC_TOOL_OFFSET_INCR_PROG

42442	TOOL_OFFSET_INCR_PROG			-	W1,K1	
-	Tool length compensations			BOOLEAN	Immediately	
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M
-	-					

Description: 0: When incremental programming is used on an axis, only the programmed position delta is traversed after a frame change. Tool length offsets in FRAMES are only traversed when an absolute position is specified.

1: When incremental programming is used on an axis, changes to tool length offsets are traversed after a tool change (standard response up to SW version 3).

Related to

SD42440 \$SC_FRAME_OFFSET_INCR_PROG

42444	TARGET_BLOCK_INCR_PROG			-	BA	
-	Set down mode after search run with calculation			BOOLEAN	Immediately	
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M
-	-					

Description: If the first programming of an axis after "Search run with calculation to end of block" is incremental, the incremental value is added as a function of SD42444 \$SC_TARGET_BLOCK_INCR_PROG to the value accumulated up to the search target :

SD = TRUE: Incremental value is added to accumulated position

SD = FALSE: Incremental value is added to current actual value

The setting data is evaluated on NC start for output of the action blocks.

1.4 NC setting data

42450	CONTPREC	-	B1,K6
mm	Contour accuracy	DOUBLE	Immediately
-			
-	-	0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1...	0.000001 999999. 7/7 M

Description: Contour accuracy. This setting data can be used to define the accuracy to be maintained for the path of the geometry axes on curved contours. The lower the value and the lower the servogain factor of the geometry axes, the greater the reduction of path feed on curved contours.

Related to

MD20470 \$MC_CPREC_WITH_FFW

SD42460 \$SC_MINFEED

42460	MINFEED	-	B1,K6
mm/min	Minimum path feedrate for CPRECON	DOUBLE	Immediately
-			
-	-	1., 1., 1., 1., 1., 1., 1., 1....	1.e-6 1.e9 7/7 M

Description: Minimum path feedrate with the "Contour accuracy" function active. The feedrate is not limited to below this value unless a lower F value has been programmed or the axis dynamics do not permit it.

Related to

MD20470 \$MC_CPREC_WITH_FFW

SD42450 \$SC_CONTPREC

42465	SMOOTH_CONTUR_TOL	-	B1
mm	maximum contour tolerance on smoothing	DOUBLE	Immediately
-			
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001 999999. 7/7 M

Description: This setting data defines the maximum tolerance for smoothing the contour.

Related to:

MD20480 \$MC_SMOOTHING_MODE,

SD42466 \$SC_SMOOTH_ORI_TOL

42466	SMOOTH_ORI_TOL	-	B1
degrees	Maximum deviation of tool orientation during smoothing.	DOUBLE	Immediately
-			
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001 90. 7/7 M

Description: This setting data defines the maximum tool orientation tolerance during smoothing.

The data determines the maximum permissible angular displacement of the tool orientation.

This data only applies if an orientation transformation is active.

Related to:

MD20480 \$MC_SMOOTHING_MODE,

SD42465 \$SC_SMOOTH_CONTUR_TOL

42470	CRIT_SPLINE_ANGLE			-	W1,PGA	
degrees	Corner limit angle for compressor			DOUBLE	Immediately	
-						
-	-	36.0, 36.0, 36.0, 36.0, 36.0, 36.0, 36.0...	0.0	89.0	7/7	M

Description: The setting data defines the limit angle from which the compressor COMPCAD interprets a block transition as a corner. Practical values lie between 10 and 40 degrees. Values from 0 to 89 degrees inclusive are permitted. The angle only serves as an approximate measure for corner detection. The compressor can also classify flatter block transitions as corners and eliminate larger angles as outliers on account of plausibility considerations.

42471	MIN_CURV_RADIUS			EXP, C09	-	
mm	Minimum radius of curvature			DOUBLE	Immediately	
-						
-	-	3.0, 3.0, 3.0, 3.0, 3.0, 3.0, 3.0, 3.0...	-	-	7/7	M

Description: The setting data defines a typical tool radius. It is only evaluated in compressor COMPCAD. The lower the value, the greater the precision, but the slower the program execution.

42475	COMPRESS_CONTUR_TOL			-	F2,PGA	
mm	maximum contour deviation with compressor			DOUBLE	Immediately	
-						
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001	999999.	7/7	M

Description: This setting data defines the maximum contour tolerance in the compressor.

42476	COMPRESS_ORI_TOL			-	F2,PGA	
degrees	Maximum deviation of tool orientation with compressor			DOUBLE	Immediately	
-						
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001	90.	7/7	M

Description: This setting data defines the maximum tool orientation tolerance in the compressor. This data defines the maximum permissible angular displacement of the tool orientation.

This data is active only if an orientation transformation is active.

42477	COMPRESS_ORI_ROT_TOL			-	F2,PGA	
degrees	Maximum deviation of tool rotation with compressor			DOUBLE	Immediately	
-						
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001	90.	7/7	M

Description: This setting data defines the maximum tolerance in the compressor for turning the tool orientation. This data defines the maximum permissible angular displacement of the tool rotation.

This data is only active if an orientation transformation is active.

Turning the tool orientation is only possible with 6-axis machines.

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42480	STOP_CUTCOM_STOPRE			-	W1	
-	Alarm response with tool radius compensation and preproc. stop			BOOLEAN	Immediately	
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	-	-	7/7	M

Description: If this setting data is TRUE, block execution is stopped by preprocessing stop and active tool radius compensation, and does not resume until after a user acknowledgement (START).
 If it is FALSE, machining is not interrupted at such a program point.

42490	CUTCOM_G40_STOPRE			-	W1	
-	Retraction behavior of tool radius compensation with prep. stop			BOOLEAN	Immediately	
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: FALSE:
 If there is a preprocessing stop (either programmed or generated internally by the control) before the deselection block (G40) when tool radius compensation is active, then firstly the starting point of the deselection block is approached from the last end point before the preprocessing stop. The deselection block itself is then executed, i.e. the deselection block is usually replaced by two traversing blocks. Tool radius compensation is no longer active in these blocks. The behavior is thus identical with that before the introduction of this setting data.
 TRUE:
 If there is a preprocessing stop (either programmed or generated internally by the control) before the deselection block (G40) when tool radius compensation is active, the end point of the deselection point is traversed in a straight line from the last end point before the preprocessing stop.

42494	CUTCOM_ACT_DEACT_CTRL			-	W1	
-	Approach & retraction behavior with 2-1/2D tool radius compens.			DWORD	Immediately	
-	-	2222, 2222, 2222, 2222, 2222, 2222, 2222...	-	-	7/7	M

Description: This setting data controls the approach and retraction behavior with tool radius compensation if the activation or deactivation block does not contain any traversing information. It is only evaluated with 2-1/2D TRC (CUT2D or CUT2DF).

The decimal coding is as follows:

N N N N

				Approach behavior for tools with tool point direction (turning tools)
			_____	Approach behavior for tools without tool point direction (milling tools)
		_____	_____	Retract behavior for tools with tool point direction (turning tools)

| _____ Retract behavior for tools without tool point direction
(milling tools)

If the position in question contains a 1, approach or retraction is always performed, even if G41/G42 or G40 stands alone in a block.

For example:

```
N100 x10 y0
N110 G41
N120 x20
```

If a tool radius of 10mm is assumed in the above example, position x10y10 is approached in block N110.

If the position in question contains the value 2, the approach or retraction movement is only performed if at least one geometry axis is programmed in the activation/deactivation block. To obtain the same results as the above example with this setting, the program must be altered as follows:

```
N100 x10 y0
N110 G41 x10
N120 x20
```

If axis information x10 is missing in block N110, activation of TRC is delayed by one block, i.e. the activation block would now be N120.

If the position in question contains a 3, retraction is not performed in a deactivation block (G40) if only the geometry axis perpendicular to the compensation plane is programmed. In this case, the motion perpendicular to the compensation plane is performed first. This is followed by the retraction motion in the compensation plane. In this case, the block after G40 must contain motion information in the compensation plane. The approach motions for values 2 and 3 are identical.

If the position in question contains a value other than 1, 2 or 3, i.e. in particular the value 0, an approach or retraction movement is not performed in a block that does not contain any traversing information.

About the term "Tools with tool point direction":

These are tools with tool numbers between 400 and 599 (turning and grinding tools), whose tool point direction has a value between 1 and 8. Turning and grinding tools with tool point direction 0 or 9 or other undefined values are treated like milling tools.

Note:

If the value of this setting data is changed within a program, we recommend programming a preprocessing stop (stopre) before the description to avoid the new value being used in program sections before that point. The opposite case is not serious, i.e. if the setting data is written, subsequent NC blocks will definitely access the new value.

42496	CUTCOM_CLSD_CONT			-	-	
-	Tool radius compensation behavior with closed contour			BOOLEAN	Immediately	
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: FALSE:

If two intersections are created on correction of the inner side of an (almost) closed contour consisting of two successive circle blocks or a circle and a linear block, the intersection that lies on the first part contour nearer to the block end will be selected as per the default behavior.

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A contour will be considered as (almost) closed if the distance between the starting point of the first block and the end point of the second block is smaller than 10% of the active compensation radius, but not larger than 1000 path increments (corresponds to 1mm to 3 decimal places).

TRUE:

Under the same condition as described above, the intersection that lies on the first part contour nearer to block start is selected.

42500	SD_MAX_PATH_ACCEL	-	B2
m/s ²	maximum path acceleration	DOUBLE	Immediately
-			
-	-	10000., 10000., 10000., 10000., 10000....	1.0e-6 -

Description: Setting data for additional limitation of (tangential) path acceleration
Related to ...

MD32300 \$MA_MAX_AX_ACCEL

SD42502 \$SC_IS_SD_MAX_PATH_ACCEL

42502	IS_SD_MAX_PATH_ACCEL	-	B2
-	Evaluate SD42500 SC_SD_MAX_PATH_ACCEL	BOOLEAN	Immediately
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	- -

Description: SD42500 \$SC_SD_MAX_PATH_ACCEL is included in the limit calculations if
SD42502 \$SC_IS_SD_MAX_PATH_ACCEL=TRUE

Related to ...

SD42500 \$SC_SD_MAX_PATH_ACCEL

42510	SD_MAX_PATH_JERK	-	B2
m/s ³	maximum path-related jerk as setting data	DOUBLE	Immediately
-			
-	-	100000., 100000., 100000., 100000....	1.e-9 -

Description: As well as MD20600 \$MC_MAX_PATH_JERK, the maximum path-related jerk can also limit the jerk.

Related to ...

MD20600 \$MC_MAX_PATH_JERK

SD42512 \$SC_IS_SD_MAX_PATH_JERK

42512	IS_SD_MAX_PATH_JERK	-	B2
-	Evaluate SD42510 SD_MAX_PATH_JERK	BOOLEAN	Immediately
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	- -

Description: SD42510 \$SC_SD_MAX_PATH_JERK is included in the limit calculations if SD42512
\$SC_IS_SD_MAX_PATH_JERK=TRUE

Related to ...

SD42510 \$SC_SD_MAX_PATH_JERK (SD for additional limitation of (tangential) path jerk)

42520	CORNER_SLOWDOWN_START	-	-
mm	Start of feed reduction at G62.	DOUBLE	Immediately
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-

Description: Traverse path distance from which the feed is reduced before the corner with G62.

42522	CORNER_SLOWDOWN_END	-	-
mm	End of feed reduction at G62.	DOUBLE	Immediately
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-

Description: Traverse path distance up to which the feed remains reduced after a corner with G62.

42524	CORNER_SLOWDOWN_OVR	-	-
%	Feed override reduction at G62	DOUBLE	Immediately
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-

Description: Override used to multiply the feed at the corner with G62.

42526	CORNER_SLOWDOWN_CRIT	-	-
degrees	Corner detection at G62	DOUBLE	Immediately
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-

Description: Angle from which a corner is taken into account when reducing the feed with G62.

For example SD42526 \$SC_CORNER_SLOWDOWN_CRIT = 90 means that all corners of 90 degrees or a more acute angle are traversed slower with G62.

42528	CUTCOM_DECEL_LIMIT	-	-
-	Feed lowering on circles with tool radius compensation	DOUBLE	Immediately
-			
-	-	0., 0., 0., 0., 0., 0., 0., 0....	-

Description: The setting data limits feed lowering of the tool center point on concave circle segments with tool radius compensation active and CFC or CFIN selected.

With CFC, the feed is defined at the contour. On concave circular arcs, feed lowering of the tool center point is created by the ratio of the contour curvature to the tool center point path curvature. The setting data is limiting this effect, reducing backing off and overheating of the tool.

For contours with varying curvatures, a mid-range curvature is used.

0: Provides the previous behavior: If the ratio between contour radius and tool center point path radius is less than or equal to 0.01 the feed is applied to the tool center point path. Less pronounced feed reductions are executed.

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>0: Feed lowering is limited to the programmed factor. At 0.01, this means that the feed of the tool center point path is possibly only 1 percent of the programmed feed value.

1: On concave contours, the tool center point feed equals the programmed feed (the behavior then corresponds to CFTCP).

42600	JOG_FEED_PER_REV_SOURCE	-	V1			
-	Control revolutionary feedrate in JOG	DWORD	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-3	31	7/7	M

Description: The revolutionary feedrate in JOG mode for geometry axes on which a frame with rotation acts.

0= No revolutionary feedrate is active.

>0= Machine axis index of the rotary axis/spindle from which the revolutionary feedrate is derived.

-1= The revolutionary feedrate is derived from the master spindle of the channel in which the axis/spindle is active.

-2= The revolutionary feedrate is derived from the axis with machine axis index == 0.

-3= The revolutionary feedrate is derived from the master spindle of the channel in which the axis/spindle is active. No revolutionary feedrate is active if the master spindle is at a standstill.

Related to

SD43300: \$SA_ASSIGN_FEED_PER_REV_SOURCE (revolutional feedrate for position axes/spindles)

42650	CART_JOG_MODE	-	H1			
-	Coordinate system for Cartesian jog traverse	DWORD	Immediately			
-						
-	-	0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0...	0	0x0404	7/7	M

Description: This SD can be used to set the reference coordinate system for Cartesian manual travel, with bits 0 to 7 provided for selecting the coordinate system for translation, bits 8 to 15 for selecting the reference system for orientation. Cartesian manual travel will not be enabled if no bit is set or if just one bit is set for translation or for orientation. This means that one bit must always be set for translation and one for orientation. Cartesian manual travel will also not be enabled if more than one bit is set for translation or orientation.

The meaning of the individual bits is defined as follows :

Bit 0 : Translation in Basic Coordinate System

Bit 1 : Translation in Workpiece Coordinate System

Bit 2 : Translation in Tool Coordinate System

Bit 3 : reserved

Bit 4 : reserved

Bit 5 : reserved

Bit 6 : reserved

Bit 7 : reserved

Bit 8 : Orientation in Basic Coordinate System

Bit 9 : Orientation in Workpiece Coordinate System

Bit 10 : Orientation in Tool Coordinate System

Bit 11 : reserved
 Bit 12 : reserved
 Bit 13 : reserved
 Bit 14 : reserved
 Bit 15 : reserved

42660	ORI_JOG_MODE	-	-
-	Definition of virtual kinematics for JOG	DWORD	Immediately
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0 5 7/7 M

Description: This SD can be used to define virtual kinematics, which become active for the manual travel of orientations.
 This setting data is evaluated only by the generic 5/6-axis transformation. This data has no meaning for OEM transformations.
 The following setting options are available:
 0: The virtual kinematics are defined by the transformation.
 1: Euler angles are traversed during jog, that is the 1st axis turns round the Z direction, the 2nd axis turns around the X direction and, if present, the 3rd axis turns around the new Z direction.
 2: RPY angles are traversed during jog with the turning sequence XYZ, that is the 1st axis turns around the x direction, the 2nd axis turns around the Y direction and, if present, the 3rd axis turns around the new Z direction.
 3: RPY angles are traversed during jog with the turning sequence ZYX, that is the 1st axis turns around the Z direction, the 2nd axis turns around the Y direction and, if present, the 3rd axis turns around the new X direction.
 4: The turning sequence of the rotary axes is set by means of MD21120 \$MC_ORIAX_TURN_TAB_1.
 5: The turning sequence of the rotary axes is set by means of MD21130 \$MC_ORIAX_TURN_TAB_2.

42670	ORIPATH_SMOOTH_DIST	-	-
mm, degrees	Path for smoothing the orientation	DOUBLE	Immediately
-			
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	- 7/7 M

Description: Displacement by which a jump in the tool orientation is smoothed with ORIPATH path-relative orientation interpolation. There is a deviation within this displacement from the relation of the orientation to the path tangent and the surface normal vector programmed with LEAD/TILT.
 If zero is entered for this path length (SD42670 \$SC_ORIPATH_SMOOTH_DIST = 0.0), an intermediate block is inserted for smoothing the orientation. This means that the path motion remains at a stop in a corner and the orientation is then turned separately.

42672	ORIPATH_SMOOTH_TOL	-	-
degrees	Tolerance for smoothing the orientation	DOUBLE	Immediately
-			
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001 - 7/7 M

Description: Maximum angle (in degrees) for the deviation of the tool orientation with ORIPATH path-relative orientation interpolation. This angular tolerance is used for smoothing a "kink" in the orientation path.

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42674	ORI_SMOOTH_DIST	-	-			
mm, degrees	Path for orientation smoothing during smoothing	DOUBLE	Immediately			
-						
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001	-	7/7	M

Description: Path through which a tool orientation bend is smoothed on a block transition with G code OSD.

42676	ORI_SMOOTH_TOL	-	-			
degrees	Tolerance for orientation smoothing during smoothing	DOUBLE	Immediately			
-						
-	-	0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05...	0.000001	-	7/7	M

Description: Maximum angle (in degree) for the tool orientation deviation during orientation smoothing with G code OST with a bend in the orientation curve on block transitions.

42678	ORISON_TOL	-	-			
degrees	Tolerance for smoothing the orientation	DOUBLE	Immediately			
-						
-	-	10.00, 10.00, 10.00, 10.00, 10.00, 10.00...	-	-	7/7	M

Description: Maximum angle (in degree) for the tool orientation deviation during orientation smoothing with the G code ORISON over several blocks.

The tolerance specification with the SD \$SC_ORISON_TOL is valid only if no programmed orientation tolerance (OTOL) is active.

This behavior is the default setting. With MD20478 \$MC_ORISON_MODE, however, this can be changed.

42690	JOG_CIRCLE_CENTRE	-	-			
mm	Center of the circle	DOUBLE	Immediately			
-						
-	3	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This setting data is used to define the circle center point in the workpiece coordinate system during JOG of circles.

Only the relevant center point coordinates of the geometry axes in the active plane are evaluated, not the coordinate of the geometry axis vertical to the plane. This setting data is written via the user interface.

By default the coordinate of an axis with diameter programming is in the diameter. This can be changed with MD20360 \$MC_TOOL_PARAMETER_DEF_MASK Bit 13 = 1 by indicating a radius.

42691	JOG_CIRCLE_RADIUS	-	-			
mm	Circle radius	DOUBLE	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: With this setting data, the circle radius in the machine, the maximum circle during inner machining or the minimum circle during outer machining are defined when jogging circles. This setting data is written via the user interface.

42692	JOG_CIRCLE_MODE	-	-
-	JOG of circles mode	DWORD	Immediately
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0

Description: This setting data sets the following during JOG of circles:

Bit 0 = 0 :
Travel to + creates traversing on a circular path in counterclockwise direction; travel to - creates traversing in clockwise direction.

Bit 0 = 1 :
Travel to + creates traversing on a circular path in clockwise direction; travel to - creates traversing in counterclockwise direction.

Bit 1 = 0 :
The tool radius is not taken into account in checking the limitation produced by the specified circle or by the circle segment limited by the start and end angles.

Bit 1 = 1 :
The tool radius is taken into account in checking the limitation produced by the specified circle or by the circle segment limited by the start and end angles.

Bit 2 = 0 :
Internal machining is performed. The circle radius in SD42691 \$SC_JOG_CIRCLE_RADIUS is the maximum possible radius.

Bit 2 = 1 :
External machining is performed. The circle radius in SD42691 \$SC_JOG_CIRCLE_RADIUS is the minimum possible radius.

Bit 3 = 0 :
Given a full circle, the radius is enlarged starting from the circle center point in the direction of the ordinate (2nd geometry axis) of the plane.

Bit 3 = 1 :
Given a full circle, the radius is enlarged starting from the circle center point in the direction of the abscissa (1st geometry axis) of the plane.

This setting data should be written via the user interface.

42693	JOG_CIRCLE_START_ANGLE	-	-
degrees	Circle start angle	DOUBLE	Immediately
-			
-	-	0, 0, 0, 0, 0, 0, 0...	0

Description: This setting data defines the start angle during JOG of circles.
The start angle refers to the abscissa of the current plane. Traversing is only possible within the range between the start and the end angle. SD42692 \$SC_JOG_CIRCLE_MODE bit 0 defines the direction from the start to the end angle. If start and end angle equal zero, no limitation is active.
This setting data is written via the user interface.

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42694	JOG_CIRCLE_END_ANGLE	-	-
degrees	Circle end angle	DOUBLE	Immediately
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0 360 7/7 M

Description: This setting data defines the end angle during JOG of circles.
 The end angle refers to the abscissa of the current plane. Traversing is only possible within the range between the start and the end angle. SD42692 \$SC_JOG_CIRCLE_MODE bit 0 defines the direction from the start to the end angle. If start and end angle equal zero, no limitation is active.
 This setting data is written via the user interface.

42700	EXT_PROG_PATH	-	K1
-	Program path for external subroutine call EXTCALL	STRING	Immediately
-			
-	-	...	7/7 M

Description: The total path results from the string chaining of SD42700 \$SC_EXT_PROG_PATH + the programmed subprogram identifier.

42750	ABSBLOCK_ENABLE	-	K1
-	Enable base block display	BOOLEAN	Immediately
-			
-	-	TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE...	7/7 M

Description: Value 0: Disable basic blocks with absolute values (basic block display)
 Value 1: Enable basic blocks with absolute values (basic block display)

42800	SPIND_ASSIGN_TAB	-	S1
-	Spindle number converter.	BYTE	Immediately
-			
-	21	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17...	0 21 7/7 M

Description: The spindle converter converts the programmed (= logical) spindle number to the physical (= internal, configured) spindle number.
 The index of the setting data (SD) corresponds to the programmed spindle number or the programmed address extension.
 The SD contains the physical spindle which actually exists.

Special cases, errors,

Notes:

- The zero index (SPIND_ASSIGN_TAB[0]) is only used to display the master spindle selected in the channel and must not be overwritten.
- Changes to the spindle converter take effect immediately. It is therefore not advisable to change the spindle converter for spindles used in a part program from the HMI or PLC while a part program is running.
- After "delete SRAM", the numbers of the logical and physical spindles are identical.

42900	MIRROR_TOOL_LENGTH	-	W1
-	Sign change of tool length with mirror image machining	BOOLEAN	Immediately
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: TRUE:

If a frame with mirror image machining is active, the tool components (\$TC_DP3[..., ...] to \$TC_DP5[..., ...]) and the components of the base dimensions (\$TC_DP21[..., ...] to \$TC_DP23[..., ...]) whose associated axes are mirrored, are also mirrored, i.e. their sign is inverted. The wear values are not mirrored. If the wear values are to be mirrored too, SD42910 \$SC_MIRROR_TOOL_WEAR must be set.

FALSE:

The sign for tool length components is unaffected by whether a frame with mirror image machining is active.

42910	MIRROR_TOOL_WEAR	-	W1
-	Sign change of tool wear with mirror image machining	BOOLEAN	Immediately
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: TRUE:

If a frame with mirror image machining is activated, the signs of the wear values of the components in question are inverted. The wear values of the components that are not assigned to mirrored axes remain unchanged.

FALSE:

The signs for wear values are unaffected by whether a frame with mirror image machining is active.

42920	WEAR_SIGN_CUTPOS	-	W1
-	Sign of tool wear depending on tool point direction	BOOLEAN	Immediately
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: TRUE:

In the case of tools with a relevant tool point direction (turning and grinding tools), the sign for wear of the tool length components depends on the tool point direction.

The sign is inverted in the following cases (marked with an X):

Tool point direction	Length 1	Length 2
----------------------	----------	----------

1

2

X

3

X

X

4

X

5

X

6

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7
8
9

X
X

The sign for wear value of length 3 is not influenced by this setting data.
The SD42930 \$SC_WEAR_SIGN acts in addition to this setting data.

FALSE:

The sign for wear of the tool length components is unaffected by the tool point direction.

42930	WEAR_SIGN	-	W1			
-	Sign of wear	BOOLEAN	Immediately			
-						
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-	-	7/7	M

Description: TRUE:

The sign for wear of the tool length components and the tool radius are inverted, i.e. if a positive value is entered, the total dimension is decreased.

FALSE:

The sign for wear of the tool length components and the tool radius is not inverted.

42935	WEAR_TRANSFORM	-	W1,W4			
-	Transformations for tool components	DWORD	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: This setting data is bit-coded.

It determines which of the three wear components

wear

(\$TC_DP12 - \$TC_DP14),

additive offsets fine (\$TC_SCPx3 - \$TC_SCPx5),

and additive offsets coarse (\$TC_ECPx3 - \$TC_ECPx5)

are subject to adapter transformation and transformation by an orientable tool holder, if one of the two G codes TOWMCS or TOWWCS from G code group 56 is active. If initial-setting G code TOWSTD is active, this setting data will not become active.

Then, the following assignment is valid:

Bit 0 = TRUE: Do not apply transformations to \$TC_DP12 - \$TC_DP14.

Bit 1 = TRUE: Do not apply transformations to \$TC_SCPx3 - \$TC_SCPx5.

Bit 2 = TRUE: Do not apply transformations to \$TC_ECPx3 - \$TC_ECPx5.

The bits not mentioned here are (currently) not assigned.

42940	TOOL_LENGTH_CONST	-	W1			
-	Change of tool length components with change of active plane	DWORD	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: If this setting data is not equal to 0, the assignment of tool length components (length, wear, base dimensions) to geometry axes is not changed when the machining plane (G17 - G19) is changed.

The assignment of tool length components to geometry axes can be derived from the value of the setting data acc. to the following tables.

A distinction is made between turning and grinding tools (tool types 400 to 599) and other tools (typically milling tools) in the assignment.

Representation of this information in tables assumes that geometry axes 1 to 3 are called X, Y and Z. For assignment of an offset to an axis, not the axis identifier but the axis sequence is relevant.

Assignment for turning tools and grinding tools (tool types 400 to 599):

Content	Length 1	Length 2	Length 3
17	Y	X	Z
18*	X	Z	Y
19	Z	Y	X
-17	X	Y	Z
-18	Z	X	Y
-19	Y	Z	X

* Any value which is not 0 and is not one of the six values listed, is treated as value 18.

For values that are the same but with a different sign, assignment of length 3 is always the same, lengths 1 and 2 are reversed. Assignment for all tools which are neither turning nor grinding tools (tool types < 400 or > 599):

Content	Length 1	Length 2	Length 3
17*	Z	Y	X
18	Y	X	Z
19	X	Z	Y
-17	Z	X	Y
-18	Y	Z	X
-19	X	Y	Z

* Any value which is not 0 and is not one of the six values listed, is treated as value 17.

For values that are the same but with a different sign, assignment of length 1 is always the same, lengths 2 and 3 are reversed.

If the hundreds position of the settings data is 1, the sign of the second length component is inverted.

If the thousands position of the setting data is 1, tool orientation and tool normal vector are interpreted according to the content of the decade and unit position. Otherwise, these two vectors are derived from the current G code of group 6 (G17 - G19). This applies only, however, if the tool orientations were not explicitly specified using tool parameters \$TC_DPVx[i, j] or \$TC_DPVNx[i, j].

Example:

The tool orientation is not explicitly specified and G17 is active. The current tool is a milling cutter, i.e. the length components L1, L2, L3 act in the coordinate directions Z, Y, X (in this order). The tool is therefore oriented in the Z direction, i.e. the tool orientation vector is (0, 0, 1).

If now \$SC_TOOL_LENGTH_CONST = 18 is set, the tool lengths are interpreted as if G18 were active, i.e. L1, L2, L3 act in Y, X, Z, but the orientation vector continues to point in the Z direction.

If additionally the thousands position is set to 1, i.e.

\$SC_TOOL_LENGTH_CONST = 1018, the tool orientation vector is also modified as if G18 were active, i.e. the tool is oriented in the Y direction (tool orientation vector (0, 1, 0)). This setting thus means that tool length and tool orientation are treated equally.

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42950	TOOL_LENGTH_TYPE	-	W1
-	Assignment of tool length compensation independent of tool type	DWORD	Immediately
-			
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-

Description: This setting data defines the assignment of the tool length components to the geometry axes independently of the tool type. It can assume any value between 0 and 2. Any other value is interpreted as 0.

Value

0: Standard assignment. A distinction is made between turning and grinding tools (tool types 400 to 599) and other tools (milling tools).

1: The assignment of the tool length components is independent of the actual tool type, always as for milling tools.

2: The assignment of the tool length components is independent of the actual tool type, always as for turning tools.

The setting data also affects the wear values assigned to the length components.

If SD42940 \$SC_TOOL_LENGTH_CONST is set, the tables defined there access the table for milling and turning tools defined by SD42950 \$SC_TOOL_LENGTH_TYPE irrespective of the actual tool type, if the value of the table is not equal to 0.

42960	TOOL_TEMP_COMP	-	W1
-	Temperature compensation for tool	DOUBLE	Immediately
-			
-	3	0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	-

Description: Temperature compensation value for the tool. The compensation value acts as vector according to the current rotation of the tool direction.

This setting data will only be evaluated, if temperature compensation has been activated for tools with MD20390 \$MC_TOOL_TEMP_COMP_ON.

Apart from that, the temperature compensation type must be set in bit 2 for the "Compensation in tool direction" MD32750 \$MA_TEP_COMP_TYPE.

The "Temperature compensation" is an option that has to be previously enabled.

42970	TOFF_LIMIT	-	F2
mm	Upper limit of correction value via \$AA_TOFF	DOUBLE	Immediately
-			
-	3	100000000.0, 100000000.0, 100000000.0...	-

Description: Upper limit of the offset value which can be defined by means of synchronized actions via the \$AA_TOFF system variable.

This limit value influences the absolutely effective amount of offset through \$AA_TOFF.

Whether the offset value is within the limit range can be checked via the \$AA_TOFF_LIMIT system variable.

42974	TOCARR_FINE_CORRECTION	C08	-
-	Fine offset TCARR ON / OFF	BOOLEAN	Immediately
-			
-	-	FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...	-

Description: TRUE:

On activating an orientable tool holder, the fine offset values are considered.

FALSE:

On activating an orientable tool holder, the fine offset are not considered.

42980	TOFRAME_MODE	-	K2
-	Frame definition at TOFRAME, TOROT and PAROT	DWORD	Immediately
-			
-	-	1000, 1000, 1000, 1000, 1000, 1000, 1000...	-

Description: This setting data defines the direction of the geometry axes on the machining plane (XY in the case of G17) in the case of the frame definition by means of (TOROTY, TOROTX) or for PAROT.

When a frame is calculated, the tool direction (Z in the case of G17) is uniquely defined so that the tool direction and vertical axis (Z in the case of G17) of the frame are parallel and lie perpendicular on the machining plane.

Rotation around the tool axis is free at first. This free rotation can be defined using this setting data so that the newly defined frame deviates as little as possible from a previously active frame.

In all cases in which the setting data is not zero, an active frame remains unchanged if the tool direction (Z in the case of G17) of the old and the new frame are the same.

SD42980 >= 2000:

In the case of TOROT (or TOROTY and TOROTX), the rotations and translations of the frame chain are used to calculate a frame in the tool reference system frame (\$P_TOOLFRAME) berechnet.

Machine data 21110 \$MC_X_AXIS_IN_OLD_X_Z_PLANE is not evaluated.

The explanatory notes below refer to the G17 plane with the XY axes in the machining plane and the tool axis being Z.

SD42980 = 2000:

Rotation around the Z axis is selected so that the angle between the new X axis and the old X-Z plane has the same absolute value as the angle between the new Y axis and the old Y-Z plane. This setting corresponds to the mean value of both settings which would result for values 2001 and 2002 of this setting data.

It is also applied if the value of the units digit is greater than 2.

SD42980 = 2001:

The new X direction is selected so that it lies in the X-Z plane of the old coordinate system. The angular difference between the old and new Y axes is minimal with this setting.

1.4 NC setting data

SD42980 = 2002:

The new Y direction is selected so that it lies in the Y-Z plane of the old coordinate system. The angular difference between the old and new X axes is minimal with this setting.

None of the other settings of SD42980 (0,1,2,...1000,1001...) should be used for recommissioning.

For compatibility reasons, the following settings remain valid:

0: The orientation of the coordinate system is determined by the value of machine data 21110 \$MC_X_AXIS_IN_OLD_X_Z_PLANE.

1: The new X direction is selected so that it lies in the X-Z plane of the old coordinate system. The angular difference between the old and new Y axes is minimal with this setting.

2: The new Y direction is selected so that it lies in the Y-Z plane of the old coordinate system. The angular difference between the old and new X axes is minimal with this setting.

3: The average of the two settings resulting from 1 and 2 is selected.

Addition of 100: In the case of a plane change from G17 to G18 or G19, a tool matrix is generated, in which the new axis directions are parallel to the old directions. The axes are swapped cyclically accordingly (standard transformation on plane changes). If the hundreds digit equals zero, a matrix is supplied in the cases of G18 and G19 which is derived from the unit matrix by simply rotating through 90 degrees around the X axis (G18) or through 90 degrees around the Y axis (G19). Thus in each case one axis is antiparallel to an initial axis. This setting is required to remain compatible with old software versions.

Addition of 1000: The tool-frame is linked to any active basic frames and settable frames. The response is thus compatible with earlier software versions (before 5.3). If the thousands digit is not set, the tool frame is calculated so that any active basic frames and settable frames are taken into account.

42984	CUTDIRMOD	C08	-
-	Modification of \$P_AD[2] or \$P_AD[11]	STRING	Immediately
-			
-	-	...	-

Description: States whether the tool point direction and cutting direction are to be modified on reading the corresponding system variables \$P_AD[2] and \$P_AD[11].

Modification is made by rotating the vector of the tool point direction or cutting direction by a specific angle in the active machining plane (G17-G19). The resulting output value is always the tool point direction or cutting direction created by the rotation or to which the rotated value is closest. the angle of rotation can be defined by one of the following six options:

- 1: The string is empty. The stated data are output unchanged.
- 2: The contents of the string is "P_TOTFRAME". The resulting rotation is determined from the total frame.
- 3: The contents of the string is a valid frame name (e.g. \$P_NCBFRAME[3]). The resulting rotation is then calculated from this frame.
- 4: The contents of the string has the form "Frame1 : Frame2". The resulting rotation is determined from the part frame chain that is created by chaining all frames from Frame1 to Frame2 (in each case inclusive). Frame1 and Frame2 are valid frame names such as \$P_PFRAME or \$P_CHBFRAME[5]"

5: The contents of the frame is the valid name of a rotary axis (machine axis). The resulting rotation is determined from the programmed end position of this rotary axis. Additionally, an offset can be stated (in degrees, e.g. "A+90").

6: The rotation is programmed explicitly (in degrees).

Optionally, the first character of the string can be written as sign (+ or -). A plus sign will not have any effect on the angle calculation, but a minus sign will invert the sign of the calculated angle.

42990	MAX_BLOCKS_IN_IPOBUFFER	-	K1			
-	maximum number of blocks in IPO buffer	DWORD	Immediately			
-						
-	-	-1, -1, -1, -1, -1, -1, -1, -1...	-	-	7/7	M

Description: This setting data can be used to limit the maximum number of blocks in the interpolation buffer to the maximum number specified in MD28060 \$MC_MM_IPO_BUFFER_SIZE.

A negative value means that no limitation of the number of blocks is active in the interpolation buffer, and the number of blocks is determined solely by MD28060 \$MC_MM_IPO_BUFFER_SIZE (default setting).

42995	CONE_ANGLE	-	-			
-	Taper angle	DOUBLE	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	-90	90	7/7	M

Description: This setting data writes the taper angle for taper turning. This setting data is written via the operator interface.

42996	JOG_GEOAX_MODE_MASK	-	-			
-	JOG of geometry axis mode	DWORD	Immediately			
-						
-	-	0, 0, 0, 0, 0, 0, 0, 0...	0	0x7	7/7	M

Description: This setting data sets the following during JOG of geometry axes:

Bit 0 = 1 :

A traversing request for the 1st geometry axis is inverted, i.e. a traversing request to + triggers a traversing motion to - .

Bit 1 = 1 :

A traversing request for the 2nd geometry axis is inverted, i.e. a traversing request to + triggers a traversing motion to - .

Bit 2 = 1:

A traversing request for the 3rd geometry axis is inverted, i.e. a traversing request to + triggers a traversing motion to - .

42998	CUTMOD_PLANE_TOL	-	-			
degrees	Deviation tool tip/machining plane	DOUBLE	Immediately			
-						
-	-	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0...	0.0	89.0	7/3	M

Description: This setting data specifies by how many degrees the tool tip may be rotated from the machining plane when calling the CUTMOD or CUTMODK function.

If the value of this setting data is 0, then the absolute value of the specified angle can be a maximum of 89° degrees.

1.4 NC setting data

43100	LEAD_TYPE	-	M3
-	Defines what is used as master value	DWORD	Reset
CTEQ			
-	-	1 0 2	7/7 M

Description: Defines which value is to be used as master value:

- 0: Actual value
- 1: Setpoint
- 2: Simulated master value

43102	LEAD_OFFSET_IN_POS	-	M3
-	Offset of master value if coupled to this axis	DOUBLE	Reset
-			
-	-	0.0 -1e15 1e15	7/7 M

Description: Offset of the master value before use on the coupling.

If this axis is a master value coupled following axis with CTABP as the curve table and X as the master value, then its position setpoint is calculated from $\text{LEAD_OFFSET_OUT_POS} + \text{LEAD_SCALE_OUT_POS} * \text{CTABP}(\text{LEAD_OFFSET_IN_POS} + \text{LEAD_SCALE_IN_POS} * X)$

Related to

SD43104 \$SA_LEAD_SCALE_IN_POS
SD43106 \$SA_LEAD_OFFSET_OUT_POS
SD43108 \$SA_LEAD_SCALE_OUT_POS

43104	LEAD_SCALE_IN_POS	-	M3
-	Scaling of master value if coupled to this axis	DOUBLE	Reset
-			
-	-	1.0 -1e15 1e15	7/7 M

Description: Scaling of the master value before use on the coupling.

If this axis is a master value coupled following axis with CTABP as the curve table and X as the master value, then its position setpoint is calculated from $\text{LEAD_OFFSET_OUT_POS} + \text{LEAD_SCALE_OUT_POS} * \text{CTABP}(\text{LEAD_OFFSET_IN_POS} + \text{LEAD_SCALE_IN_POS} * X)$

Related to

SD43102 \$SA_LEAD_OFFSET_IN_POS
SD43106 \$SA_LEAD_OFFSET_OUT_POS
SD43108 \$SA_LEAD_SCALE_OUT_POS

43106	LEAD_OFFSET_OUT_POS	-	M3
mm, degrees	Offset of the functional value of the curve table	DOUBLE	Reset
-			
-	-	0.0 -1e15 1e15	7/7 M

Description: Offset of the master value before use on the coupling.

If this axis is a master value coupled following axis with CTABP as the curve table and X as the master value, then its position setpoint is calculated from $\text{LEAD_OFFSET_OUT_POS} + \text{LEAD_SCALE_OUT_POS} * \text{CTABP}(\text{LEAD_OFFSET_IN_POS} + \text{LEAD_SCALE_IN_POS} * X)$

Related to

SD43102 \$SA_LEAD_OFFSET_IN_POS
SD43104 \$SA_LEAD_SCALE_IN_POS

SD43108 \$SA_LEAD_SCALE_OUT_POS

43108	LEAD_SCALE_OUT_POS	-	M3			
-	Scaling of functional value of the curve table	DOUBLE	Reset			
-						
-	-	1.0	-1e15	1e15	7/7	M

Description: Scaling of the function value before use of the curve table.

If this axis is a master value coupled following axis with CTABP as the curve table and X as the master value, then its position setpoint is calculated from LEAD_OFFSET_OUT_POS + LEAD_SCALE_OUT_POS * CTABP(LEAD_OFFSET_IN_POS + LEAD_SCALE_IN_POS * X)

Related to

SD43102 \$SA_LEAD_OFFSET_IN_POS

SD43104 \$SA_LEAD_SCALE_IN_POS

SD43106 \$SA_LEAD_OFFSET_OUT_POS

43120	DEFAULT_SCALE_FACTOR_AXIS	-	FBFA			
-	Axial default scaling factor with G51 active	DWORD	Immediately			
-						
-	-	1	-	-	7/7	M

Description: If no axial scaling factor I, J, or K is programmed in the G51 block, SD43120 \$SA_DEFAULT_SCALE_FACTOR_AXIS is active. The scaling factor is only active if MD22914 \$MC_AXES_SCALE_ENABLE is set.

Related to:

MD22914 \$MC_AXES_SCALE_ENABLE,

MD22910 \$MC_WEIGHTING_FACTOR_FOR_SCALE

43200	SPIND_S	-	S1			
rev/min	Speed for spindle start by VDI	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Spindle speed at spindle start by NC/PLC interface signals DB31, ... DBX30.1 (Spindle start clockwise rotation) and DB31, ... DBX30.2 (Spindle start counterclockwise rotation).

Example: \$SA_SPIND_S[S1] = 600

Spindle 1 is started at a speed of 600 rpm upon detection of the positive edge of one of the above-mentioned VDI starting signals.

Speed programming values are entered in the SD by setting bit 4=1 in MD35035 \$MA_SPIND_FUNCTION_MASK.

The SD becomes active in JOG mode as a default speed by setting bit 5=1 in MD35035 \$MA_SPIND_FUNCTION_MASK (exception: the value is zero).

Related to:

MD35035 \$MA_SPIND_FUNCTION_MASK

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

1.4 NC setting data

43202	SPIND_CONSTCUT_S	-	S1
m/min	Const cut speed for spindle start by VDI	DOUBLE	Immediately
-			
-	-	0.0	-

Description: Definition of the constant cutting speed for the master spindle.
 The setting data is evaluated at spindle start by the NC/PLC interface signals DB31, ... DBX30.1 (Spindle start clockwise rotation) and DB31, ... DBX30.2 (Spindle start counterclockwise rotation)
 Cutting speed programming values are entered in the SD by setting bit 8=1 in MD35035 \$MA_SPIND_FUNCTION_MASK.
Related to:
 MD35035 \$MA_SPIND_FUNCTION_MASK
 MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43206	SPIND_SPEED_TYPE	A06	-
-	Spindle speed type for spindle start through VDI	DWORD	Immediately
-			
-	-	94	93

Description: Definition of the spindle speed type for the master spindle.
 The range of values and the functionality correspond to the 15th G group "feed type".
 Permissible values are the G values: 93, 94, 95, 96, 961, 97, 971 and 973.
 The stated values make a functional distinction between the following variants:
 ==> 93, 94, 95, 97 and 971: The spindle is started at the speed in SD 43200 \$SA_SPIND_S.
 ==> 96 and 961: The speed of the spindle is derived from the cutting speed of SD 43202 \$SA_SPIND_CONSTCUT_S and the radius of the transverse axis.
 ==> 973: G973 behaves like G97, but the spindle speed limitation is not active
 The default value is 94 (corresponds to G94)
 The default value becomes active if the SD is written with impermissible values.

43210	SPIND_MIN_VELO_G25	-	S1
rev/min	Programmed spindle speed limitation G25	DOUBLE	Immediately
-			
-	-	0.0	-

Description: A minimum spindle speed limit below which the spindle must not fall is entered in SPIND_MIN_VELO_G25. The NCK limits the set spindle speed to this value if it is too low.
 The spindle speed may only fall below the minimum as a result of:

- Spindle offset 0%
- M5
- S0
- NC/PLC interface signal DB31, ... DBX4.3 (Spindle stop)
- NC/PLC interface signal DB31, ... DBX2.1 (Servo enable)
- NC/PLC interface signal DB21-30 DBX35.7 (Channel status: Reset)

- NC/PLC interface signal DB31, ... DBX2.2 (Delete distance-to-go/Spindle reset)
- NC/PLC interface signal DB31, ... DBX18.5 (Oscillation speed)
- Cancel S value

SD irrelevant to

other spindle modes used in open-loop control mode (SPOS, M19, SPOSA)

Related to:

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43220	SPIND_MAX_VELO_G26	-	S1			
rev/min	Programmable upper spindle speed limitation G26	DOUBLE	Immediately			
-						
-	-	1000.0	-	-	7/7	M

Description: A maximum spindle speed is entered in SD43220 \$SA_SPIND_MAX_VELO_G26, which the spindle must not exceed. The NCK limits an excessive spindle speed set-point to this value.

SD irrelevant for

all spindle modes except open-loop control mode.

Special cases, errors,

The value in SD43210 \$SA_SPIND_MIN_VELO_G26 can be altered by means of:

- G26 S.... in the part program
- Operator commands via HMI

The value in SD43210 \$SA_SPIND_MIN_VELO_G26 is retained after a reset or Power Off.

Related to

SD43210 \$SA_SPIND_MIN_VELO_G25 (programmed spindle speed limit G25)

SD43230 \$SA_SPIND_MAX_VELO_LIMS (programmed spindle speed limit G96/961)

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43230	SPIND_MAX_VELO_LIMS	-	S1,Z1			
rev/min	Spindle speed limitation with G96	DOUBLE	Immediately			
-						
-	-	100.0	-	-	7/7	M

Description: Limits the spindle speed with G96, G961, G97 to the stated maximum value [degrees/second]. This setting data can be written from the block with LIMS.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred into the active file system on reset (that is the value is retained after reset).

Related to

SD43210 \$SA_SPIND_MIN_VELO_G25 (programmed spindle speed limit G25)

SD43230 \$SA_SPIND_MAX_VELO_LIMS (programmed spindle speed limit with G96/961)

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

Machine and setting data

1.4 NC setting data

43235	SPIND_USER_VELO_LIMIT	A06	S1,Z1			
rev/min	Maximum spindle speed	DOUBLE	Immediately			
-						
-	-	1.0e+8	-	-	7/7	M

Description: The user can enter a maximum spindle speed.
 The NCK limits an excessive spindle setpoint speed to this value. The SD is effective immediately.
 Corresponds with:
 MD35100 \$MA_SPIND_VELO_LIMIT (maximum spindle speed)
 MD35110 \$MA_GEAR_STEP_MAX_VELO (maximum speed for gear stage change)

43240	M19_SPOS	-, A12	S1			
degrees	Spindle position for spindle positioning with M19.	DOUBLE	Immediately			
-						
-	-	0.0	-10000000.0	10000000.0	7/7	M

Description: Spindle position in [DEGREES] for spindle positioning with M19.
 The position approach mode is defined in \$SA_M19_SPOSMODE.
 Default positions must lie in the range 0 <= pos < MD30330 \$MA_MODULO_RANGE.
 Path defaults (SD43250 \$SA_M19_SPOSMODE = 2) can be positive or negative and are only limited by the input format.

43250	M19_SPOSMODE	-, A12	S1			
-	Spindle position approach mode for spindle positioning with M19.	DWORD	Immediately			
-						
-	-	0	0	5	7/7	M

Description: Spindle position approach mode for spindle positioning with M19.
 In which signify:
 0: DC (default) approach position on the shortest path.
 1: AC approach position normally.
 2: IC approach incrementally (as path), sign gives the traversing direction
 3: DC approach position on the shortest path.
 4: ACP approach position from the positive direction.
 5: ACN approach position from the negative direction.

43300	ASSIGN_FEED_PER_REV_SOURCE	-	V1,P2,S1			
-	Revolutional feedrate for positioning axes/spindles	DWORD	Immediately			
CTEQ						
-	-	0	-3	31	7/7	M

Description: 0= No revolutional feedrate is active.
 >0= Machine axis index of the rotary axis/spindle, from which the revolutional feedrate is derived.
 -1= The revolutional feedrate is derived from the master spindle of the channel in which the axis/spindle is active
 -2= The revolutional feedrate is derived from the axis with machine axis index == 0 or the axis with an index in MD10002 \$MN_AXCONF_LOGIC_MACHAX_TAB == 0.

-3= The revolutional feedrate is derived from the master spindle of the channel in which the axis/spindle is active. No revolutional feedrate is active if the master spindle is at a standstill.

Related to

SD42600 \$SC_JOG_FEED_PER_REV_SOURCE (revolutional feedrate for geometry axes on which a frame with rotation acts in JOG mode.)

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43320	JOG_POSITION	-	-			
mm, degrees	JOG position	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Position to be approached in JOG. Depending on MD10735 \$MN_JOG_MODE_MASK bit 4 axial frames and, with an axis configured as geometry axis, the tool length offset are considered.

43340	EXTERN_REF_POSITION_G30_1	-, A12	FBFA			
-	Reference point position for G30.1	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Reference point position for G30.1.

This setting data will be evaluated in CYCLE328.

43350	AA_OFF_LIMIT	-	S5,FBSY			
mm, degrees	Upper limit of offset value \$AA_OFF with clearance control	DOUBLE	PowerOn			
CTEQ						
-	-	100000000.0	0.0	1e15	7/7	M

Description: The upper limit of the offset value, which can be defined by means of synchronized actions via the variable \$AA_OFF.

This limit value acts on the absolutely effective amount of offset by means of \$AA_OFF.

It is used for clearance control in laser machining:

The offset value is limited so that the laser head cannot get caught in the plate recesses.

Whether the offset value lies within the limit range can be queried via system variable \$AA_OFF_LIMIT.

43400	WORKAREA_PLUS_ENABLE	-	A3			
-	Working area limitation active in positive direction	BOOLEAN	Immediately			
CTEQ						
-	-	FALSE	-	-	7/7	M

Description: 1: The working area limitation of the axis concerned is active in the positive direction.

0: The working area limitation of the axis concerned is switched off in the positive direction.

The setting data is parameterized via the operator panel in the operating area "Parameters" by activating/deactivating the working area limitation.

SD irrelevant for

G code: WALIMOF

1.4 NC setting data

43410	WORKAREA_MINUS_ENABLE	-	A3			
-	Working area limitation active in the negative direction	BOOLEAN	Immediately			
CTEQ						
-	-	FALSE	-	-	7/7	M

Description: 1: The working area limitation of the axis concerned is active in the negative direction.
 0: The working area limitation of the axis concerned is switched off in the negative direction.
 The setting data is parameterized via the operator panel in the operating area "Parameters" by activating/deactivating the working area limitation.
 SD irrelevant for
 G code: WALIMOF

43420	WORKAREA_LIMIT_PLUS	-	A3			
mm, degrees	Working area limitation plus	DOUBLE	Immediately			
-						
-	-	1.0e+8	-	-	7/7	M

Description: The working area defined in the basic coordinate system in the positive direction of the axis concerned can be limited with axial working area limitation.
 The setting data can be changed on the operator panel in the operating area "Parameters".
 The positive working area limitation can be changed in the program with G26.
 SD irrelevant for
 G code: WALIMOF
 Related to
 SD43400 \$SA_WORKAREA_PLUS_ENABLE
 MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43430	WORKAREA_LIMIT_MINUS	-	A3			
mm, degrees	Working area limitation minus	DOUBLE	Immediately			
-						
-	-	-1.0e+8	-	-	7/7	M

Description: The working area defined in the basic coordinate system in the negative direction of the axis concerned can be limited with axial working area limitation.
 The setting data can be changed on the operator panel in the operating area "Parameters".
 The negative working area limitation can be changed in the program with G25.
 SD irrelevant for
 G code: WALIMOF
 Related to
 SD43410 \$SA_WORKAREA_MINUS_ENABLE
 MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43500	FIXED_STOP_SWITCH	-	F1			
-	Selection of travel to fixed stop	BYTE	Immediately			
-						
-	-	0	0	1	7/7	M

Description: The "Travel to fixed stop" function can be selected and deselected with this setting data.

SD=0 Deselect "Travel to fixed stop"

SD=1 Select "Travel to fixed stop"

The setting data can only be overwritten by the part program with the command FXS [x]=1/0 when software version 2.x is installed.

The status of the setting data is indicated on the operator panel in the "Parameters" area.

43510	FIXED_STOP_TORQUE	-	F1			
%	Fixed stop clamping torque	DOUBLE	Immediately			
-						
-	-	5.0	0.0	800.0	7/7	M

Description: The clamping torque is entered in this setting data as a % of the maximum motor torque (corresponds to % of max. current value with FDD).

The setting data is active only if the fixed stop has been reached.

The fixed stop is considered reached when,

- with MD: MD37060 \$MA_FIXED_STOP_ACKN_MASK, bit 1 = 0 (no acknowledgment required), the interface signal DB31, ... DBX62.5 (Fixed stop reached) is set by the NC
- with MD37060 \$MA_FIXED_STOP_ACKN_MASK, bit 1 = 1 (acknowledgment required), the interface signal DB31, ... DBX62.5 (Fixed stop reached) is set by the NC and acknowledged by interface signal DB31, ... DBX1.1 (Acknowledge fixed stop reached)

The status of the setting data is indicated on the operator panel in the "Parameters" area.

The FXST[x] command effects a block-synchronous change to this setting data. It can also be changed by the user or via the PLC. Otherwise the value is transferred from MD37010 \$MA_FIXED_STOP_TORQUE_DEF to the setting data when "Travel to fixed stop" is active.

Related to

MD37010 \$MA_FIXED_STOP_TORQUE_DEF (default setting for clamping torque)

43520	FIXED_STOP_WINDOW	-	F1			
mm, degrees	Fixed stop monitoring window	DOUBLE	Immediately			
-						
-	-	1.0	-	-	7/7	M

Description: The fixed stop monitoring window is entered in this setting data.

The setting data is active only if the fixed stop has been reached.

The fixed stop is considered reached when,

- with MD37060 \$MA_FIXED_STOP_ACKN_MASK, bit 1 = 0 (no acknowledgment required) interface signal DB31, ... DBX62.5 (Fixed stop reached) is set by the NC
- with MD37060 \$MA_FIXED_STOP_ACKN_MASK, bit 1 = 1 (acknowledgment required) interface signal DB31, ... DBX62.5 (Fixed stop reached) is set by the NC and acknowledged by interface signal DB31, ... DBX1.1 (Acknowledge fixed stop reached)

1.4 NC setting data

If the position at which the fixed stop was detected leaves the tolerance band by more than the amount specified in SD43520 \$SA_FIXED_STOP_WINDOW, then alarm 20093 "Fixed stop monitoring has responded" is output and the "FXS" function is deselected.

The status of the setting data is indicated on the operator panel in the "Parameters" area.

The FXSW[x] command effects a block-synchronous change to this setting data. It can also be changed by the user or via the PLC.

The value is otherwise transferred from MD37020 \$MA_FIXED_STOP_WINDOW_DEF to the setting data when "Travel to fixed stop" is active.

Related to

MD37020 \$MA_FIXED_STOP_WINDOW_DEF (default setting for fixed stop monitoring window)

43600	IPOBRAKE_BLOCK_EXCHANGE	A06, A10	K1			
%	Block change criterion 'braking ramp'	DOUBLE	Immediately			
-						
-	-	0.0	0	100.0	7/7	M

Description: Specifies the application time at single axis interpolation for the block change criterion braking ramp: At 100%, the block change criterion is fulfilled at the time of application of the braking ramp. At 0%, the block change criterion is identical with IPOENDA.

Note:

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred into the active file system on reset (i.e. the value is retained even after reset).

43610	ADISPOSA_VALUE	A06, A10	P2			
mm, degrees	Tolerance window 'braking ramp'	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: In case of single-axis interpolation, this value defines the size of the tolerance window which the axis must have reached in order to enable a block change in case of the block-change criterion 'braking ramp with tolerance window valid' and when reaching the corresponding % value of the braking ramp (SD43600 \$SA_IPOBRAKE_BLOCK_EXCHANGE).

Note:

By means of the MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB, the user can specify that the value written by the part program is transferred into the active file system in case of a reset (i.e. the value is retained even after the reset).

43700	OSCILL_REVERSE_POS1	-	P5			
mm, degrees	Oscillation reversal point 1	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: Position of the oscillating axis at reversal point 1.

Note:

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB can be be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after RESET.).

Application example(s)

NC language: OSP1[Axis]=Position

Related to

SD43710 \$SA_OSCILL_REVERSE_POS2
MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43710	OSCILL_REVERSE_POS2	-	P5
mm, degrees	Oscillation reversal point 2	DOUBLE	Immediately
-			
-	-	0.0	M

Description: Position of the oscillating axis at reversal point 2.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Application example(s)

NC language: OSP2[Axis]=Position

Related to

SD43700 \$SA_OSCILL_REVERSE_POS1
MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43720	OSCILL_DWELL_TIME1	-	P5
s	Hold time at oscillation reversal point 1	DOUBLE	Immediately
-			
-	-	0.0	M

Description: Hold time of the oscillating axis at reversal point 1.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Application example(s)

NC language: OST1[Axis]=Position

Related to

SD43730 \$SA_OSCILL_DWELL_TIME2
MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43730	OSCILL_DWELL_TIME2	-	P5
s	Hold time at oscillation reversal point 2	DOUBLE	Immediately
-			
-	-	0.0	M

Description: Hold time of the oscillating axis at reversal point 2.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Application example(s)

NC language: OST2[Axis]=Position

1.4 NC setting data

Related to

SD43720 \$SA_OSCILL_DWELL_TIME1
 MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43740	OSCILL_VELO	-	P5
mm/min, rev/min	Feedrate of reciprocating axis	DOUBLE	Immediately
-			
-	-	0.0	-

Description: Feed rate of the oscillating axis

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Application example(s)

NC language: FA[Axis]=F value

Related to

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43750	OSCILL_NUM_SPARK_CYCLES	-	P5
-	Number of spark-out strokes	DWORD	Immediately
-			
-	-	0	-

Description: Number of sparking-out strokes performed after ending the oscillating movement

Application example(s)

NC language: OSNSC[Axis]=Stroke number

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Related to

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43760	OSCILL_END_POS	-	P5
mm, degrees	End position of the reciprocating axis	DOUBLE	Immediately
-			
-	-	0.0	-

Description: Position the oscillating axis travels to after ending the sparking-out strokes.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Application example(s)

NC language: OSE[Axis]=Position

Related to

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB
 MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43770	OSCILL_CTRL_MASK	-	P5
-	Oscillation sequence control mask	DWORD	Immediately
-			
-	-	0	-

Description: Bit mask:

Bit no. | Meaning in OSCILL_CTRL_MASK

--			
0 (LSB) -1	0: Stop at the next reversal point if the oscillating movement is switched off		
	1: Stop at reversal point 1 if the oscillating movement is switched off		
	2: Stop at reversal point 2 if the oscillating movement is switched off		
	3: Do not approach a reversal point when the oscillating movement is switched off		
	if no sparking-out strokes are programmed		
--			
2	1: Approach end position after sparking out		
--			
3	1: If the oscillating movement is canceled by delete distance-to-go,		
	then the sparking-out strokes are to be executed afterwards		
	and the end position approached if necessary		
--			
4	1: If the oscillating movement is canceled by delete distance-to-go,		
	then the corresponding reversal point		
	is approached on switch off		
--			
5	1: Changed feedrate does not become active until the next reversal point		
--			
6	1: Path override is active if the feed rate is 0, otherwise speed override is active		
--			
7	1: In the case of rotary axes DC (shortest path)		
--			

1.4 NC setting data

```

8          | 1: Execute sparking-out stroke as single stroke not as double
stroke
-----
--          |
9          | 1: On starting, first approach the starting position, see
|      SD43790 $SA_OSCILL_START_POS
-----
--          |
Application example(s)
NC language:      OSCTRL[Axis]=(setting options, reset options)
Related to .....
    MD10709 $MN_PROG_SD_POWERON_INIT_TAB
    MD10710 $MN_PROG_SD_RESET_SAVE_TAB

```

43780	OSCILL_IS_ACTIVE	-	P5
-	Activate oscillation movement	BOOLEAN	Immediately
-			
-	-	FALSE	7/7 M

Description: Switching the oscillating movement on and off

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

Application example(s)

NC language: OS[Axis]=1, OS[Axis]=0

Related to

MD10709 \$MN_PROG_SD_POWERON_INIT_TAB

MD10710 \$MN_PROG_SD_RESET_SAVE_TAB

43790	OSCILL_START_POS	-	-
mm, degrees	Start position of reciprocating axis	DOUBLE	Immediately
-			
-	-	0.0	7/7 M

Description: Position approached by the oscillating axis at the start of oscillation if this is set in SD43770 \$SA_OSCILL_CTRL_MASK.

Note:

MD 10710 \$MN_PROG_SD_RESET_SAVE_TAB can be set so that the value written by the part program is transferred to the active file system on reset (that is the value is retained after reset.)

43900	TEMP_COMP_ABS_VALUE	-	K3
-	Position-independent temperature compensation value	DOUBLE	Immediately
-			
-	-	0.0	7/7 M

Description: The position-independent temperature compensation value is defined by SD43900 \$SA_TEMP_COMP_ABS_VALUE.

The machine axis traverses this additional compensation value as soon as the position-independent temperature compensation has been activated (MD32750 \$MA_TEMP_COMP_TYPE = 1 oder 3).

SD irrelevant for

MD32750 \$MA_TEMP_COMP_TYPE = 0 or 2

Related to

MD32750 \$MA_TEMP_COMP_TYPE Temperature compensation type
 MD32760 \$MA_COMP_ADD_VELO_FACTOR Velocity overshoot caused by compensation

43910	TEMP_COMP_SLOPE	-	K3			
-	Lead angle for position-dependent temperature compensation	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: In the case of position-dependent temperature compensation, the error curve characteristic of the temperature-dependent actual-value deviation can often be approximated by a straight line. This straight line is defined by a reference point P_0 and a slope tan-β.

SD43910 \$SA_TEMP_COMP_SLOPE defines the slope tan-β. This slope can be changed by the PLC user program as a function of the current temperature. The axis traverses additionally the compensation value calculated for the current actual position as soon as the position-dependent temperature compensation becomes active (MD32750 \$MA_TEMP_COMP_TYPE = = 2 or 3).

MD32760 \$MA_COMP_ADD_VELO_FACTOR limits the maximum angle of slope tan-β_max of the error curve. This maximum angle of slope cannot be exceeded.

SD irrelevant for

MD32750 \$MA_TEMP_COMP_TYPE = 0 or 1

Special cases, errors,

When SD43910 \$SA_TEMP_COMP_SLOPE is greater than tan-β_max, the slope tan-β_max is used to calculate the position-dependent temperature compensation value internally. No alarm is output.

Related to

MD32750 \$MA_TEMP_COMP_TYPE Temperature compensation type

SD43920 \$SA_TEMP_COMP_REF_POSITION Reference position for position-dependent temperature compensation

MD32760 \$MA_COMP_ADD_VELO_FACTOR Velocity overshoot caused by compensation

43920	TEMP_COMP_REF_POSITION	-	K3			
-	Ref. position of position-dependent temperature compensation	DOUBLE	Immediately			
-						
-	-	0.0	-	-	7/7	M

Description: In the case of position-dependent temperature compensation, the error curve characteristic of the temperature-dependent actual-value deviation can often be approximated by a straight line. This straight line is defined by a reference point P_0 and a slope tan-β.

SD43920 \$SA_TEMP_COMP_REF_POSITION defines the position of the reference point P_0. This reference position can be changed by the PLC user program as a function of the current temperature.

The axis traverses additionally the compensation value calculated for the current actual position as soon as the position-dependent temperature compensation becomes active (MD32750 \$MA_TEMP_COMP_TYPE = 2 or 3).

SD irrelevant for

MD32750 \$MA_TEMP_COMP_TYPE = 0 or 1

Related to

MD32750 \$MA_TEMP_COMP_TYPE Temperature compensation type

SD43910 \$SA_TEMP_COMP_SLOPE Angle of slope for position-dependent temperature compensation

1.5 Machine / setting data for SINUMERIK Operate and Cycles

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

51000	DISP_RES_MM	-	-			
-	Display resolution in mm		BYTE	PowerOn		
-						
-	-	3	0	6	7/3	M

Description: Display resolution in mm

51001	DISP_RES_MM_FEED_PER_REV	-	-			
-	Display resolution in mm feedrate/rev		BYTE	Immediately		
-						
-	-	3	0	6	7/3	M

Description: Display resolution in mm feedrate/rev

51002	DISP_RES_MM_FEED_PER_TIME	-	-			
-	Display resolution in mm feedrate/min		BYTE	Immediately		
-						
-	-	3	0	6	7/3	M

Description: Display resolution in mm feedrate/min

51003	DISP_RES_MM_FEED_PER_TOOTH	-	-			
-	Display resolution in mm feedrate/tooth		BYTE	Immediately		
-						
-	-	3	0	6	7/3	M

Description: Display resolution in mm feedrate/tooth

51004	DISP_RES_MM_CONST_CUT_RATE	-	-			
-	Display resolution constant cutting speed m/min		BYTE	Immediately		
-						
-	-	3	0	6	7/3	M

Description: Display resolution constant cutting speed m/min

51010	DISP_RES_INCH	-	-			
-	Display resolution in inch		BYTE	PowerOn		
-						
-	-	4	0	6	7/3	M

Description: Display resolution in inch

51011	DISP_RES_INCH_FEED_P_REV	-	-			
-	Display resolution in inch feedrate/rev	BYTE	Immediately			
-						
-	-	4	0	6	7/3	M

Description: Display resolution in inch feedrate/rev

51012	DISP_RES_INCH_FEED_P_TIME	-	-			
-	Display resolution in inch feedrate/min	BYTE	Immediately			
-						
-	-	4	0	6	7/3	M

Description: Display resolution in inch feedrate/min

51013	DISP_RES_INCH_FEED_P_TOOTH	-	-			
-	Display resolution in inch feedrate/tooth	BYTE	Immediately			
-						
-	-	4	0	6	7/3	M

Description: Display resolution in inch feedrate/tooth

51014	DISP_RES_INCH_CUT_RATE	-	-			
-	Display resolution constant cutting speed ft/min	BYTE	Immediately			
-						
-	-	4	0	6	7/3	M

Description: Display resolution constant cutting speed ft/min

51020	DISP_RES_ANGLE	-	-			
-	Display resolution of angle	BYTE	Immediately			
-						
-	-	3	0	6	7/3	M

Description: Display resolution of angle

51021	DISP_RES_SPINDLE	-	-			
-	Display resolution of spindles	BYTE	Immediately			
-						
-	-	0	0	6	7/3	M

Description: Decimal places in speed entry field

51022	DISP_RES_ROT_AX_FEED	-	-			
-	Display resolution of rotary axis feedrate	BYTE	Immediately			
-						
-	-	0	0	6	7/3	M

Description: Display resolution of rotary axis feedrate

51023	ACT_VALUE_SPIND_MODE	-	-			
-	Only display spindles in actual values window when in axis mode	BYTE	PowerOn			
-						
-	-	1	0	1	3/4	M

Description: This affects the display of the spindles in the axis actual values window. If the value is set to 1, only those spindles in axis mode are displayed, those in spindle mode are shown as gaps. If the value is set to 0, all spindles are displayed.

51024	BLOCK_SEARCH_MODE_MASK_JS	-	-			
-	Bit mask for available search modes (ShopMill, ShopTurn single-channel)	BYTE	PowerOn			
-						
-	-	1	-	-	4/3	M

Description: Bit mask for available search modes (ShopMill, ShopTurn single-channel)
 Bit 0:Block search with calculation without approach
 Bit 1:Block search with calculation with approach
 Bit 2:reserved
 Bit 3:Skip EXTCALL programs
 Bit 4:reserved
 Bit 5:Block search with test run

51025	FRAMES_ACT_IMMEDIATELY	-	-			
-	Activate active offset immediately	BYTE	PowerOn			
-						
-	-	1	0	1	4/3	M

Description: Active data (frames) are activated immediately after change

51026	AXES_SHOW_GEO_FIRST	-	-			
-	Actual value display with leading geometry axes	BYTE	PowerOn			
-						
-	-	1	0	1	4/3	M

Description: When the machine data value is 1, the geometry axes of the channel are displayed first.

51027	ONLY_MKS_DIST_TO_GO	-	-			
-	Distance-to-go display in work window	BYTE	PowerOn			
-						
-	-	0	0	1	4/3	M

Description: Distance-to-go display in work window

51028	BLOCK_SEARCH_MODE_MASK	-	-			
-	Bit mask for available block search modes	BYTE	PowerOn			
-						
-	-	51	-	-	4/3	M

Description: Bit mask for available search modes
 Bit 0:Block search with calculation but no approach
 Bit 1:Block search with calculation and approach
 Bit 3:Skip EXTCALL programs

Bit 4: Block search without calculation

Bit 5: Block search with test run

51029	MAX_SKP_LEVEL	-	-			
-	Maximum number of skip levels in the NC program	BYTE	PowerOn			
-						
-	-	1	1	10	4/3	M

Description: The machine data defines how many skip levels are made available for operation.

51030	SPIND_MAX_POWER	-	-			
%	Maximum value of spindle power rating display	DWORD	PowerOn			
-						
-	-	100	0	255	4/3	M

Description: Maximum value of the permissible spindle power rating in percent; the display bar in the machine image is shown in green within the range between 0 and the value stored in SPIND_MAX_POWER.

51031	SPIND_POWER_RANGE	-	-			
%	Display range of spindle power rating display	DWORD	PowerOn			
-						
-	-	100	0	255	4/3	M

Description: Scale end value for spindle power rating in percent; value must be equal to or greater than SPIND_MAX_POWER.

The display bar in the machine image is shown in red in the range between the values of SPIND_MAX_POWER and SPIND_POWER_RANGE.

51032	STAT_DISPLAY_BASE	-	-			
-	Number basis for display of articulated joint STAT	BYTE	PowerOn			
-						
-	-	2	0	16	4/3	M

Description: Number basis for display of articulated joint STAT

00: no display

02: binary value display

10: decimal value display

16: hexadecimal value display

51033	TU_DISPLAY_BASE	-	-			
-	Number basis for display of rotary axis position TU	BYTE	PowerOn			
-						
-	-	2	0	16	4/3	M

Description: Number basis for display of rotary axis position TU

00: no display

02: binary value display

10: decimal value display

16: hexadecimal value display

51034	TEACH_MODE	-	-			
-	Teach mode to be activated	DWORD	PowerOn			
-						
-	-	1	-	-	4/3	M

Description: Teach mode to be activated
 Bit 0: default teach-in
 Taught-in block is transferred to the program using the Accept softkey.
 Bit 1: acceptance of teach block can be blocked by the PLC.
 DB19.DBX13.0 = 0 block is accepted.
 DB19.DBX13.0 = 1 block is not accepted.
 Bit 2: block selection only explicitly
 Bit 16-31 reserved for OEM.

51035	WRITE_FRAMES_FINE_LIMIT	-	-			
-	Input limit for all WO fine	DOUBLE	PowerOn			
-						
-	-	0.999	-	-	4/3	M

Description: Input limit for all work offsets fine

51036	ENABLE_COORDINATE_REL	-	-			
-	Enable REL coordinate system	BYTE	PowerOn			
-						
-	-	0	0	1	7/3	M

Description: Display REL coordinate system
 0 = No relative coordinate system selectable
 1 = REL coordinate system can be selected as an alternative to the work/SZS coordinate system

51037	ENABLE_COORDINATE_ACS	-	-			
-	Enable settable coordinate system	BYTE	PowerOn			
-						
-	-	0	0	1	7/3	M

Description: Activate settable coordinate system
 0 = WCS coordinate system is displayed
 1 = SZS coordinate system is displayed
 (SZS is WCS reduced by the offset components defined in MD24030)

51038	SET_ACT_VALUE	-	-			
-	Set actual value selection	BYTE	PowerOn			
-						
-	-	1	0	1	7/3	M

Description: Set actual value selection
 0 = Set actual value is not offered.
 1 = if a user frame (settable work offset e.g. G54) is active, it will be used. In G500 Set actual values is not offered (system frame is no longer used).

51039	PROGRAM_CONTROL_MODE_MASK	-	-			
-	Options for machine - program influence	DWORD	PowerOn			
-						
-	-	1	-	-	7/3	M

Description: Options for machine - program influence:

Bit 0: program test function available

51040	SWITCH_TO_MACHINE_MASK	-	-			
-	Automatic operating area switchover to machine	BYTE	PowerOn			
-						
-	-	0	-	-	7/3	M

Description: Automatic area switchover dependent upon machine

Bit 0: No automatic switch to Machine operating area when the program is selected in the Program Manager.

Bit 1: No automatic switch to Machine operating area when the operating mode is changed over via the machine control panel (MCP).

Bit 2: No automatic switch to Machine operating area when the program is selected in the Programs operating area.

Bit 3: No automatic start of block search when the program is selected / executed in the Programs operating area.

51041	ENABLE_PROGLIST_USER	-	-			
-	Activation of PLC program list, USER area	BYTE	Immediately			
-						
-	-	0	0	1	7/3	M

Description: Activates the PLC program list of the USER area. The programs entered there can be selected by the PLC for processing.

51042	ENABLE_PROGLIST_INDIVIDUAL	-	-			
-	Activation of PLC program list, INDIVIDUAL area	BYTE	Immediately			
-						
-	-	0	0	1	7/3	M

Description: Activates the PLC program list of the INDIVIDUAL area. The programs entered here can be selected by the PLC for processing.

51043	ENABLE_PROGLIST_MANUFACT	-	-			
-	Activation of PLC program list, MANUFACTURER area	BYTE	Immediately			
-						
-	-	0	0	1	7/3	M

Description: Activates the PLC program list of the MANUFACTURER area. The programs entered here can be selected by the PLC for processing.

51044	ACCESS_SHOW_SBL2	-	-			
-	Display protection level SBL2	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Display protection level SBL2

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

51045	ACCESS_TEACH_IN	-	-			
-	Protection level TEACH IN		BYTE	PowerOn		
-						
-	-	4	0	7	4/3	M

Description: Protection level TEACH IN

51046	ACCESS_CLEAR_RPA	-	-			
-	Protection level delete R variables		BYTE	PowerOn		
-						
-	-	4	0	7	4/3	M

Description: Protection level delete R variables

51047	ACCESS_READ_GUD_LUD	-	-			
-	Read user variable protection level		BYTE	PowerOn		
-						
-	-	7	0	7	4/3	M

Description: Read user variable protection level

51048	ACCESS_WRITE_GUD_LUD	-	-			
-	Write protection level of user variables		BYTE	PowerOn		
-						
-	-	7	0	7	4/3	M

Description: Write protection level of user variables

51049	ACCESS_WRITE_PRG_COND	-	-			
-	Write program control protection level		BYTE	PowerOn		
-						
-	-	7	0	7	4/3	M

Description: Write program control protection level

51050	ACCESS_WRITE_PROGRAM	-	-			
-	Write part program protection level		BYTE	PowerOn		
-						
-	-	4	0	7	4/3	M

Description: Write part program protection level

51051	ACCESS_WRITE_RPA	-	-			
-	Protection level write R variables		BYTE	PowerOn		
-						
-	-	7	0	7	4/3	M

Description: Protection level write R variables

51052	ACCESS_WRITE_SEA	-	-			
-	Protection level write setting data		BYTE	PowerOn		
-						
-	-	7	0	7	4/3	M

Description: Protection level write setting data

51053	ACCESS_WRITE_BASEFRAME	-	-			
-	Write basic work offset protection level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write basic work offset (basic frame) protection level

51054	ACCESS_WRITE_CYCFRAME	-	-			
-	Write cycle frame protection level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write cycle frame protection level

51055	ACCESS_WRITE_EXTFRAME	-	-			
-	Write external WO protection level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write external work offset protection level

51056	ACCESS_WRITE_PARTFRAME	-	-			
-	Write table reference protection level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write table reference protection level

51057	ACCESS_WRITE_SETFRAME	-	-			
-	Write basic reference protection level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write basic reference protection level

51058	ACCESS_WRITE_TOOLFRAME	-	-			
-	Write basic tool reference protection level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write basic tool reference protection level

51059	ACCESS_WRITE_TRAFRAME	-	-			
-	Write transformation frame protec. level	BYTE	PowerOn			
-						
-	-	7	0	7	4/3	M

Description: Write transformation frame protec. level

51060	ACCESS_WRITE_USERFRAME	-	-			
-	Write settable work offset protection level	BYTE	PowerOn			
-						
-	-	4	0	7	4/3	M

Description: Write settable work offset (G54 ... G599) protection level

51061	ACCESS_WRITE_WPFRAME	-	-
-	Write workpiece reference protection level	BYTE	PowerOn
-			
-	-	7	0

Description: Write workpiece reference protection level

51062	ACCESS_WRITE_FINE	-	-
-	Write protection level for fine offset of all work offsets	BYTE	PowerOn
-			
-	-	6	0

Description: Write protection level for fine offset of all work offsets

51063	ACCESS_SET_ACT_VALUE	-	-
-	Set actual value protection level	BYTE	PowerOn
-			
-	-	4	0

Description: Set actual value protection level

51064	ACCESS_WRITE_PROGLIST	-	-
-	Write protection level of program list in USER area	BYTE	Immediately
-			
-	-	4	0

Description: Minimum protection level required to change the program list in the USER area (program manager)

51065	NUM_DISPLAYED_CHANNELS	-	-
-	Number of channels displayed simultaneously	BYTE	PowerOn
-			
-	-	1	1

Description: Setting of the number of channels to be displayed simultaneously in the machine operating area and in the multi-channel editor.

51066	ORDER_DISPLAYED_CHANNELS	-	-
-	Channel numbers of the channels displayed	STRING	PowerOn
-			
-	-	1;	-

Description: Contains the numbers of the channels to be displayed under machine in the multi-channel view, in the desired order and separated by commas, semicolons or spaces.

51067	ENABLE_HANDWHEEL_WINDOW	-	-
-	Show handwheel window	BYTE	PowerOn
-			
-	-	1	0

Description: If the machine data is set to 0, the window for handwheel assignment is hidden

51068	SPIND_DRIVELOAD_FROM_PLC1	-	-			
-	Machine axis index of spindle 1 utilization display from PLC	BYTE	PowerOn			
-						
-	-	0	0	31	4/2	M

Description: Machine axis index of a spindle (analog), which refers to the data for the utilization display in the T,F,S window from the PLC (DB19.DB86).

51069	SPIND_DRIVELOAD_FROM_PLC2	-	-			
-	Machine axis index of spindle 2 utilization display from PLC	BYTE	PowerOn			
-						
-	-	0	0	31	4/2	M

Description: Machine axis index of a spindle (analog), which refers to the data for the utilization display in the T,F,S window from the PLC (DB19.DB87).

51070	ACCESS_CAL_TOOL_PROBE	-	-			
-	Protection level for calibration of the tool probe (ShopTurn)	BYTE	PowerOn			
-						
-	-	4	0	7	4/3	M

Description: Protection level for calibration of the tool probe (ShopTurn)

51071	ACCESS_ACTIVATE_CTRL_E	-	-			
-	Protection level of Ctrl-Energy	BYTE	PowerOn			
-						
-	-	1	0	7	4/3	M

Description: Protection level for activating, disabling and enabling energy saving profiles.

51072	ACCESS_EDIT_CTRL_E	-	-			
-	Protection level of Ctrl-Energy for changing profiles	BYTE	PowerOn			
-						
-	-	2	0	7	4/3	M

Description: Protection level of Ctrl-Energy: Definition of energy saving profiles

51073	ACCESS_SET_SOFTKEY_ACCESS	-	-			
-	Protection level of "Adapt softkeys"	BYTE	PowerOn			
-						
-	-	3	0	7	4/3	M

Description: Protection level for the softkey "Adapt softkeys", which is used to change the access levels of other softkeys.

51160	ACCESS_WRITE_CA_MACH_JOG	-	-			
-	Write protection level collision monitoring machine jog	BYTE	PowerOn			
-						
-	-	6	0	7	7/1	M

Description: This machine data defines the protection level from which the machine/machine collision monitoring can be activated or deactivated under jog.

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51161	ACCESS_WRITE_CA_MACH_AUTO	-	-
-	Write protection level, collision monitoring machine automatic	BYTE	PowerOn
-			
-	-	3	0

Description: This machine data defines the protection level from which the machine/machine collision monitoring can be activated or deactivated under automatic.

51162	ACCESS_WRITE_CA_TOOL	-	-
-	Write protection level collision monitoring tool	BYTE	PowerOn
-			
-	-	1	0

Description: This machine data defines the protection level from which the collision monitoring for tools can be activated or deactivated.

51198	ACCESS_READ_TM_ALL_PARAM	-	-
-	Protection level tool management details - read all parameters	BYTE	PowerOn
-			
-	-	1	0

Description: Protection level tool management details - read all parameters

51199	ACCESS_WRITE_TM_GRIND	-	-
-	Protection level of tool management for writing grinding data	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level of tool management for writing grinding data

51200	ACCESS_WRITE_TM_GEO	-	-
-	Write tool offset geometry data protection level	BYTE	PowerOn
-			
-	-	5	0

Description: Write tool offset geometry data protection level

51201	ACCESS_WRITE_TM_WEAR	-	-
-	Write tool offset wear data protection level	BYTE	PowerOn
-			
-	-	6	0

Description: Write tool offset wear data protection level

51202	ACCESS_WRITE_TM_WEAR_DELTA	-	-
-	Protection level for tool offset restricted writing of wear data	BYTE	PowerOn
-			
-	-	7	0

Description: Protection level for restricted writing of tool wear values

S. MD 54213: TM_WRITE_DELTA_LIMIT

51203	ACCESS_WRITE_TM_SC	-	-			
-	Write tool offset sum offset protection level	BYTE	PowerOn			
-						
-	-	7	0	7	7/4	M

Description: Write tool offset sum offset protection level

51204	ACCESS_WRITE_TM_EC	-	-			
-	Write tool offset use offsets protection level	BYTE	PowerOn			
-						
-	-	7	0	7	7/4	M

Description: Write tool offset use offsets protection level

51205	ACCESS_WRITE_TM_SUPVIS	-	-			
-	Write tool offset monitoring data protection level	BYTE	PowerOn			
-						
-	-	7	0	7	7/4	M

Description: Write tool offset monitoring data protection level

One authorization applies to all limit values: quantity, service life, wear and the monitoring type.

51206	ACCESS_WRITE_TM_ASSDNO	-	-			
-	Write tool offset unique D number protection level	BYTE	PowerOn			
-						
-	-	7	0	7	7/4	M

Description: Write tool offset unique D number protection level

51207	ACCESS_WRITE_TM_WGROUP	-	-			
-	Write tool offset wear groups protection level	BYTE	PowerOn			
-						
-	-	7	0	7	7/4	M

Description: Write tool offset wear groups (magazine location / magazine) protection level

51208	ACCESS_WRITE_TM_ADAPT	-	-			
-	Write tool offset adapter data protection level	BYTE	PowerOn			
-						
-	-	7	0	7	7/4	M

Description: Write tool offset tool adapter geometry data protection level

51209	ACCESS_WRITE_TM_NAME	-	-			
-	Write tool offset tool name protection level	BYTE	PowerOn			
-						
-	-	4	0	7	7/4	M

Description: Write tool offset tool name and duplo data protection level

51210	ACCESS_WRITE_TM_TYPE	-	-			
-	Write tool offset tool type protection level	BYTE	PowerOn			
-						
-	-	4	0	7	7/4	M

Description: Write tool offset tool type protection level

51211	ACCESS_READ_TM	-	-			
-	Read tool offset data protection level		BYTE	PowerOn		
-						
-	-	7	0	7	7/4	M

Description: Read tool offset data protection level

51212	TM_WRITE_WEAR_ABS_LIMIT	-	-			
mm	Maximum tool wear value		DOUBLE	PowerOn		
-						
-	-	0.999	0	10	7/4	M

Description: With TM_WRITE_WEAR_ABS_LIMIT, the max. possible value of a tool wear is limited absolutely, independently of the current protection level (keyswitch position), i.e. also independently of ACCESS_WRITE_TM_WEAR. Absolute and incremental wear limitation can be combined, i.e. the wear can be changed incrementally up to the absolute limit. S. MD 51213.

51213	TM_WRITE_WEAR_DELTA_LIMIT	-	-			
mm	Maximum difference value restricted tool wear input		DOUBLE	PowerOn		
-						
-	-	0	0	10	7/4	M

Description: When entering tool offsets, the value of the change from the previous value to the new value cannot exceed the value set here.
With TM_WRITE_WEAR_DELTA_LIMIT, the change to a tool wear can be limited incrementally, if the current protection level is the same as or higher than the one set in ACCESS_WRITE_TM_WEAR_DELTA. With the current protection level being the same or higher than ACCESS_WRITE_TM_WEAR, an incremental limitation is no longer performed. Absolute and incremental wear limitation can be combined, i.e. the wear can be changed up to the absolute limit. S. MD 51212

51214	TM_WRITE_LIMIT_MASK	-	-			
-	Validity of the restricted tool wear input		BYTE	PowerOn		
-						
-	-	7	0	7	7/4	M

Description: Validity of the restricted tool wear input

- Bit 0:use for cutting edge data, wear
- Bit 1:use for SC data, sum offsets
- Bit 2:use for EC data, use offsets
- Bit 0+1+2:use for all data, wear, SC, EC

51215	ACCESS_WRITE_TM_ALL_PARAM	-	-			
-	Protection level TM details - write all parameters		BYTE	PowerOn		
-						
-	-	1	0	7	7/4	M

Description: Protection level TM details - write all parameters

51216	ACCESS_TM_TOOL_CREATE	-	-
-	Protection level TM create tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM create tool

51217	ACCESS_TM_TOOL_DELETE	-	-
-	Protection level TM delete tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM delete tool

51218	ACCESS_TM_TOOL_LOAD	-	-
-	Protection level TM load tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM load tool

51219	ACCESS_TM_TOOL_UNLOAD	-	-
-	Protection level TM unload tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM unload tool

51220	ACCESS_TM_TOOL_MOVE	-	-
-	Protection level TM relocate tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM relocate tool

51221	ACCESS_TM_TOOL.REACTIVATE	-	-
-	Protection level TM reactivate tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM reactivate tool

51222	ACCESS_TM_TOOL_MEASURE	-	-
-	Protection level TM measure tool	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM measure tool

Direct jump from tool list to measuring screen

51223	ACCESS_TM_TOOLEDGE_CREATE	-	-
-	Protection level TM create tool cutting edge	BYTE	PowerOn
-			
-	-	4	0

Description: Protection level TM create tool cutting edge

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51224	ACCESS_TM_TOOLEDGE_DELETE	-	-
-	Protection level TM delete tool cutting edge	BYTE	PowerOn
-			
-	- 4 0 7 7/4 M		

Description: Protection level TM delete tool cutting edge

51225	ACCESS_TM_MAGAZINE_POS	-	-
-	Protection level TM position magazine	BYTE	PowerOn
-			
-	- 4 0 7 7/4 M		

Description: Protection level TM position magazine

51226	FUNCTION_MASK_SIM	-	-
-	Function mask Simulation	DWORD	PowerOn
-			
-	- 0 - - 7/3 M		

Description: Function mask Simulation

Bit 0: No automatic start on simulation selection

Bit 1: Deactivate simulation

Bit 6: Enable handwheel as simulation override (values from DB19.DBW400)

Bit 7: Interpretation of handwheel values from DB19.DBW400)

51228	FUNCTION_MASK_TECH	-	-
-	Function mask Cross-technology	DWORD	PowerOn
-			
-	- 0 - - 7/3 M		

Description: Function mask, all technologies

Bit 0: G code programming without multi-channel data

If bit 0 = 1, no multi-channel data will be offered for job lists which only contain G code programs.

Bit 1: Enable print function of Editor

51230	ENABLE_LADDER_DB_ADDRESSES	-	-
-	DB address activation in the PLC ladder viewer	BOOLEAN	Immediately
-			
-	- 1 0 1 7/2 M		

Description: DB address activation in the PLC ladder viewer

51231	ENABLE_LADDER_EDITOR	-	-
-	PLC ladder editor activation	BOOLEAN	Immediately
-			
-	- 1 0 1 7/2 M		

Description: PLC ladder editor activation

51233	ENABLE_GSM_MODEM	-	-
-	GSM modem activation for Easy Message	BOOLEAN	PowerOn
-			
-	- 0 0 1 7/2 M		

Description: GSM modem activation for Easy Message

51235	ACCESS_RESET_SERV_PLANNER	-	-			
-	Protection level for acknowledgement of maintenance tasks	BYTE	Immediately			
-						
-	-	3	0	7	4/2	M

Description: Protection level for acknowledgement of maintenance tasks

51600	MEA_CAL_WP_NUM	-	-			
-	Number of calibration data fields for workpiece probes	BYTE	Immediately			
-						
-	-	12	0	12	7/2	M

Description: The workpiece probe calibration data refer to the workpiece coordinate system (Work) !
In the data fields, the workpiece probe calibration data of the technologies Milling and Turning are stored!

51601	MEA_CAL_EDGE_NUM	-	-			
-	Number of geometry data fields of gauging block, workpiece probe	BYTE	Immediately			
-						
-	-	3	0	3	7/2	M

Description: The gauging block is exclusively used to calibrate the workpiece probe of the Turning technology!

51602	MEA_CAL_TP_NUM	-	-			
-	Number of calibration data fields for tool probes	BYTE	Immediately			
-						
-	-	6	0	6	7/2	M

Description: The value of this parameter corresponds to the number of tool probe calibration data records set up for the machine coordinate system (Machine).

51603	MEA_CAL_TPW_NUM	-	-			
-	Number of calibration data fields for tool probes	BYTE	Immediately			
-						
-	-	6	0	6	7/2	M

Description: The value of this parameter corresponds to the number of tool probe calibration data records set up for the workpiece coordinate system (Work).

51618	MEA_CM_ROT_AX_POS_TOL	-	-			
degrees	Tolerance of rotary axis positions - measuring with orientable toolholder	DOUBLE	Immediately			
-						
-	-	0.5	-1	1	7/3	M

Description: Parameter for measuring with orientable tool carrier
Entries in parameter \$MN_MEA_CM_ROT_AX_POS_TOL are effective only if \$MNS_MEA_FUNCTION_MASK bit2 or bit16 is set by MD 51740.
The real angle position of the rotary axes can deviate from the programmed one (exact stop fine window).

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This deviation depends on the position control features of the axis. The maximum deviation expected on the concrete axis must be entered in this parameter. When the tolerance is exceeded, alarm 61442 "Toolholder not in parallel with the geometry axes" is displayed.

51740	MEA_FUNCTION_MASK	-	-
-	Function mask for measuring cycles	DWORD	Immediately
-			
-	-	11	-

Description: Function screen form for measuring cycles

Bit 0: Activation of the calibration status monitoring of workpiece measurement for measurements in automatic mode

0: Calibration monitoring not active

1: Calibration monitoring active

The status of the following states is monitored between calibration and measurement:

- Working plane (G17, 18, 19)

- Probe type (mono probe, multi probe)

- Longitudinal reference of the probe (center of probe ball, circumference of probe ball)

- Programmed velocity of probe

These monitoring functions are always active with "Measurement in JOG" and cannot be deactivated.

Bit 1: Length relationship of the workpiece probe, milling technology

- 0: Tool length L1, in relation to the center of the probe ball

- 1: Tool length L1, in relation to the circumference of the probe ball

Bit 2: Support of orientable tool carriers during workpiece measurement with tool offset

- 0: No support of orientable tool carriers.

- 1: Support of a probe or tool positioned by an orientable tool carrier (kinematic type "T") with reference to the specific carrier positions 0°, 90°, 180° and 270°.

Bit 3: Correction of the position of the mono probe during workpiece measurement

- 0: No correction

- 1: If the workpiece probe is a mono probe, the alignment of its switching direction (spindle position) is corrected by the angle value in _CORA.

Bit 4: The workpiece probe is fixed to the machine, and cannot be positioned

- 0: The workpiece probe is in a main spindle

- 1: The workpiece probe is permanently fixed to the machine and cannot be positioned around its axis.

Not all measurement versions are available. If an impermissible measurement version is selected when the cycle is run, alarm 61373 Probe is not SPOS capable is output.

Bit 15: Workpiece measurement, measuring block is traversed with path behavior G60 exact stop at the end of block

- 0: The measuring block is traversed in the path control mode G64.

- 1: The measuring block is traversed with path behavior G60 exact stop at the end of block.
- Bit16: Support of orientable tool carriers during tool measurement turning
 0: No support of orientable tool carriers.
 1: Support of a tool positioned by an orientable tool carrier (kinematic type "T")

51750	J_MEA_M_DIST	-	-			
mm	Measuring path for measuring with ShopMill, in automatic mode	DOUBLE	Immediately			
-						
-	-	5	-10000	10000	7/5	M

Description: This parameter defines the measuring path in front of and behind the measuring setpoint.

51751	J_MEA_M_DIST_MANUELL	-	-			
mm	Measuring path, for "Measure in JOG"	DOUBLE	Immediately			
-						
-	-	10	-10000	10000	7/5	M

Description: This parameter defines the measuring path in front of and behind the measuring setpoint.

51752	J_MEA_M_DIST_TOOL_LENGTH	-	-			
mm	Measuring path for tool length measuring, for "Measure in JOG"	DOUBLE	Immediately			
-						
-	-	2	-10000	10000	7/5	M

Description: This parameter defines the measuring path in front of and behind the measuring setpoint.

51753	J_MEA_M_DIST_TOOL_RADIUS	-	-			
mm	Measuring path for tool radius measuring, for "Measure in JOG"	DOUBLE	Immediately			
-						
-	-	1	-10000	10000	7/5	M

Description: This parameter defines the measuring path in front of and behind the measuring setpoint.

51757	J_MEA_COLL_MONIT_FEED	-	-			
mm/min	Feedrate in the plane w. active collision detection, for "Measure in JOG"	DOUBLE	Immediately			
-						
-	-	1000	0	100000	7/5	M

Description: Feedrate in the working plane w. active collision detection

51758	J_MEA_COLL_MONIT_POS_FEED	-	-			
mm/min	Infeed rate with active collision detection, for "Measure in JOG"	DOUBLE	Immediately			
-						
-	-	1000	0	100000	7/5	M

Description: Feedrate of the infeed axis with active collision detection, for "Measure in JOG".

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51770	J_MEA_CAL_RING_DIAM	-	-
mm	Calibration ring diameter, for "Measure in JOG"	DOUBLE	Immediately
-			
-	12	-1, -1, -1, -1, -1, -1, -1, -1...	10000 7/5 M

Description: Calibration ring diameter, for probe sphere calibration in the plane, for "Measure in JOG"

51772	J_MEA_CAL_HEIGHT_FEEDAX	-	-
mm	Calibration height in the infeed axis, for probe length calibration	DOUBLE	Immediately
-			
-	12	-99999, -99999, -99999, -99999, -99999...	100000 7/5 M

Description: Calibration height in the infeed axis for probe length calibration, for "Measure in JOG"
The calibration height must be entered with reference to the the workpiece coordinate system (Work) !

51780	J_MEA_T_PROBE_DIAM_RAD	-	-
mm	Diameter of the tool probe for radius measurement, for "Measure in JOG"	DOUBLE	Immediately
-			
-	6	0, 0, 0, 0, 0, 0	0 10000 7/5 M

Description: Effective grinding wheel diameter of the tool probe for radius measurement on milling tools, for "Measure in JOG"

51784	J_MEA_T_PROBE_APPR_AX_DIR	-	-
-	Approach direction in the plane on the tool probe, for "Measure in JOG"	DWORD	Immediately
-			
-	6	-1, -1, -1, -1, -1, -1	-2 2 7/5 M

Description: Approach direction in the plane on the tool probe, for "Measure in JOG"
= -2 negative direction 2nd measuring axis
= -1 negative direction 1st measuring axis
= 0 or 1 positive direction 1st measuring axis
= 2 positive direction 2nd measuring axis

51786	J_MEA_T_PROBE_MEASURE_DIST	-	-
mm	Measur. path for tool measurem. w. stationary spindle, for "Measure in JOG"	DOUBLE	Immediately
-			
-	-	10	-10000 10000 7/5 M

Description: Measuring path for tool probe calibration and tool measuring with stationary spindle, in front of and behind the expected switching position.

52000	DISP_COORDINATE_SYSTEM	-	-			
-	Coordinate system position	BYTE	PowerOn			
-						
-	-	0	0	47	7/3	M

Description:

With this MD you adapt the operator panel of the coordinate system to the machine's coordinate system. Depending on the selected position, all help screens, the sequence graphic, the simulation and the input fields with the circular direction specified will change automatically.

Also note MD 52210 \$MCS_FUNCTION_MASK_DISP, bit 1.

52005	DISP_PLANE_MILL	-	-			
-	Plane selection Milling	BYTE	Immediately			
-						
-	-	0	0	19	7/3	M

Description: Plane selection Milling

- 0: plane selection on the operator panel
- 17: always G17
- 18: always G18
- 19: always G19

52006	DISP_PLANE_TURN	-	-			
-	Plane selection Turning	BYTE	Immediately			
-						
-	-	18	0	19	7/0	M

Description: Plane selection Turning

- 0: plane selection on the operator panel
- 17: always G17
- 18: always G18
- 19: always G19

52010	DISP_NUM_AXIS_BIG_FONT	-	-			
-	Number of actual values with large font	BYTE	PowerOn			
-						
-	-	3	0	31	7/3	M

Description: Number of actual values with large font

52011	ADJUST_NUM_AXIS_BIG_FONT	-	-			
-	Adapt number of act val w large font dynamically to no. of geometry axes	BYTE	PowerOn			
-						
-	-	0	0	2	7/3	M

Description: Adapt the number of actual values with large font if the number of geometry axes changes, e.g. due to transformations like TRANSMIT or TRACYL.

0 = Only MD 52010 "DISP_NUM_AXIS_BIG_FONT" is valid. The number is assigned as a fixed value.

1 = Only the geometry axes are displayed in large font. MD 52010 "DISP_NUM_AXIS_BIG_FONT" is ignored.

2 = The number of geometry axes plus the content of MD 52010 "DISP_NUM_AXIS_BIG_FONT" are displayed in large font.

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52200	TECHNOLOGY	-	-
-	Technology	BYTE	PowerOn
-			
-	-	0	0

Description: Technology
 0: no specific configuration
 1: turning
 2: milling
 Also note MD 52201 \$MCS_TECHNOLOGY_EXTENSION.

52201	TECHNOLOGY_EXTENSION	-	-
-	Extended technology	BYTE	PowerOn
-			
-	-	0	0

Description: Extended technology
 0: no specific configuration
 1: turning
 2: milling
 Also note MD 52200 \$MCS_TECHNOLOGY.
Example:
 Turning machine with milling technology
 MD 52200 \$MCS_TECHNOLOGY = 1
 MD 52201 \$MCS_TECHNOLOGY_EXTENSION = 2

52206	AXIS_USAGE	-	-
-	Meaning of the axes in the channel	BYTE	PowerOn
-			
-	20	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	-

Description: Meaning of the axes in the channel
 0 = no special meaning
 1 = tool spindle (driven tool)
 2 = auxiliary spindle (driven tool)
 3 = main spindle (turning)
 4 = separate C axis of the main spindle (turning)
 5 = counterspindle (turning)
 6 = separate C axis of the counterspindle (turning)
 7 = linear axis of the counterspindle (turning)
 8 = tailstock (turning)
 9 = steady rest (turning)
 10 = B axis (turning)
 11 = reserved
 12 = B axis of the counterspindle (turning)
 13 = Transverse travel X of the counterspindle (turning)

52207	AXIS_USAGE_ATTRIB			-	-	
-	Axis attributes			DWORD	PowerOn	
-						
-	20	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	-	-	7/3	M

Description: Axis attributes

Bit 0: Rotates around 1st geometry axis (in the case of rotary axes)
 Bit 1: Rotates around 2nd geometry axis (in the case of rotary axes)
 Bit 2: Rotates around 3rd geometry axis (in the case of rotary axes)
 Bit 3: Positive direction of rotation is counterclockwise (in the case of rotary axes. Rotary axes are always viewed in the negative geometry axis direction. In the case of lathes, a spindle is always viewed from the inside).
 Bit 4: Displayed direction of rotation for M3 is counterclockwise (in the case of spindles). The viewing direction can be selected. Either viewed outward from the inside or from the outside toward the spindle.
 However, the same selection must be made for all spindles.
 Bit 5: Direction of rotation M3 corresponds to minus rotary axis (in the case of spindles)
 This bit must be set in the same way as PLC bit DBnn.DBX17.6!
 (nn = 31 + machine axis index)
 Bit 6: Display rotary axis as offset target for measuring
 Bit 7: Offer rotary axis in position pattern
 Bit 8: Offer rotation axis to accept blank (milling machines)
 Bit 9: Spindle is not SPOS-capable

52210	FUNCTION_MASK_DISP			-	-	
-	Function mask Display			DWORD	PowerOn	
-						
-	-	3	-	-	7/3	M

Description: Function mask display

Bit 0: Measuring system for programs always in basic system
 Bit 1: Front view for turning in school coordinate system
 Bit 2: Hide "T,S,M" softkey in JOG area
 Bit 3: Generate automatic end-of-program in MDI (with the "Delete blocks" softkey)
 Bit 4: Show follow-on tool in T, F, S windows
 Bit 5: Hide "Actual MCS values" softkey
 Bit 6: Hide tool radius/diameter in T, F, S windows
 Bit 7: Hide tool lengths in T, F, S windows
 Bit 8: Hide tool icon in T, F, S windows

52211	FUNCTION_MASK_DISP_ZOA			-	-	
-	Function screen for displaying overview of work offsets			DWORD	PowerOn	
-						
-	-	2097141	-	-	7/3	M

Description: Function screen for displaying overview of work offsets

Bit 0: Display Machine position
 Bit 1: reserved

Bit 2: Display DRF offset
 Bit 3: Display \$AA_OFF position offset
 Bit 4: Display \$P_PARTFRAME
 Bit 5: Display \$P_SETFRAME
 Bit 6: Display \$P_EXTSFRAME
 Bit 7: Display \$P_ISO1FRAME
 Bit 8: Display \$P_ISO2FRAME
 Bit 9: Display \$P_ISO3FRAME
 Bit 10: Display \$P_ACTBFRAME
 Bit 11: Display \$P_IFRAME
 Bit 12: Display \$P_TOOLFRAME
 Bit 13: Display \$P_WPFRAME
 Bit 14: Display \$P_TRAFRAME
 Bit 15: Display \$P_PFRAME
 Bit 16: Display \$P_ISO4FRAME
 Bit 17: Display \$P_CYCFRAME
 Bit 18: Display sum of work offsets
 Bit 19: Display offset of active tool
 Bit 20: Display Work position

52212	FUNCTION_MASK_TECH	-	-
-	Function mask Cross-technology	DWORD	Immediately
-			
-	- 0	- -	7/3 M

Description: Function mask, all technologies

- Bit 0: Enable swivel
- Bit 1: No optimized travel along software limit switches
- Bit 2: Startup logic for step drill (ShopTurn)
- Bit 3: Call block search cycle for ShopMill/ShopTurn
- Bit 4: Startup logic via cycle (ShopTurn)
- Bit 5: Call block search cycle for SERUPRO
- Bit 6: Work offset ZV cannot be entered as an absolute value (ShopTurn)
- Bit 7: Detect expiry of tool lives in the program (ShopMill/ShopTurn)
- Bit 8: Manual machine (ShopMill/ShopTurn)
- Bit 9: Selection/deselection of work offset via softkey
- Bit 10: Reserved
- Bit 11: Switch off layer check for drilling and milling tools (ShopTurn)

52214	FUNCTION_MASK_MILL	-	-
-	Function mask Milling	DWORD	Immediately
-			
-	- 0	- -	7/3 M

Description: Function screen form Milling

- Bit 0: Enable cylinder surface transformation (ShopMill)
- Bit 1: Offer table for accepting blank (at milling machines)
(This bit must only be set, if, at the machine table, there is a rotation axis and a fixed table to accept the blank.)
- Bit 2: Reserved
- Bit 3: Enable inside/rear machining

Bit 4: Enable spindle clamping (C axis)
 Bit 5: Enable spindle control tool spindle via user interface
 Bit 6: Enable spindle control of turning spindle via user interface

52216	FUNCTION_MASK_DRILL	-	-
-	Function mask Drilling	DWORD	Immediately
-			
-	- 0	-	- 7/3 M

Description: Function screen form, drilling
 Bit 0: CYCLE84 Show input fields, Technology
 Bit 1: CYCLE840 Show input fields, Technology
 Bit 2: Thread tapping also without encoder (ShopMill)

52218	FUNCTION_MASK_TURN	-	-
-	Function mask Turning	DWORD	Immediately
-			
-	- 0	-	- 7/3 M

Description: Function mask Turning
 Bit 0: Enable zoom under manual for tool measurement
 Bit 1: Enable parts gripper for cut-off
 Bit 2: Enable tailstock
 Bit 3: Enable spindle control of main spindle via user interface
 Bit 4: Enable spindle control of counterspindle via user interface
 Bit 5: Enable spindle control of tool spindle via user interface
 Bit 6: Enable balance cutting for dual-channel stock removal
 Bit 7: Retraction during stock removal along contour with G1
 Bit 8: Enter spindle chuck data in program
 Bit 9: Additional entry of tailstock data in program
 Bit 12: Deactivate thread synchronization
 0: Thread synchronization is possible
 1: Deactivate thread synchronization function
 The operator screen form to set the synchronization points is
 not displayed, and in the thread cycles,
 the thread cut is not calculated with the synchronization point.
 Bit 13: Stock removal along the contour with CYCLE95 (828D programGUIDE without Advanced Technology)
 When the bit is set, the screen form for CYCLE95 is opened with the Contour turning/stock removal softkey.
 Secondary conditions:
 - 828D
 - programGUIDE
 - without the Advanced Technology option

52229	ENABLE_QUICK_M_CODES	-	-
-	Enable fast M functions	BYTE	Immediately
-			
-	- 0	-	- 7/3 M

Description: Enable fast M functions
 Bit 0: Coolant OFF

1.5 Machine / setting data for SINUMERIK Operate and Cycles

Bit 1:Coolant 1 ON
 Bit 2:Coolant 2 ON
 Bit 3:Coolant 1 and 2 ON

52230	M_CODE_ALL_COOLANTS_OFF	-	-
-	M code for all coolants OFF	DWORD	Immediately
-			
-	- 9 0 32767 7/3 M		

Description: M code for all coolants OFF

52231	M_CODE_COOLANT_1_ON	-	-
-	M code for coolant 1 ON	DWORD	Immediately
-			
-	- 8 0 32767 7/3 M		

Description: M code for coolant 1 ON

52232	M_CODE_COOLANT_2_ON	-	-
-	M code for coolant 2 ON	DWORD	Immediately
-			
-	- 7 0 32767 7/3 M		

Description: M code for coolant 2 ON

52233	M_CODE_COOLANT_1_AND_2_ON	-	-
-	M code for both coolants ON	DWORD	Immediately
-			
-	- -1 -1 32767 7/3 M		

Description: M code for coolant 1 + 2 ON

52240	NAME_TOOL_CHANGE_PROG	-	-
-	Tool change program for G code steps	STRING	Immediately
-			
-	- - - - 7/3 M		

Description: Tool change program for G code steps

52244	SUB_SPINDLE_PARK_POS_Y	-	-
mm	Parking position of the Y axis with counterspindle	DOUBLE	Immediately
-			
-	- 0 - - 7/3 M		

Description: Parking position of the Y axis with counterspindle

52248	REV_2_BORDER_TOOL_LENGTH	-	-
mm	Limit value tool length X for 2nd turret	DOUBLE	Immediately
-			
-	- 0 - - 7/3 M		

Description: Limit value of tool length X for the 2nd turret:

Limit value = 0: only one turret available

Tool length X < limit value: tool belongs to 1st turret/multifix

Tool length X >= limit value: tool belongs to 2nd turret/multifix

52250	M_CODE_CHUCK_OPEN	-	-			
-	M code for Open chuck with non-rotating spindle	STRING	Immediately			
-						
-	2	-	-	-	7/3	M

Description: M code for Open chuck with non-rotating spindle.

Example: "M34" or "M1=34"

Elements:

[0]: Main spindle

[1]: Counterspindle

52251	M_CODE_CHUCK_OPEN_ROT	-	-			
-	M code for Open chuck with rotating spindle	STRING	Immediately			
-						
-	2	-	-	-	7/3	M

Description: M code for Open chuck with rotating spindle.

Example: "M34" or "M1=34"

Elements:

[0]: Main spindle

[1]: Counterspindle

52252	M_CODE_CHUCK_CLOSE	-	-			
-	M code for Close chuck	STRING	Immediately			
-						
-	2	-	-	-	7/3	M

Description: M code for Close chuck

Example: "M34" or "M1=34"

Elements:

[0]: Main spindle

[1]: Counterspindle

52253	M_CODE_TAILSTOCK_FORWARD	-	-			
-	M code for quill forward	STRING	Immediately			
-						
-	2	-	-	-	7/3	M

Description: M code for quill forward.

E.g.: "M55" or "M1=55"

Elements:

[0]: Quill opposite main spindle

[1]: Quill opposite counterspindle

52254	M_CODE_TAILSTOCK_BACKWARD	-	-			
-	M code for quill backward	STRING	Immediately			
-						
-	2	-	-	-	7/3	M

Description: M code for quill backward.

E.g.: "M54" or "M1=54"

Elements:

- [0]: Quill opposite main spindle
- [1]: Quill opposite counterspindle

52260	MACHINE_JOG_INTERRUPT_PRIO	-	-			
-	Priority for start ASUB under machine JOG	BYTE	Immediately			
-						
-	-	1	1	8	7/3	M

Description: Priority for start ASUB under machine JOG

52270	TM_FUNCTION_MASK	-	-			
-	Function mask Tool management	DWORD	PowerOn			
-						
-	-	0	-	-	7/3	M

Description: Function mask for tool management

Bit 0:Create tool on magazine location not allowed. Tools can only be created outside the magazine.

Bit 1:Load/unload disable if machine is not in reset. Tools can only be loaded/unloaded if the appropriate channel is in reset state.

Bit 2:Load/unload disable on emergency stop. Tools can only be loaded/unloaded if emergency stop is not active.

Bit 3:Load/unload or relocating tool to/from spindle is disabled. Tools cannot be loaded to or unloaded or relocated from the spindle.

Bit 4:Loading is executed directly in the spindle. Tools are loaded exclusively directly in the spindle.

Bit 5:Use grinding configuration file for creating the tool lists. Only grinding tools are offered.

Bit 6:Relocating a tool to/from the spindle is permitted despite a block (see Bit3).

Bit 7:Create tool using the tool number. Specify the tool's T number when creating the tool.

Bit 8:Hide Relocate tool. The function 'Relocate tool' is hidden on the user interface.

Bit 9:Hide Position magazine. The function 'Position magazine' is hidden on the user interface.

Bit 10:Reactivate tool using Position magazine. Prior to reactivation, the tool is positioned on the loading position.

Bit 11:Reactivate tool in all monitoring modes. When reactivating a tool, all monitoring modes enabled in the NC are reactivated for this tool, even the monitoring modes, which have not been set for the relevant tool, but are available in the background only.

Bit 12:Hide Reactivate tool. The function 'Reactivate tool' is hidden on the user interface.

52271	TM_MAG_PLACE_DISTANCE	-	-			
mm	Distance betw. indiv. magazine locations	DOUBLE	PowerOn			
-						
-	-	70	0	10000	7/3	M

Description: Distance between individual magazine locations.

Is used for graphical display of magazine and tools in tool management.

52272	TM_TOOL_LOAD_DEFAULT_MAG	-	-			
-	Default magazine for tool loading	BYTE	PowerOn			
-						
-	-	0	0	30	7/3	M

Description: Default magazine for tool loading
0 = no default magazine

52273	TM_TOOL_MOVE_DEFAULT_MAG	-	-			
-	Default magazine for tool relocation	BYTE	PowerOn			
-						
-	-	0	0	30	7/3	M

Description: Default magazine for tool relocation
0 = no default magazine

52274	TM_TOOL_LOAD_STATION	-	-			
-	Number of load station	BYTE	PowerOn			
-						
-	-	0	0	16	7/3	M

Description: Number of the loading station
0 = All configured stations are taken into account

52281	TOOL_MCODE_FUNC_ON	-	-			
-	M code for tool-specific function ON	DWORD	Immediately			
-						
-	4	-1, -1, -1, -1	-1	32767	7/3	M

Description: M code for tool-specific function ON
Value -1 means that the M function is not output. If both M commands of a function equal -1, the corresponding field will not be displayed in the user interface

52282	TOOL_MCODE_FUNC_OFF	-	-			
-	M code for tool-specific function OFF	DWORD	Immediately			
-						
-	4	-1, -1, -1, -1	-1	32767	7/3	M

Description: M code for tool-specific function OFF
Value -1 means that the M function is not output. If both M commands of a function equal -1, the corresponding field will not be displayed in the user interface.

52290	SIM_DISPLAY_CONFIG	-	-			
-	Location of status display of the channel in the simulation (OP019 only)	BYTE	Immediately			
-						
-	-	0x0F	-	-	7/3	M

Description: Location of status display of the channel in the simulation
Only one of the 4 corners can be selected:
Bit 0 = Top left corner
Bit 1 = Top right corner
Bit 2 = Bottom left corner

Bit 3 = Bottom right corner
 This MD is active only on the OP019.

52740	MEA_FUNCTION_MASK	-	-			
-	Function mask for measuring cycles	DWORD	Immediately			
-						
-	-	65536	-	-	7/3	M

Description: Function mask for measuring cycles
 Bit 0: Measurement input workpiece probe
 0: Workpiece probe at CNC measurement input 1, active - default
 1: Workpiece probe at CNC measurement input 2, active
 Bit 1: Workpiece measurement. Functional behavior of a third geometry axis (Y axis) in turning technology on the basis of the working plane G18.
 0: An existing third geometry axis (Y axis, applicate) is not supported by the measuring cycles.
 1: Setpoint input and parameterization (SETVAL, _TUL, _TLL, SZO) relate to the third geometry axis (Y axis).
 However, the tool length or work offset is offset in the active components in the second geometry axis (X axis, ordinate) (that means measure in Y and offset in X). The offset target can be influenced with parameter _KNUM.
 Bit 14: reserved
 Bit 15: reserved
 Bit 16: Measurement input tool probe
 0: Tool probe at CNC measurement input 1, active
 1: Tool probe at CNC measurement input 2, active - default

52750	J_MEA_FIXPOINT	-	-			
mm	Z value for measuring fixed point	DOUBLE	Immediately			
-						
-	-	0	-	-	7/3	M

Description: Z value for measuring against fixed point

52751	J_MEA_MAGN_GLAS_POS	-	-			
mm	Zoom-in position for tool measurement	DOUBLE	Immediately			
-						
-	2	0	-	-	7/3	M

Description: Zoom-in position for tool measurement
 [0] = Position in the 1st axis
 [1] = Position in the 2nd axis

52800	ISO_M_ENABLE_POLAR_COORD	-	-			
-	Polar coordinates	BYTE	Immediately			
-						
-	-	0	0	1	7/3	M

Description: Polar coordinates
 0: OFF
 1: ON

52802	ISO_ENABLE_INTERRUPTS	-	-
-	Interrupt process	BYTE	Immediately
-			
-	-	0	0

Description: Interrupt process

0: OFF

1: ON

52804	ISO_ENABLE_DRYRUN	-	-
-	Machining skipped at DRYRUN	BYTE	Immediately
-			
-	-	0	0

Description: Maching skipped during tapping G74/G84 at DRYRUN

0: OFF

1: ON

52806	ISO_SCALING_SYSTEM	-	-
-	Basic system	BYTE	Immediately
-			
-	-	0	0

Description: Basic system:

0: not defined

1: METRIC

2: INCH

52808	ISO_SIMULTAN_AXES_START	-	-
-	Simultaneous approach to the boring position on all programmed axes	BYTE	Immediately
-			
-	-	0	0

Description: Simultaneous approach to the boring position on all programmed axes

0: OFF

1: ON

52810	ISO_T_DEEPHOLE_DRILL_MODE	-	-
-	Deep hole drilling with chipbreaking/stock removal	BYTE	Immediately
-			
-	-	0	0

Description: Select the type of deep hole drilling

0: deep hole drilling with chipbreaking

1: deep hole drilling with stock removal

53220	AXIS_MCS_POSITION	-	-
mm	Position of axis in the Machine	DOUBLE	Immediately
-			
-	3	0	-

Description: Position of axis in the Machine:

The 3 field elements specify the position in X, Y, Z.

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

For linear axes, the value corresponds to the zero point of the axis in the Machine.

For rotary axes, the position of the rotary axis is defined in the Machine.

53230	SIM_START_POSITION	-	-
mm, degrees	Axis position at start of simulation	DOUBLE	Immediately
-			
-	0	-	7/3 M

Description: Axis position at start of simulation

Simulation is only possible if a value not equal to 0 has been set for at least one geometry axis.

53240	SPINDLE_PARAMETER	-	-
mm	Spindle chuck data	DOUBLE	Immediately
-			
-	3	0	7/7 M

Description: Spindle chuck data:

- [0] : Chuck dimension
- [1] : Stop dimension
- [2] : Jaw dimension

53241	SPINDLE_CHUCK_TYPE	-	-
-	Spindle jaw type	BYTE	Immediately
-			
-	0	-	7/7 M

Description: Spindle jaw type:

- 0 = Clamping from outside
- 1 = Clamping from inside

53242	TAILSTOCK_PARAMETER	-	-
mm	Tailstock data	DOUBLE	Immediately
-			
-	2	0	7/7 M

Description: Tailstock data:

- [0] : Tailstock diameter
- [1] : Tailstock length

53250	CLAMPING_TOLERANCE	-	-
mm, degrees	Permissible tolerance when an axis jams	DOUBLE	Immediately
-			
-	0.1	0	10 7/3 M

Description: Permissible tolerance when an axis jams.

When jamming, an axis can be pushed somewhat out of its position.

With this machine data you define up to which tolerance level the axis does not have to be repositioned.

54215	TM_FUNCTION_MASK_SET	-	-			
-	Function mask Tool management	DWORD	PowerOn			
-						
-	-	0	-	-	7/4	M

Description: Function mask, tool management

Bit 0:Diameter display for rotary tools. It is not the radius value but the diameter that is displayed for rotary tools.

Bit 1:Default direction of rotation for all turning tools is M4. Direction of rotation M4 is assigned by default when turning tools are created.

Bit 2>Create tool without suggesting name.

Bit 3:Input disable for tool name and tool type in the case of loaded tools. Once tools have been loaded, the tool name and the tool type cannot be changed.

Bit 4:Input disable for loaded tools unless the channel is not in reset.

Bit 5:Accrue tool wear entries additively. Tool wear data entries are added to the existing wear value.

Bit 6:Entry of tool ID in numerical format. The tool ID may only be entered using numbers.

Bit 7:Hide tool monitoring parameters. The tool monitoring parameters are hidden on the user interface.

Bit 8:Diameter display for transverse axis geometry. The geometry value for the transverse axis is displayed as the diameter value.

Bit 9:Diameter display for transverse axis wear. The wear value for the transverse axis is displayed as the diameter value.

Bit 10:Enable loading / relocation of tool in buffer locations. The magazine number can be entered in the load dialog box. The magazine number 9998 is then used to access the buffer location.

Bit 11:Creation of new tools in gripper locations is disabled.

Bit 12:Measuring tools are not unloaded when the "Unload all" function is executed.

54600	MEA_WP_BALL_DIAM	-	-			
mm	Effective diameter of the probe sphere for the workpiece probe	DOUBLE	Immediately			
-						
-	12	0, 0, 0, 0, 0, 0, 0, 0...	0	10000	7/7	M

Description: Effective sphere diameter of the probe sphere for the workpiece probe. The value of this parameter is created by the operation "Calibrate workpiece probe"!

54601	MEA_WP_TRIG_MINUS_DIR_AX1	-	-			
mm	Trigger point of the 1st measuring axis in negative direction	DOUBLE	Immediately			
-						
-	12	0, 0, 0, 0, 0, 0, 0, 0...	-100000	100000	7/7	M

Description: Trigger point of the 1st measuring axis (abscissa) in negative traversing direction (X at G17) of the workpiece probe.

The term "negative traversing direction" refers to the currently active workpiece zero point reference!

The value of this parameter is created by the operation "Calibrate workpiece probe"!

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

54602	MEA_WP_TRIG_PLUS_DIR_AX1	-	-
mm	Trigger point of the 1st measuring axis in positive direction	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 1st measuring axis (abscissa) in positive traversing direction (X at G17) of the workpiece probe.

The term "positive traversing direction" refers to the currently active workpiece zero point reference!

The value of this parameter is created by the operation "Calibrate workpiece probe"!

54603	MEA_WP_TRIG_MINUS_DIR_AX2	-	-
mm	Trigger point of the 2nd measuring axis in negative direction	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 2nd measuring axis (ordinate) in negative traversing direction (Y at G17) of the workpiece probe.

The term "negative traversing direction" refers to the currently active workpiece zero point reference!

The value of this parameter is created by the operation "Calibrate workpiece probe"!

54604	MEA_WP_TRIG_PLUS_DIR_AX2	-	-
mm	Trigger point of the 2nd measuring axis in positive direction	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 2nd measuring axis (ordinate) in positive traversing direction (Y at G17) of the workpiece probe.

The term "positive traversing direction" refers to the currently active workpiece zero point reference!

The value of this parameter is created by the operation "Calibrate workpiece probe"!

54605	MEA_WP_TRIG_MINUS_DIR_AX3	-	-
mm	Trigger point of the 3rd measuring axis in negative direction	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 3rd measuring axis (applicate) in negative traversing direction (Z at G17) of the workpiece probe.

The term "negative traversing direction" refers to the currently active workpiece zero point reference!

The value of this parameter is created by the operation "Calibrate workpiece probe"!

54606	MEA_WP_TRIG_PLUS_DIR_AX3	-	-
mm	Trigger point of the 3rd measuring axis in positive direction	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 3rd measuring axis (applicate) in positive traversing direction (Z at G17) of the workpiece probe.

The term "positive traversing direction" refers to the currently active workpiece zero point reference!

The value of this parameter is created by the operation "Calibrate workpiece probe"!

54607	MEA_WP_POS_DEV_AX1	-	-
mm	Position deviation of the probe sphere in the 1st measuring axis	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: The position deviation in the 1st measuring axis represents a geometrical offset of the center point of the probe sphere related to the electrical center point of the probe in this axis! The value of this parameter is created by the operation "Calibrate workpiece probe"!

54608	MEA_WP_POS_DEV_AX2	-	-
mm	Position deviation of the probe sphere in the 2nd measuring axis	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: The position deviation in the 2nd measuring axis represents a geometrical offset of the center point of the probe sphere related to the electrical center point of the probe in this axis! The value of this parameter is created by the operation "Calibrate workpiece probe"!

54609	MEA_WP_STATUS_RT	-	-
-	Calibration status axis positions	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... - - 7/7 M		

Description: Calibration status of the axis positions reserved for internal use! The value of this parameter is created by the operation "Calibrate workpiece probe"!

54610	MEA_WP_STATUS_GEN	-	-
-	Calibration status in general	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... - - 7/7 M		

Description: Calibration status in general reserved for internal use! The value of this parameter is created by the operation "Calibrate workpiece probe"!

54611	MEA_WP_FEED	-	-
mm/min	Measuring feed for calibration	DOUBLE	Immediately
-			
-	12 0, 0, 0, 0, 0, 0, 0, 0... 0 5000 7/7 M		

Description: Measure workpiece measuring feed for calibration
This measuring feed is used for all subsequent workpiece measuring programs in conjunction with the probe field.

54615	MEA_CAL_EDGE_BASE_AX1	-	-
mm	Calibration groove base of the 1st measuring axis	DOUBLE	Immediately
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Calibration groove base of the 1st measuring axis (abscissa, Z at G18)
 This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54617	MEA_CAL_EDGE_PLUS_DIR_AX1	-	-
mm	Calibration groove edge in positive direction of the 1st measuring axis	DOUBLE	Immediately
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Calibration groove edge in positive direction of the 1st measuring axis (abscissa, Z at G18)
 This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54618	MEA_CAL_EDGE_MINUS_DIR_AX1	-	-
mm	Calibration groove edge in negative direction of the 1st measuring axis	DOUBLE	Immediately
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Calibration groove edge in negative direction of the 1st measuring axis (abscissa, Z at G18)
 This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54619	MEA_CAL_EDGE_BASE_AX2	-	-
mm	Calibration groove base of the 2nd measuring axis	DOUBLE	Immediately
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Calibration groove base of the 2nd measuring axis (ordinate, X at G18)
 This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54620	MEA_CAL_EDGE_UPPER_AX2	-	-
mm	Calibration groove upper edge of the 2nd measuring axis	DOUBLE	Immediately
-			
-	3 0, 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Calibration groove upper edge of the 2nd measuring axis (ordinate, X at G18)
 This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54621	MEA_CAL_EDGE_PLUS_DIR_AX2	-	-
mm	Calibration groove edge in positive direction of the 2nd measuring axis	DOUBLE	Immediately
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0...	-100000 100000 7/7 M

Description: Calibration groove edge in positive direction of the 2nd measuring axis (ordinate, X at G18)

This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54622	MEA_CAL_EDGE_MINUS_DIR_AX2	-	-
mm	Calibration groove edge in negative direction of the 2nd measuring axis	DOUBLE	Immediately
-			
-	3	0, 0, 0, 0, 0, 0, 0, 0...	-100000 100000 7/7 M

Description: Calibration groove edge in negative direction of the 2nd measuring axis (ordinate, X at G18)

This parameter is a geometrical component of the calibration groove and must be supplied by the user!

54625	MEA_TP_TRIG_MINUS_DIR_AX1	-	-
mm	Trigger point of the 1st measuring axis in negative direction	DOUBLE	Immediately
-			
-	6	0, 0, 0, 0, 0, 0, 0, 0...	-100000 100000 7/7 M

Description: Trigger point of the 1st measuring axis in negative direction (abscissa, X at G17, Z at G18)

The trigger point refers to the machine coordinate system (Machine).

Prior to calibration the approximate trigger point must be entered in the machine coordinate system!

The exact value of this parameter is created by the operation "Calibrate workpiece probe"!

54626	MEA_TP_TRIG_PLUS_DIR_AX1	-	-
mm	Trigger point of the 1st measuring axis in positive direction	DOUBLE	Immediately
-			
-	6	0, 0, 0, 0, 0, 0, 0, 0...	-100000 100000 7/7 M

Description: Trigger point of the 1st measuring axis in positive direction (abscissa, X at G17, Z at G18)

The trigger point refers to the machine coordinate system (Machine).

Prior to calibration the approximate trigger point must be entered in the machine coordinate system!

The exact value of this parameter is created by the operation "Calibrate workpiece probe"!

54627	MEA_TP_TRIG_MINUS_DIR_AX2	-	-
mm	Trigger point of the 2nd measuring axis in negative direction	DOUBLE	Immediately
-			
-	6	0, 0, 0, 0, 0, 0, 0, 0...	-100000 100000 7/7 M

Description: Trigger point of the 2nd measuring axis in negative direction (ordinate, Y at G17, X at G18)

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The trigger point refers to the machine coordinate system (Machine).
 Prior to calibration the approximate trigger point must be entered in the machine coordinate system!
 The exact value of this parameter is created by the operation "Calibrate workpiece probe"!

54628	MEA_TP_TRIG_PLUS_DIR_AX2	-	-
mm	Trigger point of the 2nd measuring axis in positive direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 2nd measuring axis in positive direction (ordinate, Y at G17, X at G18)
 The trigger point refers to the machine coordinate system (Machine).
 Prior to calibration the approximate trigger point must be entered in the machine coordinate system!
 The exact value of this parameter is created by the operation "Calibrate workpiece probe"!

54629	MEA_TP_TRIG_MINUS_DIR_AX3	-	-
mm	Trigger point of the 3rd measuring axis in negative direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 3rd measuring axis in negative direction (applicate, Z at G17, Y at G18)
 The trigger point refers to the machine coordinate system (Machine).
 Prior to calibration the approximate trigger point must be entered in the machine coordinate system!
 The exact value of this parameter is created by the operation "Calibrate workpiece probe"!

54630	MEA_TP_TRIG_PLUS_DIR_AX3	-	-
mm	Trigger point of the 3rd measuring axis in positive direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 3rd measuring axis in positive direction (ordinate, Y at G17, X at G18)
 The trigger point refers to the machine coordinate system (Machine).
 Prior to calibration, the approximate trigger point must be entered in the machine coordinate system!
 The exact value of this parameter is created by the operation "Calibrate tool probe"!

54631	MEA_TP_EDGE_DISK_SIZE	-	-
mm	Tool probe edge length/wheel diameter	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... 0 1000 7/7 M		

Description: Effective edge length or grinding wheel diameter of the tool probe.
 This data is important for the "Milling" technology when measuring the length of milling tools.

54632	MEA_TP_AX_DIR_AUTO_CAL	-	-			
-	Automatic tool probe calibration, enable axes/directions	DWORD	Immediately			
-						
-	6	133, 133, 133, 133, 133, 133, 133, 133...	-	-	7/7	M

Description: Enabling axes and traversing directions for the "Automatic calibration" of milling tool probes in the machine coordinate system (Machine).

The default setting refers in X and Y to the plus and minus directions respectively, in Z only to the minus direction.

The parameter is divided into six components, the functions of which are assigned to calibration data records 1 to 6.

Meaning of the parameter components

Decimal position:

Units 1st geometry axis (X)

Tens: 2nd geometry axis (Y)

Hundreds: 3rd geometry axis (Z)

Value:

=0: axis not enabled

=1: only minus direction possible

=2: only plus direction possible

=3: both directions possible

54633	MEA_TP_TYPE	-	-			
-	Tool probe type cube / wheel	DOUBLE	Immediately			
-						
-	6	0, 0, 0, 0, 0, 0, 0...	0	999	7/7	M

Description: Tool probe type

0: cube

101: wheel in XY, working plane G17

201: wheel in ZX, working plane G18

301: wheel in YZ, working plane G19

54634	MEA_TP_CAL_MEASURE_DEPTH	-	-			
mm	Distance between the upper tool probe edge and the lower milling tool edge	DOUBLE	Immediately			
-						
-	6	2, 2, 2, 2, 2, 2, 2...	-1000	1000	7/7	M

Description: Distance between the upper tool probe edge and the lower milling tool edge.

For tool probe calibration this distance defines the calibration depth and for milling tool measuring the measuring depth!

This parameter does not apply to turning tool measuring!

54635	MEA_TP_STATUS_GEN	-	-			
-	Calibration status in general	DOUBLE	Immediately			
-						
-	6	0, 0, 0, 0, 0, 0	-	-	7/7	M

Description: Calibration status general, reserved for internal use

The value of this parameter is assigned when the "Calibrate tool probe" procedure is executed.

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

54636	MEA_TP_FEED	-	-
mm/min	Measuring feed for tool probe calibration in the Machine	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... 0 5000 7/7 M		

Description: Measuring feed for tool probe calibration in Machine

This measuring feed is used for all subsequent tool measuring programs in conjunction with the probe field.

54640	MEA_TPW_TRIG_MINUS_DIR_AX1	-	-
mm	Trigger point of the 1st measuring axis in negative direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 1st measuring axis in negative direction (abscissa, X at G17, Z at G18)

The trigger point refers to the workpiece coordinate system (Work).

Prior to calibration the approximate trigger point must be entered in the workpiece coordinate system!

The exact value of this parameter is created by the operation "Calibrate tool probe"!

54641	MEA_TPW_TRIG_PLUS_DIR_AX1	-	-
mm	Trigger point of the 1st measuring axis in positive direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 1st measuring axis in positive direction (abscissa, X at G17, Z at G18)

The trigger point refers to the workpiece coordinate system (Work).

Prior to calibration the approximate trigger point must be entered in the workpiece coordinate system!

The exact value of this parameter is created by the operation "Calibrate tool probe"!

54642	MEA_TPW_TRIG_MINUS_DIR_AX2	-	-
mm	Trigger point of the 2nd measuring axis in negative direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 2nd measuring axis in negative direction (ordinate, Y at G17, X at G18)

The trigger point refers to the workpiece coordinate system (Work).

Prior to calibration the approximate trigger point must be entered in the workpiece coordinate system!

The exact value of this parameter is created by the operation "Calibrate tool probe"!

54643	MEA_TPW_TRIG_PLUS_DIR_AX2	-	-
mm	Trigger point of the 2nd measuring axis in positive direction	DOUBLE	Immediately
-			
-	6 0, 0, 0, 0, 0, 0, 0... -100000 100000 7/7 M		

Description: Trigger point of the 2nd measuring axis in positive direction (ordinate, Y at G17, X at G18)

The trigger point refers to the workpiece coordinate system (Work).

Prior to calibration the approximate trigger point must be entered in the workpiece coordinate system!

The exact value of this parameter is created by the operation "Calibrate tool probe"!

54644	MEA_TPW_TRIG_MINUS_DIR_AX3	-	-			
mm	Trigger point of the 3rd measuring axis in negative direction	DOUBLE	Immediately			
-						
-	6	0, 0, 0, 0, 0, 0, 0...	-100000	100000	7/7	M

Description: Trigger point of the 3rd measuring axis in negative direction (applicable, Z at G17, Y at G18)

The trigger point refers to the workpiece coordinate system (Work).

Prior to calibration the approximate trigger point must be entered in the workpiece coordinate system!

The exact value of this parameter is created by the operation "Calibrate tool probe"!

54645	MEA_TPW_TRIG_PLUS_DIR_AX3	-	-			
mm	Trigger point of the 3rd measuring axis in positive direction	DOUBLE	Immediately			
-						
-	6	0, 0, 0, 0, 0, 0, 0...	-100000	100000	7/7	M

Description: Trigger point of the 3rd measuring axis in positive direction (applicable, Z at G17, Y at G18)

The trigger point refers to the workpiece coordinate system (Work).

Prior to calibration the approximate trigger point must be entered in the workpiece coordinate system!

The exact value of this parameter is created by the operation "Calibrate tool probe"!

54646	MEA_TPW_EDGE_DISK_SIZE	-	-			
mm	Tool probe edge length/wheel diameter	DOUBLE	Immediately			
-						
-	6	0, 0, 0, 0, 0, 0, 0...	0	1000	7/7	M

Description: Effective edge length or grinding wheel diameter of the tool probe.

Milling tools are normally measured with wheel-shaped probes while turning tools are measured with square probes.

54647	MEA_TPW_AX_DIR_AUTO_CAL	-	-			
-	Automatic tool probe calibration, enable axes/directions	DWORD	Immediately			
-						
-	6	133, 133, 133, 133, 133, 133, 133, 133...	-	-	7/7	M

Description: Enabling axes and traversing directions for "Automatic calibration" in the workpiece coordinate system (Work) of milling tool probes.

The default setting refers in X and Y to the plus and minus direction respectively, in Z only to the minus direction.

The parameter is divided into six components, the functions of which are assigned to calibration data records 1 to 6.

Meaning of the parameter components

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

Decimal position:

Units 1st geometry axis (X)

Tens: 2nd geometry axis (Y)

Hundreds: 3rd geometry axis (Z)

Value:

=0: axis not enabled

=1: only minus direction possible

=2: only plus direction possible

=3: both directions possible

54648	MEA_TPW_TYPE	-	-			
-	Tool probe type cube / wheel		DOUBLE	Immediately		
-						
-	6	0, 0, 0, 0, 0, 0, 0...	-	-	7/7	M

Description: Tool probe type

0: cube

101: wheel in XY, working plane G17

201: wheel in ZX, working plane G18

301: wheel in YZ, working plane G19

54649	MEA_TPW_CAL_MEASURE_DEPTH	-	-			
mm	Distance between the upper tool probe edge and the lower milling tool edge		DOUBLE	Immediately		
-						
-	6	2, 2, 2, 2, 2, 2, 2...	0	999	7/7	M

Description: Distance between the upper tool probe edge and the lower milling tool edge.

For tool probe calibration this distance defines the calibration depth and for milling tool measuring the measuring depth!

This parameter does not apply to turning tool measuring!

54650	MEA_TPW_STATUS_GEN	-	-			
-	Calibration status in general		DOUBLE	Immediately		
-						
-	6	0, 0, 0, 0, 0, 0	-	-	7/7	M

Description: Calibration status general, reserved for internal use

The value of this parameter is assigned when the "Calibrate tool probe" procedure is executed.

54651	MEA_TPW_FEED	-	-			
mm/min	Measuring feed for tool probe calibration in the Work		DOUBLE	Immediately		
-						
-	6	0, 0, 0, 0, 0, 0, 0...	0	5000	7/7	M

Description: Measuring feed for tool probe calibration in Work

This measuring feed is used for all subsequent tool measuring programs in conjunction with the probe field.

54652	MEA_INPUT_TOOL_PROBE_SUB	-	-
-	Tool probe available/active on the counterspindle	BYTE	Immediately
-			
-	6	0, 0, 0, 0, 0, 0	0 11 7/2 M

Description: CNC measurement input for tool probe with reference to the counterspindle
\$SNS_MEA_INPUT_TOOL_PROBE_SUB[[n]
=0: Toolsetter no.= n+1, with reference to the main spindle,
CNC measurement input corresponds to the value of
\$MCS_MEA_FUNCTION_MASK, bit16
(Input values 1 to 9 have the same functional effect as input 0!)
=10: Toolsetter no.= n+1, with reference to the counterspindle,
units digit =0 corresponds to CNC measurement input 1
=11: Toolsetter no.= n+1, with reference to the counterspindle,
units digit =1 corresponds to CNC measurement input 2

54670	MEA_CM_MAX_PERI_SPEED	-	-
m/min	Max. permissible peripheral speed of the tool to be measured	DOUBLE	Immediately
-			
-	2	100, 100	0 100000 7/7 M

Description: Max. permissible peripheral speed of the tool to be measured when the spindle rotates.
Monitoring parameter for tool measuring with rotating spindle

54671	MEA_CM_MAX_REVOLUTIONS	-	-
rev/min	Maximum tool speed for tool measuring	DOUBLE	Immediately
-			
-	2	1000, 1000	0 100000 7/7 M

Description: Max. permissible tool speed for tool measuring with rotating spindle.
The speed is automatically reduced when this value is exceeded.
Monitoring parameter for tool measuring with rotating spindle

54672	MEA_CM_MAX_FEEDRATE	-	-
mm/min	Maximum feed for contact of the tool with the probe	DOUBLE	Immediately
-			
-	2	20, 20	0 100000 7/7 M

Description: Max. permissible feed for contact of the tool to be measured with the probe when the spindle rotates.
Monitoring parameter for tool measuring with rotating spindle

54673	MEA_CM_MIN_FEEDRATE	-	-
mm/min	Minimum feed for 1st contact of the tool with the probe	DOUBLE	Immediately
-			
-	2	1, 1	0 100000 7/7 M

Description: Min. feed for first contact of the tool to be measured with the probe when the spindle rotates.
Too small feeds for large tool radii are thus avoided!
Monitoring parameter for tool measuring with rotating spindle

54674	MEA_CM_SPIND_ROT_DIR	-	-
-	Direction of spindle rotation for tool measuring	DOUBLE	Immediately
-			
-	2	4, 4	3

Description: Direction of spindle rotation for tool measuring with rotating spindle

(default: 4 = M4)

Notice: if the spindle is already rotating when the measuring cycle is called, the direction of rotation is maintained

independently of \$SNS_MEA_CM_SPIND_ROT_DIR!

Monitoring parameter for tool measuring with rotating spindle

54675	MEA_CM_FEEDFACTOR_1	-	-
-	Feedrate factor 1, for tool measuring	DOUBLE	Immediately
-			
-	2	10, 10	-

Description: Feedrate factor 1, for tool measuring with rotating spindle

=0: single probing with the feedrate calculated by the cycle (but at least with the value of \$SNS_MEA_CM_MIN_FEEDRATE)

>=1: first probing with calculated feedrate (but at least with the value of \$SNS_MEA_CM_MIN_FEEDRATE).

Monitoring parameter for tool measuring with rotating spindle

54676	MEA_CM_FEEDFACTOR_2	-	-
-	Feedrate factor 2, for tool measuring	DOUBLE	Immediately
-			
-	2	0, 0	-

Description: Feedrate factor 2, for tool measuring with rotating spindle

=0: second probing with the feedrate calculated by the cycle (only effective with MEA_CM_FEEDFACTOR_1 > 0)

>=1: second probing with calculated feedrate, feedrate factor 2

Third probing with calculated feedrate (tool speed is influenced by SD54749 \$SNS_MEA_FUNCTION_MASK_TOOL, Bit 12)

Notice: - Feedrate factor 2 should be smaller than feedrate factor 1!

- If the value of feedrate factor 2 is 0, a third probing will not be performed!

Monitoring parameter for tool measuring with rotating spindle

54677	MEA_CM_MEASURING_ACCURACY	-	-
mm	Required measuring accuracy, for tool measuring	DOUBLE	Immediately
-			
-	2	0.005, 0.005	0

Description: Required measuring accuracy for tool measuring

The value of this parameter always refers to the last contact of the tool with the probe!

Monitoring parameter for tool measuring with rotating spindle

54689	MEA_T_PROBE_MANUFACTURER	-	-
-	Tool probe type (manufacturer)	BYTE	Immediately
-			
-	-	0	0

Description: Tool probe type (manufacturer)

These indications are required for tool measuring with rotating spindle.
=0: no indication
=1: TT130 (Heidenhain)
=2: TS27R (Renishaw)

54691	MEA_T_PROBE_OFFSET	-	-
-	Measurement result offset for tool measuring	BYTE	Immediately
-			
-	-	0	0

Description: Measurement result offset for tool measuring with rotating spindle.

=0: no offset
=1: cycle-internal offset (only effective with SD54690
\$SNS_MEAS_T_PROBE_MANUFACTURER<>0)
=2: offset through user-defined offset table

54692	MEA_T_CIRCULAR_ARC_DIST	-	-
mm	Arc distance for single cutting edge measuring from the radius	DOUBLE	Immediately
-			
-	-	0.25	0

Description: Describes the distance in relation to the contour of the tool for finding the "highest point of the longest cutting edge" for single cutting edge measuring of tool radii.

If the data value is ZERO, not the "highest point on the longest cutting edge" is searched for, but instead the measured value obtained by sampling while the spindle is rotating is used.

54693	MEA_T_MAX_STEPS	-	-
-	Max. number of contacts for single cutting edge measuring from the radius	BYTE	Immediately
-			
-	-	10	0

Description: Maximum number of contacts for finding the "highest point of the longest cutting edge" for single cutting edge measuring of tool radii.

If the data value is ZERO, not the "highest point on the longest cutting edge" is searched for, but instead the measured value obtained by sampling while the spindle is rotating is used.

54695	MEA_RESULT_OFFSET_TAB_RAD1	-	-
mm	Offset table (measure tool radius with rotating spindle)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	- - 7/5 M

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEA_RESULT_OFFSET_TAB_RAD1[0] ... this element always has value ZERO

\$SNS_MEA_RESULT_OFFSET_TAB_RAD1[1] ... 1st tool radius

\$SNS_MEA_RESULT_OFFSET_TAB_RAD1[2] ... 2nd tool radius

\$SNS_MEA_RESULT_OFFSET_TAB_RAD1[3] ... 3rd tool radius

\$SNS_MEA_RESULT_OFFSET_TAB_RAD1[4] ... 4th tool radius

54696	MEA_RESULT_OFFSET_TAB_RAD2	-	-
mm	Offset table 1st peripheral speed (radius)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	- - 7/5 M

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEA_RESULT_OFFSET_TAB_RAD2[0] ... 1st peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD2[1] ... offset value for radius regarding 1st radius and 1st peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD2[2] ... offset value for radius regarding 2nd radius and 1st peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD2[3] ... offset value for radius regarding 3rd radius and 1st peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD2[4] ... offset value for radius regarding 4th radius and 1st peripheral speed

54697	MEA_RESULT_OFFSET_TAB_RAD3	-	-
mm	Offset table 2nd peripheral speed (radius)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	- - 7/5 M

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEA_RESULT_OFFSET_TAB_RAD3[0] ... 2nd peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD3[1] ... offset value for radius regarding 1st radius and 2nd peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD3[2] ... offset value for radius regarding 2nd radius and 2nd peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD3[3] ... offset value for radius regarding 3rd radius and 2nd peripheral speed

\$SNS_MEA_RESULT_OFFSET_TAB_RAD3[4] ... offset value for radius regarding 4th radius and 2nd peripheral speed

54698	MEA_RESULT_OFFSET_TAB_RAD4	-	-
mm	Offset table 3rd peripheral speed (radius)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	-

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEAS_RESULT_OFFSET_TAB_RAD4[0]	... 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD4[1]	... offset value for radius regarding 1st radius and 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD4[2]	... offset value for radius regarding 2nd radius and 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD4[3]	... offset value for radius regarding 3rd radius and 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD4[4]	... offset value for radius regarding 4th radius and 3rd peripheral speed

54699	MEA_RESULT_OFFSET_TAB_RAD5	-	-
mm	Offset table 4th peripheral speed (radius)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	-

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEAS_RESULT_OFFSET_TAB_RAD5[0]	... 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD5[1]	... offset value for radius regarding 1st radius and 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD5[2]	... offset value for radius regarding 2nd radius and 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD5[3]	... offset value for radius regarding 3rd radius and 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD5[4]	... offset value for radius regarding 4th radius and 4th peripheral speed

54700	MEA_RESULT_OFFSET_TAB_RAD6	-	-
mm	Offset table 5th peripheral speed (radius)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	-

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEAS_RESULT_OFFSET_TAB_RAD6[0]	... 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD6[1]	... offset value for radius regarding 1st radius and 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD6[2]	... offset value for radius regarding 2nd radius and 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD6[3]	... offset value for radius regarding 3rd radius and 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_RAD6[4]	... offset value for radius regarding 4th radius and 5th peripheral speed

54705	MEA_RESULT_OFFSET_TAB_LEN1	-	-
mm	Offset table (measure tool length with rotating spindle)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	- - 7/5 M

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEA_RESULT_OFFSET_TAB_LEN1[0]	... this element always has value ZERO
\$SNS_MEA_RESULT_OFFSET_TAB_LEN1[1]	... 1st tool radius
\$SNS_MEA_RESULT_OFFSET_TAB_LEN1[2]	... 2nd tool radius
\$SNS_MEA_RESULT_OFFSET_TAB_LEN1[3]	... 3rd tool radius
\$SNS_MEA_RESULT_OFFSET_TAB_LEN1[4]	... 4th tool radius

54706	MEA_RESULT_OFFSET_TAB_LEN2	-	-
mm	Offset table 1st peripheral speed (length)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	- - 7/5 M

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEA_RESULT_OFFSET_TAB_LEN2[0]	... 1st peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN2[1]	... offset value for radius regarding 1st radius and 1st peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN2[2]	... offset value for radius regarding 2nd radius and 1st peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN2[3]	... offset value for radius regarding 3rd radius and 1st peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN2[4]	... offset value for radius regarding 4th radius and 1st peripheral speed

54707	MEA_RESULT_OFFSET_TAB_LEN3	-	-
mm	Offset table 2nd peripheral speed (length)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	- - 7/5 M

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEA_RESULT_OFFSET_TAB_LEN3[0]	... 2nd peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN3[1]	... offset value for radius regarding 1st radius and 2nd peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN3[2]	... offset value for radius regarding 2nd radius and 2nd peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN3[3]	... offset value for radius regarding 3rd radius and 2nd peripheral speed
\$SNS_MEA_RESULT_OFFSET_TAB_LEN3[4]	... offset value for radius regarding 4th radius and 2nd peripheral speed

54708	MEA_RESULT_OFFSET_TAB_LEN4	-	-
mm	Offset table 3rd peripheral speed (length)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	-

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEAS_RESULT_OFFSET_TAB_LEN4[0]	... 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN4[1]	... offset value for radius regarding 1st radius and 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN4[2]	... offset value for radius regarding 2nd radius and 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN4[3]	... offset value for radius regarding 3rd radius and 3rd peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN4[4]	... offset value for radius regarding 4th radius and 3rd peripheral speed

54709	MEA_RESULT_OFFSET_TAB_LEN5	-	-
mm	Offset table 4th peripheral speed (length)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	-

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEAS_RESULT_OFFSET_TAB_LEN5[0]	... 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN5[1]	... offset value for radius regarding 1st radius and 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN5[2]	... offset value for radius regarding 2nd radius and 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN5[3]	... offset value for radius regarding 3rd radius and 4th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN5[4]	... offset value for radius regarding 4th radius and 4th peripheral speed

54710	MEA_RESULT_OFFSET_TAB_LEN6	-	-
mm	Offset table 5th peripheral speed (length)	DOUBLE	Immediately
-			
-	5	0, 0, 0, 0, 0	-

Description: Parameter for user-defined measurement result offset for tool measuring with rotating spindle

\$SNS_MEAS_RESULT_OFFSET_TAB_LEN6[0]	... 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN6[1]	... offset value for radius regarding 1st radius and 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN6[2]	... offset value for radius regarding 2nd radius and 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN6[3]	... offset value for radius regarding 3rd radius and 5th peripheral speed
\$SNS_MEAS_RESULT_OFFSET_TAB_LEN6[4]	... offset value for radius regarding 4th radius and 5th peripheral speed

54740	MEA_FUNCTION_MASK	-	-
-	Function mask for measuring cycles	DWORD	Immediately
-			
-	-	8	-

Description: Function mask for measuring cycles

Bit 0: Repeat of workpiece measurement after exceeding the measuring difference (parameter _TDIF) and/or safe area (parameter _TSA)

- 0: The measurement is not repeated if the measuring difference and/or safe area is exceeded. A corresponding alarm, which can be acknowledged by "RESET", is displayed.
- 1: The measurement is repeated a maximum of 4 times if the measuring difference and/or safe area is exceeded.

Bit 1: Repeat of workpiece measurement with alarm and cycle stop at M0

If bit 0 of SD54740 \$SNS_MEA_FUNCTION_MASK is set to "1", then the following behavior can be selected with this bit:

- 0: No alarm, no M0 in the repeat measurements
- 1: The NC command "M0" is generated in each repeat measurement, and the repeat must be started with NC START. The corresponding alarm, which can be acknowledged by "NC START", is displayed for each of the repeat measurements

Bit 2: Workpiece measurement: M0 with tolerance alarms 62304 oversize, 62305 undersize, 62306 permissible measuring difference exceeded

- 0: M0 is not generated in the event of the alarms 62304 "oversize", 62305 "undersize" or 62306 "permissible measuring difference exceeded".
- 1: These alarms do not interrupt the program execution, there is just a display!

- 1: The NC command "M0" is generated when these alarms occur.

Bit 3: Accept calibrated workpiece probe radius in the tool data.

This parameter refers functionally only to CYCLE976.

- 0: Calibrated workpiece probe radius not accepted in the tool data
- 1: With the calibration variant "with probe ball calculation", the determined "effective probe ball diameter" (54600 \$SNS_MEA_WP_BALL_DIAM) is converted to a radius value, and entered in the tool radius geometry memory of the active workpiece probe.

Bit 4: The calibration and measuring planes are different in turning and milling technology.

- 0: Different working planes for calibration and measurement are not permitted for workpiece measurement.
- 1: If the planes are different, alarm 61341 probe not calibrated in active plane is output at cycle runtime.

- 1: Different working planes for calibration and measurement are permitted for workpiece measurement.

Bit16: Repeat measurement of the tool after exceeding the measuring difference (parameter _TDIF) and/or safe area (parameter _TSA)

- 0: The measurement is not repeated if the measuring difference and/or safe area is exceeded. A corresponding alarm, which can be acknowledged by "RESET", is displayed.
- 1: The measurement is repeated a maximum of 4 times if the measuring difference and/or safe area is exceeded.

Bit17: Repeat of tool measurement with alarm and cycle stop at M0

If bit 16 of SD54740 \$SNS_MEA_FUNCTION_MASK is set to "1", then the following behavior can be selected with this bit:

- 0: No alarm, no M0 in the repeat measurements

1: The NC command "M0" is generated in each repeat measurement, and the repeat must be started with NC START.

The corresponding alarm, which can be acknowledged by "NC START", is displayed for each of the repeat measurements.

Bit 18: Tool measurement: M0 after exceeding the permissible measuring difference

0: M0 is not generated in the event of alarm 62306 "permissible measuring difference exceeded".

This alarm does not interrupt the program execution, there is just a display!

1: The NC command "M0" is generated if this alarm occurs.

Bit19: Tool measuring milling machine: spindle speed reduction during last touching

0: Last touching without spindle speed reduction

1: Last touching with spindle speed reduction

54750	MEA_ALARM_MASK	-	-
-	Expert mode for cycle alarms	DWORD	Immediately
-			
-	-	0	-

Description: Bit 0-7 workpiece measurement
 Bit 0 =1 alarms with cycle-internal states and codings are displayed (expert mode)!
 Bit 1-7 reserved
 Bit 8-16 tool measuring
 Bit 0-7 reserved

54760	MEA_FUNCTION_MASK_PIECE	-	-
-	Setting f. input screen, measuring cycles in Automatic, workpiece measuring	DWORD	Immediately
-			
-	-	514	-

Description: Setting for input mask, Measuring cycles in Automatic, Workpiece measurement
 Bit1 Show selection of softkey 3D measurement
 Bit3 Enable selection of probe calibration data field
 Bit4 Select Calibrate input measuring feed 1)
 Bit6 Enable selection of WO compensation in basic frame (SETFRAME)
 Bit7 Enable selection of WO compensation in channel-specific basic frame
 Bit8 Enable selection of WO compensation in global basic frame
 Bit9 Enable selection of WO compensation in settable frame
 Bit10 Enable selection of WO compensation coarse and fine
 Bit11 Select Tool offset Geometry and wear
 Bit12 Select Tool offset Not inverted and inverted
 Bit13 Select Tool offset L1, R or L1, L2, L3 R
 Bit14 Select Tool offset Work offset (_TZL)
 Bit15 Select Tool offset Dimensional difference check (_TDIF)
 Bit 16 Select Workpiece measurement with spindle reversal
 Bit 17 Select Align workpiece probe in switching direction
 Bit18 Select Number of measurements (_NMSP)
 Bit19 Select Offset with averaging (_TMV) 1)
 Bit20 Select Empirical values (_EVNUM)

Bit21 Select Additive setup offset
 Bit22 Select Calibrate to unknown or known center point
 Bit24 Select Calibrate with/without positional deviation
 Bit25 Select zero offset when measuring the angularity of the spindle
 If WO compensation bit 6..10 is not selected, then offer "Measure only".
 If WO compensation bit 6..10 is selected, then always also offer compensation
 in active WO in the input screen
 For averaging, display the following parameters: _K _TMV, _EVNUM
 1) Input measuring feed applies to Automatic and JOG

54762	MEA_FUNCTION_MASK_TOOL	-	-
-	Setting for input screen, measuring cycles in Automatic, tool measuring	DWORD	Immediately
-			
-	- 0 - - 7/5 M		

Description: Setting for input mask, Measuring cycles in Automatic, Tool measurement
 54762 MEA_FUNCTION_MASK_TOOL
 Bit3 Enable selection of tool probe calibration data field
 Bit4 Select Calibrate input measuring feed (VMS) 1)
 Bit5 Select Input feed and spindle speeds for contacting
 Bit7 Select Measure in Machine and Work
 Bit8 Select Measure absolute and incremental
 Bit9 Select Tool offset geometry and wear
 Bit10 Select Single cutting edge measuring
 Bit11 Select Spindle reversal when calibrating on the plane
 Bit12Select Number of measurements (_NMSP)
 Bit13Select Empirical values (_EVNUM)
 1) Measuring feed input applies to Automatic and JOG

54764	MEA_FUNCTION_MASK_TURN	-	-
-	Setting for input mask, Measuring cycles in Automatic, Workpiece turning	DWORD	Immediately
-			

Description: 54764 MEA_FUNCTION_MASK_TURN
 Setting for input mask, Measuring cycles Turning in Automatic
 Bit0 Measure inside/outside diameter with reversal
 Bit1 Measure inside/outside diameter "travel under turning center"?

54780	J_MEA_FUNCTION_MASK_PIECE	-	-
-	Settings for input screen Workpiece measurement in JOG	DWORD	Immediately
-			
-	- 512 - - 7/5 M		

Description: Settings for input mask Workpiece measuring in JOG
 Bit2 Activate compensation for electronic workpiece probe
 Bit3 Select probe calibration data field, release
 Bit5 Select WO as basis for measuring
 Bit6 Select WO compensation in basic frame, release

Bit7 Select WO compensation in channel basic frame, release
 Bit8 Select WO compensation in global basic frame, release
 Bit9 Select WO compensation in settable frame, release

54782	J_MEA_FUNCTION_MASK_TOOL	-	-			
-	Settings for input screen Tool measuring in JOG	DWORD	Immediately			
-						
-	-	0	-	-	7/5	M

Description: Settings for input mask Tool measuring in JOG
 Bit2 Enable automatic tool measurement
 Bit3 Enable selection of tool probe calibration data field
 Bit10 Select single cutting edge measuring
 Bit 11 Select spindle reversal when calibrating on the plane

55200	MAX_INP_FEED_PER_REV	-	-			
mm/rev	Upper limit feedrate/rev	DOUBLE	Immediately			
-						
-	-	1	0	15	7/4	M

Description: Feedrate input upper limit for mm/rev

55201	MAX_INP_FEED_PER_TIME	-	-			
mm/min	Upper limit feedrate/min	DOUBLE	Immediately			
-						
-	-	10000	0	100000	7/4	M

Description: Feedrate input upper limit for mm/min

55202	MAX_INP_FEED_PER_TOOTH	-	-			
mm	Upper limit feedrate/tooth	DOUBLE	Immediately			
-						
-	-	1	0	5	7/4	M

Description: Feedrate input upper limit for mm/tooth

55212	FUNCTION_MASK_TECH_SET	-	-			
-	Function mask Cross-technology	BYTE	Immediately			
-						
-	-	6	-	-	7/4	M

Description: Function mask Cross-technology
 Bit 0: Tool preselection active
 Bit 1: Calculate thread depth from thread pitch
 Bit 2: Refer to Table for thread diameter and depth

55214	FUNCTION_MASK_MILL_SET	-	-			
-	Function mask Milling	DWORD	Immediately			
-						
-	-	5	-	-	7/4	M

Description: Function mask Milling
 Bit 0: Default setting - milling cycles with synchronous operation
 Bit 2: Depth calculation in milling cycles without parameter SC

55216	FUNCTION_MASK_DRILL_SET	-	-			
-	Function mask Drilling	DWORD	Immediately			
-						
-	-	24	-	-	7/4	M

Description: Screen form for drilling

Bit 1: Boring CYCLE86: Take into consideration rotation of the tool plane when positioning the spindle

Bit 2: Boring CYCLE86: When positioning the spindle, take into account swiveled table kinematics (toolholder)

Bit 3: Tapping CYCLE84: Monitoring machine data 31050 and 31060 of the spindle

Bit 4: Tapping CYCLE840: Monitoring machine data 31050 and 31060 of the spindle

Bit 6: Boring CYCLE86: Adapt spindle position to the orientation of the tool
Tool orientation can be realized using TOOLCARR or TRAORI before the cycle is called.

If bit 6=1, then bits 1 and 2 are no longer effective.

Bit 7: Boring CYCLE86: Adapt the direction of the retraction path in the plane to active mirroring

0: Retraction in the plane is realized as programmed

1: When mirroring is active, when retracting in the plane, the direction is adapted in the cycle to the active mirroring.

55218	FUNCTION_MASK_TURN_SET	-	-			
-	Function mask Turning	DWORD	Immediately			
-						
-	-	1	-	-	7/4	M

Description: Function mask Turning

Bit 0: New thread table during thread cutting

Bit 1: Reserved (CYCLE93)

Bit 2: Reserved (CYCLE93)

Bit 3: Chamfer in CYCLE930 as chamfer length (CHF)

55220	FUNCTION_MASK_MILL_TOL_SET	-	-			
-	Function mask High Speed Settings CYCLE832	DWORD	Immediately			
-						
-	-	0	-	-	7/5	M

Description: Function mask High Speed Settings CYCLE832

Bit 0: Display input fields technology

Bit 1: Settings as agreed in the following setting data:
\$SCS_MILL_TOL_FACTOR_NORM
\$SCS_MILL_TOL_FACTOR_ROUGH
\$SCS_MILL_TOL_FACTOR_SEMIFIN
\$SCS_MILL_TOL_FACTOR_FINISH
\$SCS_MILL_TOL_VALUE_NORM
\$SCS_MILL_TOL_VALUE_ROUGH
\$SCS_MILL_TOL_VALUE_SEMIFIN
\$SCS_MILL_TOL_VALUE_FINISH

55221	FUNCTION_MASK_SWIVEL_SET	-	-			
-	Function mask Swivel CYCLE800	DWORD	Immediately			
-						
-	-	0	-	-	7/3	M

Description: Function screen form Swivel CYCLE800
 Bit 0: Display input field "No swivel"
 Bit 1: =0: Selection text retract "Z" or retract "Z XY"
 =1: Selection text retract to "fixed position 1" or "fixed position 2"
 Bit 2: Allow selection "Deselection" of the swivel data block
 Bit 3: Show active swivel plane under Swivel in JOG
 The settings of the Swivel function mask affect all swivel data sets
 Bit 4: =0: Evaluation of input values in pole position of machine kinematics
 =1: Compatibility
 Bit 5: Reserved
 Bit 6: Do not offer "direct" swivel mode under swivel in JOG

55230	CIRCLE_RAPID_FEED	-	-			
mm/min	Positional feed on circular paths	DOUBLE	Immediately			
-						
-	-	10000	100	100000	7/4	M

Description: Rapid traverse feedrate in mm/min for positioning on circle path

55231	MAX_INP_RANGE_GAMMA	-	-			
degrees	Maximum input area alignment angle gamma	DOUBLE	Immediately			
-						
-	-	5	0	90	7/4	M

Description: Maximum input area alignment angle gamma

55232	SUB_SPINDLE_REL_POS	-	-			
mm	Retract position Z for counterspindle	DOUBLE	Immediately			
-						
-	-	0	-	-	7/4	M

Description: Z retraction position for the counterspindle

55260	MAJOG_SAFETY_CLEARANCE	-	-			
mm	Safety clearance for machine JOG	DOUBLE	Immediately			
-						
-	-	1	-	-	7/4	M

Description: Safety clearance for machine JOG

55261	MAJOG_RELEASE_PLANE	-	-			
mm	Retraction plane for machine JOG	DOUBLE	Immediately			
-						
-	-	100	-	-	7/4	M

Description: Retraction plane for machine JOG

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

55410	MILL_SWIVEL_ALARM_MASK	-	-
-	Hide and unhide cycle alarms for CYCLE800	DWORD	Immediately
-			
-	- 0 - - 7/5 M		

Description: Hide and unhide cycle alarms CYCLE800
 Bit 0: error analysis 62186 - active work offset G%4 and base (base relation) include rotations
 Bit 1: error analysis 62187 - active base and base relation (G500) include rotations

55420	MILL_SWIVEL_RESET_RETRACT	-	-
-	Initial setting swivel: retract	BYTE	Immediately
-			
-	- 0 0 5 7/5 M		

Description: Initial setting swivel: retract
 With this setting data, the status adopted by the toggler "Retract" in the mask "Swivel plane" when activating the "Initial setting" softkey can be set:
 0 = no change
 1 = no
 2 = Z
 3 = Z XY
 4 = Tool direction max.
 5 = Tool direction inc.

55421	MILL_SWIVEL_RESET_TRACK	-	-
-	Initial setting swivel: tool correction	BYTE	Immediately
-			
-	- 0 0 2 7/5 M		

Description: Initial setting swivel: Tool correction
 With this setting data, the status adopted by the toggler "Tool correction" in the mask "Swivel plane" after activating the softkey "Initial setting" can be set:
 0 = no change
 1 = do not correct
 2 = correct

55441	MILL_TOL_FACTOR_ROUGH	-	-
-	Rotary axes tolerance factor for roughing CYCLE832 of G group 59	DOUBLE	Immediately
-			
-	- 10 0 1000 7/5 M		

Description: Rotary axes tolerance factor for roughing CYCLE832 of G group 59

55442	MILL_TOL_FACTOR_SEMIFIN	-	-
-	Rotary axes tolerance factor for prefinishing CYCLE832 of G group 59	DOUBLE	Immediately
-			
-	- 10 0 1000 7/5 M		

Description: Rotary axes tolerance factor for prefinishing CYCLE832 of G group 59

55443	MILL_TOL_FACTOR_FINISH	-	-			
-	Rotary axes tolerance factor for finishing CYCLE832 of G group 59	DOUBLE	Immediately			
-						
-	-	10	0	1000	7/5	M

Description: Rotary axes tolerance factor for finishing CYCLE832 of G group 59

55446	MILL_TOL_VALUE_ROUGH	-	-			
mm	Tolerance value for roughing CYCLE832 (High Speed Settings)	DOUBLE	Immediately			
-						
-	-	0.1	0	10	7/5	M

Description: Tolerance value for roughing CYCLE832

55447	MILL_TOL_VALUE_SEMIFIN	-	-			
mm	Tolerance value for smooth-finishing CYCLE832 (High Speed Settings)	DOUBLE	Immediately			
-						
-	-	0.05	0	10	7/5	M

Description: Tolerance value for prefinishing CYCLE832

55448	MILL_TOL_VALUE_FINISH	-	-			
mm	Tolerance value for finishing CYCLE832 (High Speed Settings)	DOUBLE	Immediately			
-						
-	-	0.01	0	10	7/5	M

Description: Tolerance value for finishing CYCLE832

55460	MILL_CONT_INITIAL_RAD_FIN	-	-			
mm	Contour pocket milling: approach circle radius finishing	DOUBLE	Immediately			
-						
-	-	0	0	100	7/4	M

Description: This data affects the radius of the approach circle during contour pocket finishing.

0: the radius is selected to maintain a safety clearance to the finishing allowance in the starting point.

>0: the radius is selected to maintain the value of this setting data to the finishing allowance in the starting point.

55481	DRILL_TAPPING_SET_GG12	-	-			
-	Setting tapping G group 12: block change behavior at exact stop	DOUBLE	Immediately			
-						
-	2	0	0	3	7/4	M

Description: Settings for tapping G group 12 cycle CYCLE84 and CYCLE840:
G group 12: block change behavior at exact stop (G60)

Machine and setting data

1.5 Machine / setting data for SINUMERIK Operate and Cycles

55482	DRILL_TAPPING_SET_GG21	-	-
-	Setting tapping G group 21: acceleration profile	DOUBLE	Immediately
-			
-	2 0 0 3 7/4 M		

Description: Settings for tapping G group 21 cycle CYCLE84
G group 21: acceleration profile (SOFT, BRISK, ...)

55483	DRILL_TAPPING_SET_GG24	-	-
-	Setting tapping G group 24: precontrol	DOUBLE	Immediately
-			
-	2 0 0 2 7/4 M		

Description: Settings for tapping G group 24 cycle CYCLE84 and CYCLE840:
G group 24: precontrol (FFWON, FFWOF)

55484	DRILL_TAPPING_SET_MC	-	-
-	Setting tapping: spindle operation at MCALL	DOUBLE	Immediately
-			
-	2 0 0 1 7/4 M		

Description: Setting for tapping cycle CYCLE84 spindle operation at MCALL
0= reactivate spindle operation at MCALL
1= maintain position-controlled spindle operation at MCALL

55489	DRILL_MID_MAX_ECCENT	-	-
mm	Max. center offset f. center boring	DOUBLE	Immediately
-			
-	- 0.5 0 10 7/4 M		

Description: Maximum center offset for center boring

55490	DRILL_SPOT_DIST	-	-
mm	Preboring depth drill and thread milling	DOUBLE	Immediately
-			
-	- 1 0 100 7/4 M		

Description: Preboring depth for drill and thread milling

55500	TURN_FIN_FEED_PERCENT	-	-
%	Roughing feedrate for complete machining in %	BYTE	Immediately
-			
-	- 100 1 100 7/4 M		

Description: When selecting Complete machining (roughing and finishing), the percentage of the entered feedrate F as specified in this setting data is used for finishing.

55505	TURN_ROUGH_O_RELEASE_DIST	-	-
mm	Return distance stock removal for external machining	DOUBLE	Immediately
-			
-	-	1	-1

Description: This setting data defines the distance by which the tool is returned from the contour during stock removal of an outer corner. This does not apply to stock removal of a contour.
 -1: the distance is specified internally.

55506	TURN_ROUGH_I_RELEASE_DIST	-	-
mm	Return distance stock removal for internal machining	DOUBLE	Immediately
-			
-	-	0.5	-1

Description: This setting data defines the distance by which the tool is returned from the contour during stock removal of an inner corner. This does not apply to stock removal of a contour.
 -1: the distance is specified internally.

55510	TURN_GROOVE_DWELL_TIME	-	-
s	Tool clearance time for grooving at the base (neg. value=rotations)	DOUBLE	Immediately
-			
-	-	-1	-100

Description: If a tool clearance time occurs in a cycle, e.g. deep hole drilling, grooving, the value of this setting data is used
 • negative value in spindle revolutions
 • positive value in seconds

55540	TURN_PART_OFF_CTRL_DIST	-	-
mm	Path for cut-off check	DOUBLE	Immediately
-			
-	-	0.1	0

Description: Path for cut-off check

55541	TURN_PART_OFF_CTRL_FEED	-	-
mm/min	Feedrate for cut-off check	DOUBLE	Immediately
-			
-	-	0	-

Description: Feedrate for cut-off check

55542	TURN_PART_OFF_CTRL_FORCE	-	-
%	Force for cut-off check in %	DOUBLE	Immediately
-			
-	-	10	1

Description: Force in percent for cut-off check

55543	TURN_PART_OFF_RETRACTION	-	-			
mm	Retraction path prior to cut-off with counterspindle	DOUBLE	Immediately			
-						
-	-	0	0	1	7/4	M

Description: Retraction path prior to cut-off with counterspindle

55550	TURN_FIXED_STOP_DIST	-	-			
mm	Counterspindle: path for travel to fixed stop	DOUBLE	Immediately			
-						
-	-	10	0.001	1000	7/4	M

Description: In this setting data you specify the distance to the programmed target position, after which the counterspindle travels with a special feedrate during travel to fixed stop (see 55551 \$SCS_TURN_FIXED_STOP_FEED).

55551	TURN_FIXED_STOP_FEED	-	-			
mm/min	Counterspindle: feedrate for travel to fixed stop	DOUBLE	Immediately			
-						
-	-	0	-	-	7/4	M

Description: In this setting data you specify the feedrate with which the counterspindle travels to a fixed stop. In setting data 55550 \$SCS_TURN_FIXED_STOP_DIST you specify the distance after which the tool travels in this feedrate.

55552	TURN_FIXED_STOP_FORCE	-	-			
%	Counterspindle: force for travel to fixed stop in %	DOUBLE	Immediately			
-						
-	-	10	1	100	7/4	M

Description: In this setting data you specify at which percentage of the driving force the counterspindle is to stop during travel to fixed stop.

55553	TURN_FIXED_STOP_RETRACTION	-	-			
mm	Counterspindle: retraction path prior to chucking after fixed stop	DOUBLE	Immediately			
-						
-	-	0	0	1	7/4	M

Description: Retraction path prior to chucking after travel to fixed stop

55580	TURN_CONT_RELEASE_ANGLE	-	-			
degrees	Contour turning: retraction angle	DOUBLE	Immediately			
-						
-	-	45	0	90	7/4	M

Description: This setting data defines the angle by which the tool is retracted from the contour during contour turning roughing.

55581	TURN_CONT_RELEASE_DIST	-	-			
mm	Contour turning: retraction value	DOUBLE	Immediately			
-						
-	-	1	0.01	10	7/4	M

Description: This setting data defines the value by which the tool is retracted in both axes during contour turning roughing.

55582	TURN_CONT_TRACE_ANGLE	-	-
degrees	Contour turning: minimum angle for rounding along contour	DOUBLE	Immediately
-			
-	-	5	0

Description: This setting data specifies the angle between the cutting edge and the contour, at which the contour is rounded in order to remove residual material.

55583	TURN_CONT_VARIABLE_DEPTH	-	-
%	Contour turning: percentage for variable cutting depth	BYTE	Immediately
-			
-	-	20	0

Description: Percentage for variable cutting depth during contour turning

55584	TURN_CONT_BLANK_OFFSET	-	-
mm	Contour turning: blank allowance	DOUBLE	Immediately
-			
-	-	1	0

Description: This setting data specifies the distance to the blank, after which contour turning is switched from G0 to G1 in order to adjust any possible blank allowances.

55585	TURN_CONT_INTERRUPT_TIME	-	-
s	Contour turning: feed interrupt time (neg. values = revolutions)	DOUBLE	Immediately
-			
-	-	-1	-

Description: Feed interrupt time during contour turning, contour grooving and plunge turning

- negative value in spindle revolutions
- positive value in seconds

This setting data is effective only if setting data 55586 is
\$SCS_TURN_CONT_INTER_RETRACTON = 0.

55586	TURN_CONT_INTER_RETRACTON	-	-
mm	Contour turning: retraction path after feed interrupt	DOUBLE	Immediately
-			
-	-	1	0

Description: Retraction path feed interrupt during contour turning, contour grooving and plunge turning:

>0: retraction path after feed interrupt (setting data 55585
\$SCS_TURN_CONT_INTERRUPT_TIME is ineffective!)
=0: no retraction path

55587	TURN_CONT_MIN_REST_MAT_AX1	-	-
%	Contour turning: minimum difference dimension residual machining axis 1	DOUBLE	Immediately
-			
-	-	50	0

Description: This MD defines the limit value for stock removal of residual material in the direction of the 1st axis.

Example:

If this MD is set to 50% and if the finishing allowance is 0.5mm, the residual material which is thinner than 0.25mm is not removed in a separate machining step, but during finishing.

55588	TURN_CONT_MIN_REST_MAT_AX2	-	-			
%	Contour turning: minimum difference dimension residual machining axis 2	DOUBLE	Immediately			
-						
-	-	50	0	1000	7/4	M

Description: This MD defines the limit value for stock removal of residual material in the direction of the 2nd axis.

Example:

If this MD is set to 50% and if the finishing allowance is 0.5mm, the residual material which is thinner than 0.25mm is not removed in a separate machining step, but during finishing.

55595	TURN_CONT_TOOL_BEND_RETR	-	-			
mm	Contour plunge turning: retraction path due to tool bending	DOUBLE	Immediately			
-						
-	-	0.1	0	1	7/4	M

Description: Retraction due to tool bending during plunge turning

55596	TURN_CONT_TURN_RETRACTION	-	-			
mm	Contour plunge turning: retraction depth prior to turning	DOUBLE	Immediately			
-						
-	-	0.1	0	1	7/4	M

Description: Retraction depth prior to plunge turning

55613	MEA_RESULT_DISPLAY	-	-			
-	Selection of measurement result display	BYTE	Immediately			
-						
-	-	0	0	10	7/7	M

Description: Measurement results screen display

=0: No measurement results screen

=1: The measurement results screen is visible for a fixed time of 8 seconds

=3: When the measurement results screen is visible, the cycle is stopped by an internal M0;

on NC start the measuring cycle is resumed and the measurement results screen is deselected.

=4: The measurement results screen only appears in the case of cycle alarms 61303, 61304, 61305, 61306.

55618	MEA_SIM_ENABLE	-	-			
-	Selection of measuring cycle response in a simulated environment	BYTE	Immediately			
-						
-	-	1	0	9	7/5	M

Description: Selection of measuring cycle response in a simulated environment (HMI)

= 0: Measuring cycles are not executed (measuring cycle is skipped internally)

= 1: Measuring cycles are executed. Real axes are required!
 During calibration no values are entered in the probe data fields,
 no measurement result is displayed,
 the measuring cycle is not logged,
 the travel is performed without collision detection.

55619	MEA_SIM_MEASURE_DIFF	-	-			
mm	Value for simulated error of measurement	DOUBLE	Immediately			
-						
-	-	0	-100	100	7/5	M

Description: With this parameter simulated measurement errors can be specified on the measuring points.
 Provided that SD55618 \$SCS_MEA_SIM_ENABLE=1 is used and that the measuring cycles are executed in a simulated environment of HMI a measurement difference can be entered in this parameter. The value of the measurement difference must be smaller than the measuring path in parameter _FA!
 Otherwise cycle alarm 61301 "Probe does not switch" is output during active simulation.

55622	MEA_EMPIRIC_VALUE_NUM	-	-			
-	Number of empirical values	DWORD	Immediately			
-						
-	-	20	0	1000	7/5	M

Description: Number of empirical values

55623	MEA_EMPIRIC_VALUE	-	-			
mm	Empirical value memory	DOUBLE	Immediately			
-						
-	20	0	-100000	100000	7/7	M

Description: In its default setting the empirical value memory consists of 20 memory elements.
 Using parameter \$SCS_MEA_EMPIRIC_VALUE_NUM the number of memory elements can be defined! Currently, however, these 20 memory elements cannot be changed!
 In the empirical value memory, empirical values can be stored which are cleared with the currently calculated difference between the setpoint and the actual value.
 Using parameter _EVNUM the empirical value element to be cleared is addressed!

55624	MEA_AVERAGE_VALUE_NUM	-	-			
-	Number of mean values	DWORD	Immediately			
-						
-	-	20	0	1000	7/5	M

Description: Number of mean values

55625	MEA_AVERAGE_VALUE	-	-
-	Mean value memory	DOUBLE	Immediately
-			
-	20	0	-100000 100000 7/7 M

Description: In its default setting the mean value memory consists of 20 memory elements. Using parameter \$SCS_MEA_AVERAGE_VALUE_NUM the number of memory elements can be defined! Currently, however, these 20 memory elements cannot be changed!

In the mean value memory, the mean values calculated in connection with functionality "Automatic tool offset with mean value creation" are stored.

Using parameter _EVNUM the mean value element to be used is addressed!

55628	MEA_TP_FEED_MEASURE	-	-
mm/min	Feed for calibrating a tool probe	DOUBLE	Immediately
-			
-	- 300 0 5000 7/7 M		

Description: MEA_TP_FEED_MEASURE
Feed for calibrating a tool probe with stationary spindle in AUTO and JOG

55630	MEA_FEED_MEASURE	-	-
mm/min	Feed for calibrating a workpiece probe	DOUBLE	Immediately
-			
-	- 300 0 5000 7/7 M		

Description: MEA_FEED_MEASURE
Feed for calibrating a workpiece probe in Automatic and JOG

55632	MEA_FEED_RAPID_IN_PERCENT	-	-
%	Rapid traverse velocity in per cent, for intermediate positioning	DOUBLE	Immediately
-			
-	- 50 0 100 7/7 M		

Description: Traverse velocities for positioning in the measuring cycle between the measuring positions,
with rapid traverse velocity in per cent, with collision detection not active
Note:

If necessary, adapt the value of the rapid traverse velocity in per cent to the probe type used and to the machine characteristics! This means that the maximum deflection of the actual probe type must be considered!!

Explanations:

In the measuring cycles any intermediate positions are calculated prior to the actual set of measurements. These positions can be approached

- with collision detection (SD55740 \$SCS_MEA_FUNCTION_MASK Bit0/Bit16=1 or
- without collision detection (SD55740 \$SCS_MEA_FUNCTION_MASK Bit0/Bit16=0).

Depending on this setting different velocities are used for the approach:

- with collision detection (SD55740 \$SCS_MEA_FUNCTION_MASK Bit0/Bit16=1):

With SD55634 \$SCS_MEA_FEED_PLAN_VALUE the traversing feed is performed in the plane and with SD55636 \$SCS_MEA_FEED_FEEDAX_VALUE during traversing in the feed axis (applicable).

If the probe switches when these intermediate positions are approached, the movement is stopped and the alarm "Probe collision" is output.

- without collision detection (SD55740 \$SCS_MEAS_FUNCTION_MASK Bit0/Bit16=0) :

The intermediate positions are approached with the maximum axis velocity (rapid traverse) in per cent as specified in SD55632

\$SCS_MEAS_FEED_RAPID_IN_PERCENT.

With SD55632 \$SCS_MEAS_FEED_RAPID_IN_PERCENT=0 and SD55632

\$SCS_MEAS_FEED_RAPID_IN_PERCENT=100 the maximum axis velocity is effective.

55634	MEA_FEED_PLANE_VALUE	-	-			
mm/min	Traverse velocity for intermediate positioning in the plane	DOUBLE	Immediately			
-						
-	-	1000	0	5000	7/7	M

Description: MEA_FEED_MEASURE

Measure measuring feed of workpiece in Automatic and JOG

55636	MEA_FEED_FEEDAX_VALUE	-	-			
mm/min	Positioning velocity in the infeed axis	DOUBLE	Immediately			
-						
-	-	1000	0	10000	7/7	M

Description: Traversing speed for intermediate positioning in the measuring cycle in the infeed axis, with and without collision detection

Note:

If necessary, adapt the value of the speed in the infeed axis to the probe type used and to the

machine characteristics! This means that the maximum deflection of the actual probe type must be considered!!

Explanations:

In the measuring cycles any intermediate positions are calculated prior to the actual set of measurements. These positions can be approached

- with collision detection (SD55740 \$SCS_MEAS_FUNCTION_MASK Bit0/Bit16=1) or
- without collision detection (SD55740 \$SCS_MEAS_FUNCTION_MASK Bit0/Bit16=0) .

Depending on this setting different speeds are used for the approach:

- with collision detection (SD55740 \$SCS_MEAS_FUNCTION_MASK Bit0/Bit16=1) :

With SD55636 \$SCS_MEAS_FEED_FEEDAX_VALUE the traversing feed is performed in the infeed axis (applicate).

If the probe switches when these intermediate positions are approached, the movement is stopped and the alarm "Probe collision" is output.

- without collision detection (SD55740 \$SCS_MEAS_FUNCTION_MASK Bit0/Bit16=0) :

The intermediate positions are approached with the maximum axis velocity (rapid traverse) in per cent as specified in SD55632

\$SCS_MEAS_FEED_RAPID_IN_PERCENT.

With SD55632 \$SCS_MEAS_FEED_RAPID_IN_PERCENT=0 and SD55632

\$SCS_MEAS_FEED_RAPID_IN_PERCENT=100 the maximum axis velocity is effective.

55638	MEA_FEED_FAST_MEASURE	-	-
mm/min	Rapid measuring feed	DOUBLE	Immediately
-			
-	-	900	0

Description: Rapid measuring feed

Note:

If necessary, adjust the value of the velocity to the probe type used and to the machine characteristics!

This means that the maximum deflection of the actual probe type must be considered!!

The use of "Rapid measuring feed" depends of SD55740 \$SCS_MEA_FUNCTION_MASK Bit4!

55640	MEA_FEED_CIRCLE	-	-
mm/min	Circular feed for measuring circle segment	DOUBLE	Immediately
-			
-	-	1000	0

Description: MEA_FEED_CIRCLE

Circular feed for measuring circle segment

55642	MEA_EDGE_SAVE_ANG	-	-
degrees	Additional safe angle for measuring corner	DOUBLE	Immediately
-			
-	-	0	0

Description: Set \$SCS_MEA_EDGE_SAVE_ANG=10 for compatibility programs.

The set angle is added to the measured angle as a safety angle.

55740	MEA_FUNCTION_MASK	-	-
-	Function mask for measuring cycles	DWORD	Immediately
-			
-	-	81921	-

Description: Function mask for measuring cycles

Bit 0: Collision monitoring by workpiece probe with intermediate positioning
0: No collision monitoring

1: In the case of positionings which are calculated from the measuring cycles and executed between the measuring points, the motion is canceled as soon as the probe returns a switching signal. A corresponding alarm message is displayed.

Bit 1: Coupling of the spindle orientation to the coordinate rotation in the active plane, for workpiece measurement with a multi probe in automatic mode
0: The spindle orientation is not coupled to the coordinate rotation in the plane.

1: If multi probes are used, the spindle is oriented as a function of the active coordinate rotation in the plane (rotations around the infeed axis (appliance)).

The axis-parallel orientation of the probe ball contact points (calibrated trigger points) with reference to the geometry axes is thus retained.

The direction of rotation of the spindle is determined by SD55740 \$SCS_MEA_FUNCTION_MASK Bit2.

Note:

Coordinate rotation in the active plane means:

- Rotation around the Z axis with G17
- Rotation around the Y axis with G18
- Rotation around the X axis with G19

NOTICE!

The coupling is canceled by the measuring cycle if

- The rotations around the 1st or 2nd measuring axis (abscissa or ordinate with G17) between the calibration and the actual measuring situation are not identical !!!
- The workspindle is not position-controlled (SPOS is not possible)
- A mono probe is used (_PRNUM=x1xx) !
- There is no alarm or message when the measuring cycle cancels the coupling!

Bit 2: Direction of rotation of the spindle positioning for workpiece measurement in relation to active coupling of the spindle orientation to the coordinate rotation in the active plane

0: The spindle is positioned according to default.

- Angle of the coordinate rotation in the plane 0°: spindle positioning 0°
- Angle of the coordinate rotation in the plane 90°: spindle positioning 270°
- 1: The spindle is positioned in the opposite direction (matched angle values).

- Angle of the coordinate rotation in the plane 0°: spindle positioning 0°

- Angle of the coordinate rotation in the plane 90°: spindle positioning 90°

Bit 3: Number of repetitions of workpiece measurement if the probe does not switch

0: A maximum of 5 attempts to measure are made, then the measuring cycle alarm "Probe not switching" is output.

1: The measuring cycle alarm "Probe not switching" is generated after the first unsuccessful attempt to measure.

Bit 4: Measuring feed for workpiece measurement

0: The feed generated in the cycle or the feed programmed in the parameter _VMS is used for the measuring traverse.

1: The probe is initially traversed with "Fast measuring feed" SD55638 \$SCS_MEA_FEED_FAST_MEASURE, when it touches the measuring object, it then retracts 2 mm from the measuring point. Now the actual measuring traverse is made with the feed from _VMS.

The function "Fast measuring feed" is only realized if the value in parameter _FA >=1!

Bit 5: Retraction velocity from the measuring point during workpiece measurement

0: The retraction from the measuring point takes place with the same velocity as for intermediate positioning (SD55634 \$SCS_MEA_FEED_PLANE_VALUE).

1: The retraction velocity is the percentage of the rapid traverse velocity specified in SD55632 \$SCS_MEA_FEED_RAPID_IN_PERCENT, and is only effective with active collision monitoring (SD55740 \$SCS_MEA_FUNCTION_MASK Bit0).

Bit 6: Workpiece measuring, probe activation/deactivation for positioning of spindles

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0: No deactivation of the workpiece probe before positioning of spindles
1: Deactivation of the workpiece probe before positioning of spindles

Bit 7: Measure kinematics, normalization basis of orientation vectors
0: Normalization based on calculated orientation vectors (V1xyz, V2xyz)
1: Normalization based on input values (TCARR) of orientation vectors (V1xyz, V2xyz)

Bit 8: Measure kinematics, measuring with TRAORI or TCARR (CYCLE800) active
0: Measuring without TRAORI or TCARR (CYCLE800) active
1: Measuring with TRAORI or TCARR (CYCLE800) active

Bit14: Coupling of the spindle orientation to the coordinate rotation around the infeed axis for workpiece measurement with a multi probe in measuring in JOG mode
0: The current spindle orientation at NC START of the measuring task while measuring in JOG is used as the starting position for the following sequence!
1: When multi probes are used, the spindle is oriented as a function of the active coordinate rotation around the infeed axis (applicate).
The axis-parallel orientation of the probe ball contact points (calibrated trigger points) with reference to the geometry axes is thus retained.
The direction of rotation of the spindle is determined by SD55740 \$SCS_MEAS_FUNCTION_MASK Bit2.

Note:
Coordinate rotation in the active plane means:
- Rotation around the Z axis with G17

- Rotation around the Y axis with G18

- Rotation around the X axis with G19

NOTICE!
The coupling is canceled by the measuring cycle if
- The rotations around the 1st or 2nd measuring axis (abscissa or ordinate with G17) between the calibration and the actual measuring situation are not identical !!!
- The workspindle is not position-controlled (SPOS is not possible)
- A mono probe is used!
- There is no alarm or message when the measuring cycle cancels the coupling!

Bit15: Workpiece measurement calibration in a hole with a known or unknown center in measuring in JOG
0: Calibration in a hole with an unknown center
1: Calibration in a hole with a known center

Bit16: Collision monitoring with tool measurement
0: No collision monitoring
1: In the case of positionings which are calculated from the measuring cycles and executed between the measuring points, the motion is canceled as soon as the probe returns a switching signal. A corresponding alarm message is displayed.

Bit 17: Number of repetitions of tool measurement if the probe does not switch
0: A maximum of 5 attempts to measure are made, then the measuring cycle alarm "Probe not switching" is output.

1: The measuring cycle alarm "Probe not switching" is generated after the first unsuccessful attempt to measure.

Bit 18: Measuring feed for tool measurement

0: The feed generated in the cycle or the feed programmed in the parameter _VMS is used for the measuring traverse.

1: The probe is initially traversed with "Fast measuring feed" SD55638 \$SCS_MEASUREMENT_FAST_MEASURE, when it touches the measuring object, it then retracts 2 mm from the measuring point. Now the actual measuring traverse is made with the feed from _VMS.

The function "Fast measuring feed" is only realized if the value in parameter _FA >=1!

Bit19: Retraction velocity from the measuring point during tool measurement

0: The retraction from the measuring point takes place at the same velocity as for intermediate positioning (SD55634 \$SCS_MEASUREMENT_PLANE_VALUE).

1: The retraction velocity is the percentage of the rapid traverse velocity specified in SD55632 \$SCS_MEASUREMENT_RAPID_IN_PERCENT, and is only effective with active collision monitoring (SD55740 \$SCS_MEASUREMENT_FUNCTION_MASK Bit16).

55800	ISO_M_DRILLING_AXIS_IS_Z	-	-				
-	Drilling axis depends on the plane / always Z	BYTE	Immediately				
-							
-	- 0 0 1 7/6 M						

Description: Selection of the drilling axis

0: drilling axis is vertical to the active plane

1: drilling axis is always "Z", independently of the active plane

55802	ISO_M_DRILLING_TYPE	-	-				
-	Tapping type	BYTE	Immediately				
-							
-	- 0 0 3 7/6 M						

Description: Tapping type

0: tapping without compensating chuck

1: tapping with compensating chuck

2: deep hole tapping with chip breakage

3: deep hole tapping with stock removal

55804	ISO_M_RETRACTION_FACTOR	-	-				
%	Factor for retraction speed (0...200%)	DWORD	Immediately				
-							
-	- 100 0 200 7/6 M						

Description: Factor for retraction speed (0...200%)

55806	ISO_M_RETRACTION_DIR	-	-				
-	Retraction direction at G76/87	BYTE	Immediately				
-							
-	- 0 0 4 7/6 M						

Description: Retraction direction for precision drilling and reverse countersinking G76/G87

0: G17(-X) G18(-Z) G19(-Y)

1: G17(+X) G18(+Z) G19(+Y)

1.6 Compile cycles

2: G17 (-X) G18 (-Z) G19 (-Y)
 3: G17 (+Y) G18 (+X) G19 (+Z)
 4: G17 (-Y) G18 (-X) G19 (-Z)

55808	ISO_T_RETRACTION_FACTOR	-	-			
%	Factor for retraction speed	DWORD	Immediately			
-						
-	-	100	0	200	7/6	M

Description: Factor (1-200%) for retraction speed at tapping G84/G88

55810	ISO_T_DWELL_TIME_UNIT	-	-			
-	Dwell time evaluation	BYTE	Immediately			
-						
-	-	0	0	1	7/6	M

Description: Dwell time evaluation for deep hole drilling G83/G87

0: seconds
 1: revolutions

1.6 Compile cycles

Number	Identifier			Display filters	Reference	
Unit	Name			Data type	Active	
Attributes						
System	Dimension	Default value (LIN/ROT)	Minimum value (LIN/ROT)	Maximum value (LIN/ROT)	Protection	Class

Description: Description

61516	CC_PROTECT_PAIRS	-	-			
-	Axis collision protection configuration	DWORD	Reset			
-						
-	8	0	0	0	7/2	M

Description: This MD defines the axis pairs that must be protected against mutual collision. The machine axis number of the first axis is entered in the decades of 1s and 10s. The number of the second machine axis must be entered in the decades of 100s and 1000s.

Example:

\$MN_CC_PROTECT_PAIRS[0] = 1201 ; axis_1 = 1 axis_2 = 12

When zero is entered, collision protection is deactivated.

61517	CC_PROTECT_SAFE_DIR	-	-			
-	Axis collision protection. Definition of the retraction direction.	DWORD	Reset			
-						
-	8	0	0	0	7/2	M

Description: In this MD the direction of retraction for both axes of a collision-protected axis pair is entered. Entry in the decade of 1s and 10s defines the direction of retraction of the first axis. Entry in the decade of 100s and 1000s defines that of the second axis. A value > 0 means retraction in the plus direction. 0 means retraction in the minus direction.
The value can only be changed only if collision protection for the axis pair is inactive!

61518	CC_PROTECT_OFFSET	-	-			
mm, degrees	Axis collision protection. Position offset	DOUBLE	Reset			
-						
-	8	0.0	0.0	0.0	7/2	M

Description: Position offset for the collision detection of the two axes defined in MD_60972.
The following applies to calculation of distance d between axes AX1 and AX2:

$$d = \text{abs}(\text{POS}[AX1] + \$MN_CC_PROTECT_OFFSET[n] - \text{POS}[AX2])$$
The axis collision protection function guarantees that the following condition is always fulfilled:

$$d > \$MN_CC_PROTECT_WINDOW + \$MN_CC_PROTECT_WINDOW_INCR[n]$$
This considers the current axis velocities and the acceleration/braking capacities of the axes in order to be able to brake the axes in time if required.
The value can be changed only if collision protection for the axis pair is inactive!

61519	CC_PROTECT_WINDOW	-	-			
mm, degrees	Axis collision protection. Minimum distance	DOUBLE	Reset			
-						
-	8	10.0	0.0	10000.0	7/2	M

Description: Minimum distance that must be kept by the axes.
The value can be changed even if the protection is active. In this case, however, the axes must have a safe distance between them.

61532	CC_PROTECT_DIR_IS_REVERSE	-	-			
-	Axis collision protection. Detection of the reversed direction.	DWORD	Reset			
-						
-	8	0	-	-	7/2	M

Description: This machine data is used to detect the reversed direction of the axes of a collision-protected pair of axes.

1.6 Compile cycles

61533	CC_PROTECT_WINDOW_EXTENSION	-	-
mm, degrees	Axis collision protection. Increase in the minimum distance	DOUBLE	NEW CONF
-			
-	8	10.0	0.0
		10000.0	7/2
			M

Description: Increasing the distance that must be kept from the axes.
The value can be changed even if the protection is active in the part program.

61534	CC_PROTECT_A_DBDB_INDEX	-	-
-	Axis collision protection. Defining the \$A_DBDB index	DWORD	Reset
-			
-	-1	-	-
			7/2
			M

Description: The global axis screen form of axes, where braking operations are initiated due to the violation of the protection window, is mapped to variable \$A_DBDB. The index is defined using this machine data. For index -1, an axis screen form is not output.

62500	CLC_AXNO	-	-
-	Axis assignment for clearance control	DWORD	PowerOn
-			
-	-	0	-2
			CC_MAXNUM_AXES_PER_CHANNEL
			7/2
			M

Description: n=0: Deactivates the clearance control
n > 0:
Activates the 1D clearance control for the channel axis with the axis number indicated under n. This axis must not be a modulo rotary axis.
n < 0: Activates the 3D clearance control.
Activation of the 3D clearance control requires configuration of at least one of the two possible 5-axis transformations in the channel.
-1: with n = -1 the first 5-axis transformation (16 <=transformer type <=149) configured with \$MC_TRAFO_TYPE_n in the 1st channel is selected for clearance control.
-2: with n = -2 the second 5-axis transformation configured in the 1st channel is selected.
The overlaid motion acts on the axes configured as linear axes in the first three elements of \$MC_TRAFO_AXES_IN_n of the selected transformation.
Configuration of 3- and 4-axis transformations is permissible (2D clearance control).
Restriction:

- Only one of the linear axes involved in clearance control must be configured as master axis of a gantry grouping.
- No axis of the clearance control must be configured as slave axis of a gantry grouping.
- Erroneous configurations are rejected after power ON with CLC alarm 75000.

62502	CLC_ANALOG_INPUT	-	-			
-	Analog input for clearance control	DWORD	-			
-						
-	-	1	1	8	7/2	M

Description: The machine data defines the number of the analog input that is used for the clearance sensor.

Differing from the functions realized in the interpolator (synchronized actions) the input of the clearance control cannot be influenced via PLC interface DB10 DBW148ff.

62504	CLC_SENSOR_TOUCHED_INPUT	-	-			
-	Input bit assignment for "Sensor collision" signal	DWORD	PowerOn			
-						
-	-	0	-40	40	7/2	M

Description: This machine data defines the digital input that is used for collision detection.

Requirements:

- The clearance sensor has a "sensor collision" signal.
- The numbering of the digital inputs corresponds to the numbering of the corresponding system variables: \$A_IN[n], with n = number of the digital input.
- Example: 3rd input on the 2nd input byte: \$MC_CLC_SENSOR_TOUCHED_INPUT = 11 ; 3 + 1 * 8

Negative values result in the corresponding input signal being used internally inverted (fail-safe).

See section 2.4, /TE1/ for sensor collision detection.

62505	CLC_SENSOR_LOWER_LIMIT	-	-			
mm, degrees	Lower motion limit of the clearance control	DOUBLE	Reset			
-						
-	2	-5.0, -10.0	-1.0e40	0.0	7/2	M

Description: This machine data consists of 2 field elements:

- CLC_SENSOR_LOWER_LIMIT[0]

With the first field element the lower limit for the deviation from the sensor-controlled machine position from the programmed position is entered.

As soon as the limit is reached, PLC signal DB21.DBX37.4 is set and CLC alarm 75020 is displayed:

- CLC_SENSOR_LOWER_LIMIT[1]

The second field element limits the value of the maximum lower motion limit that can be programmed.

1.6 Compile cycles

62506	CLC_SENSOR_UPPER_LIMIT	-	-
mm, degrees	Upper motion limit of the clearance control	DOUBLE	Reset
-			
-	2	+10.0, +40.0	0.0 +1.0e40 7/2 M

Description: This machine data consists of 2 field elements:

- CLC_SENSOR_UPPER_LIMIT[0]

With the first field element the upper limit for the deviation from the sensor-controlled machine position from the programmed position is set.

As soon as the limit is reached, PLC signal DB21.DBB37.5 is set and CLC alarm 75021 is displayed.

- CLC_SENSOR_UPPER_LIMIT[1]

The second field element limits the value of the maximum upper motion limit that can be programmed.

62508	CLC_SPECIAL_FEATURE_MASK	-	-
-	Special functions and CLC modes	DWORD	PowerOn
-			
-	-	0x3	- - 7/2 M

Description: Bit 0 and bit 1:

Alarm reaction on reaching the CLC motion limits: This machine data configures the alarm reaction on reaching the motion limits set with MD 62505 and MD 62506 or programmed with CLC_LIM .

Bit 0 = 0: Alarm 75020 does not stop program execution. The alarm can be acknowledged by pressing the Cancel key.

Bit 0 = 1: Alarm 75020 stops program execution at the lower limit. The alarm can only be acknowledged with reset.

Bit 1 = 0: Alarm 75021 does not stop program execution. The alarm can be acknowledged by pressing the Cancel key.

Bit 1 = 1: Alarm 75021 stops program execution at the upper limit. The alarm can only be acknowledged with reset.

Bit 4:

Operation as online tool length compensation in orientation direction

Bit 4 = 0: Clearance control works as usual.

Bit 4 = 1: Unlike the clearance control mode the analog input does not specify a velocity, but directly an offset position instead. In this case, the ordinate of the selected sensor characteristic \$MC_CLC_SENSOR_VELO_TABLE_x is interpreted in mm or inch instead of in mm/min (inch/min).

This operating mode can be used for testing purposes and for implementing a 3D tool length compensation. The analog value is thereby not read in in position controller cycle, but in IPO cycle. In this operating mode, a normal influence or definition of the analog values by the PLC is possible via DB10 DBW148ff. The input used must have been activated through the following machine data: MD 10300 \$MN_FASTIO_ANA_NUM_INPUTS

Bit 5:

Mode for rapid retraction in position controller cycle

Bit 5 = 0: Clearance control works as usual.

Bit 5 = 1: The analog input is inactive. If the digital input configured with MD 62504 is activated (inverted, if required), a retraction motion will start in the same position controller cycle that corresponds to an analog signal specification of +10V during operation as "Online tool length compensation" (see bit 4).

The digital input signal that starts the retraction movement cannot be influenced by the PLC. In addition to the reaction in the position controller, the input "sensor collision" and the subsequent stop of the path motion is handled in the interpolator. This signal branch can be influenced by the PLC through default signals DB10 DBB0ff.

Bit 8:

Mode for alarm output when the lower motion limit is reached.

Bit 8 = 0: Alarm 75020 is displayed.

Bit 8 = 1: Alarm 75020 will not be displayed, if the alarm reaction after reaching of the CLC movement limits (bit 0) was configured without program execution stop: bit 0 = 0

Bit 9:

Mode for alarm display when the upper motion limit is reached.

Bit 9 = 0: Alarm 75021 is displayed.

Bit 9 = 1: Alarm 75021 will not be displayed, if the alarm reaction on reaching the CLC motion limits (bit 0) was configured without program execution stop: bit 1 = 0

Bit 14:

Synchronization of the start position with single-axis clearance control.

Bit 14 = 0: If the clearance control has been configured for one axis only (MD62500), the current actual position of the next part program block on clearance control power OFF with CLC(0) is synchronized for this axis only.

Bit 14 = 1: If the clearance control has been configured for one axis only (MD62500), the current actual positions of the next part program block on clearance control power OFF with CLC(0) are synchronized for all axes.

This setting is required only for those applications for which a single-axis clearance control is used together with a 3/4/5-axis transformation (e.g. pipe cutting with rotating workpiece) and when an axis jump in the CLC axis or alarm: "Channel %1 Axis %2 System error 550010" occur at the first traversing block after CLC (0).

62510	CLC_SENSOR_VOLTAGE_TABLE_1	-	-			
V	Coordinate voltage sensor characteristic 1	DOUBLE	Reset			
-						
-	2	-10.0, 10.0, 0.0, 0.0, 0.0	-10.0	10.0	7/2	M

Description: This machine data defines the voltage values of sensor characteristic 1. The corresponding velocity value must be entered under the same index i of this machine data:

MD62511 \$MC_CLC_SENSOR_VELO_TABLE_1[i]

For the simplest case it will suffice to define the characteristic via two interpolation points as a symmetrical straight through the zero point:

Example:

- \$MC_CLC_SENSOR_VOLTAGE_TABLE_1[0] = -10.0 ; Volt
- \$MC_CLC_SENSOR_VOLTAGE_TABLE_1[1] = 10.0; Volt
- \$MC_CLC_SENSOR_VELO_TABLE_1[0] = 500.0; mm/min
- \$MC_CLC_SENSOR_VELO_TABLE_1[1] = -500.0; mm/min

For all field elements of the machine data not used in the example value 0.0 must be set.

1.6 Compile cycles

If the defined sensor characteristic creates an incorrect control direction, i.e. after power ON of the clearance control the sensor "flees" from the workpiece, the control direction can be corrected either by reversing the polarity of the sensor signal at the I/O module, or by changing the sign in front of the voltage values in the machine data.

Notes on how to define the sensor characteristic:

- A point with velocity value 0 must not stand at the end of the table.
- The characteristic must be monotonic, i.e. the velocity values above the voltage must either only rise or only fall.
- The characteristic must not have any jumps in the velocity sequence, i.e. it is not permissible to define different velocities for the same voltage value.
- The characteristic must have at least two interpolation points.
- Do not enter more than 5 interpolation points (3 for 840D prior to SW 5.3) with positive or with negative velocity.
- Characteristics that do not go directly through the zero point may influence the clearance normalization set on the clearance sensor.

62511	CLC_SENSOR_VELO_TABLE_1	-	-			
mm/min	Coordinate velocity sensor characteristic 1	DOUBLE	Reset			
-						
-	2	2000.0/60.0, -2000.0/ 60.0, 0.0...	-	-	7/2	M

Description: This machine data defines the velocity values of sensor characteristic 1. The corresponding voltage value must be entered under the same index i of the machine data:

MD62510 \$MC_CLC_SENSOR_VOLTAGE_TABLE_1[i]

Additional information on how to define the characteristic is available in the description of machine data MD62510.

62512	CLC_SENSOR_VOLTAGE_TABLE_2	-	-			
V	Coordinate voltage sensor characteristic 2	DOUBLE	Reset			
-						
-	2	-10.0, 10.0, 0.0, 0.0, 0.0	-10.0	10.0	7/2	M

Description: This machine data defines the voltage values of sensor characteristic 2.

Additional information on how to define the characteristic is available in the description of machine data MD62510.

62513	CLC_SENSOR_VELO_TABLE_2	-	-			
mm/min	Coordinate velocity sensor characteristic 2	DOUBLE	Reset			
-						
-	2	2000.0/60.0, -2000.0/ 60.0, 0.0...	-	-	7/2	M

Description: This machine data defines the voltage values of sensor characteristic 2.

Additional information on how to define the characteristic is available in the description of machine data MD62510.

62516	CLC_SENSOR_VELO_LIMIT	-	-			
%	Velocity of the clearance control motion	DOUBLE	Reset			
-						
-	-	100.0	-200.0	200.0	7/2	M

Description: 1D clearance control:

This machine data defines the maximum traversing velocity of the overlaid control motion as a percentage value of the max. residual axis velocity from the maximum value (MD32000 \$MA_MAX_AX_VELO[AX#]) of the next clearance-controlled axis.

2D/3D clearance control

With 2D or 3D clearance control the maximum velocity of the slowest clearance-controlled axis multiplied with the root of 2 or with the root of 3 is used as reference value.

62517	CLC_SENSOR_ACCEL_LIMIT	-	-			
%	Acceleration of the clearance control movement	DOUBLE	Reset			
-						
-	-	100.0	0.0	200.0	7/2	M

Description: 1D clearance control:

This machine data defines the maximum acceleration of the overlaid control motion as a percentage value of the max. residual axis velocity from the maximum value (MD32300 \$MA_MAX_AX_ACCEL[AX#]) of the next clearance-controlled axis.

2D/3D clearance control:

With 2D or 3D clearance control the maximum velocity of the slowest clearance-controlled axis multiplied with the root of 2 or with the root of 3 is used as reference value.

62520	CLC_SENSOR_STOP_POS_TOL	-	-			
mm, degrees	Pos. tolerance for status report "CLC standstill"	DOUBLE	Reset			
-						
-	-	0.05	0.0	1.0e40	7/2	M

Description: With the clearance control active and in order to achieve the exact stop condition (G601/G602), not only the axis involved in the programmed traversing motion, but also the clearance-controlled axes must have reached their exact stop conditions.

The exact stop condition of the clearance control is defined via a position window and a dwell time:

- MD62520 \$MC_CLC_SENSOR_STOP_POS_TOL
- MD62521 \$MC_CLC_SENSOR_STOP_DWELL_TIME

If the clearance control or the clearance-controlled axes are within the position tolerance during the parameterized dwell time, the exact stop condition of the clearance control is fulfilled.

Setting notes:

If the clearance control should not be able to keep the parameterized position window for the corresponding dwell time, the following alarm will be displayed in certain situations:

- Alarm "1011 Channel Channel number System error 140002"

1.6 Compile cycles

In order to avoid the alarm or in case the alarm occurred, the following measures must be taken:

1. Switch on the clearance control with the typical machining clearance between the clearance sensor and a small metal sheet.
2. Tap on the metal sheet so that the laser head performs visible adjustment motions. After these adjustment movements are completed, do not touch the metal sheet again.
3. If the interface signal DB3x.DBX60.7 (position reached with fine exact stop) "flickers" after the tapping or after release of the process gas, the following machine data will have to be adjusted:
 - MD36010 \$MA_STOP_LIMIT_FINE (increase)
 - MD62520 \$MC_CLC_SENSOR_STOP_POS_TOL (increase)
 - MD62521 \$MC_CLC_SENSOR_STOP_DWELL_TIME (shorten)

The changes to the machine data will become active only after NCK RESET. The clearance control therefore may have to be switched on again after NC start.

62521	CLC_SENSOR_STOP_DWELL_TIME	-	-			
s	Wait time for "CLC standstill"	DOUBLE	Reset			
-						
-	-	0.1	0.0	1.0e40	7/2	M

Description: This machine data defines the dwell time for reaching the exact stop conditions of the clearance control.

The corresponding position tolerance must be entered in machine data:

- MD62520 \$MC_CLC_SENSOR_STOP_POS_TOL

Additional information on the exact stop condition of the clearance control is available in the description of machine data MD62520.

Related to:

The set dwell time must not be longer than the maximum delay for reaching the exact stop condition parameterized in the following machine data:

- MD36020 \$MA_POSITIONING_TIME

62522	CLC_OFFSET_ASSIGN_ANAOUT	-	-			
-	Assignment of internal additional analog value to sensor signal	DWORD	PowerOn			
-						
-	-	0	-1020008, -8	1020008, 8	7/2	M

Description: This machine data defines the analog output, the output value of which is subtracted from the input voltage of the clearance sensor.

The numbering of the analog output corresponds to the numbering of the relevant system variables: \$A_OUTA[n], with n = number of the analog output.

The analog output can be used through variable \$A_OUTA[n] both block-synchronous from a part program or asynchronous via a synchronized action.

62523	CLC_LOCK_DIR_ASSIGN_DIGOUT	-	-			
-	Assignment digital output interlocking CLC	DWORD	PowerOn			
-						
-	2	0,0	-40	40	7/2	M

Description: This machine data consists of 2 field elements:

- CLC_LOCK_DIR_ASSIGN_DIGOUT[0]

The first field element defines the digital output through which the negative motion direction of the clearance control can be locked.

- CLC_LOCK_DIR_ASSIGN_DIGOUT[1]

The second field element defines the digital output through which the positive motion direction of the clearance control can be locked.

Entering the negative output number will invert the evaluation of the switching signal.

Example:

Digital output 1 (\$A_OUT[1]) shall lock the negative motion direction; digital output 2 (\$A_OUT[2]) shall lock the positive motion direction:

- MD 62523 \$MC_CLC_LOCK_DIR_ASSIGN_DIGOUT[0] = 1
- MD 62523 \$MC_CLC_LOCK_DIR_ASSIGN_DIGOUT[1] = 2

With the corresponding system variables interlocking of the relevant motion direction can be switched on or off either block-synchronous in the part program or asynchronous via synchronized actions.

- Interlock of the negative motion direction ON/OFF: \$A_OUT[1] = 1 / 0
- Interlock of the positive motion direction ON/OFF: \$A_OUT[2] = 1 / 0

With switching signal inversion (MD 62523 \$MA_CLC_LOCK_DIR_ASSIGN_DIGOUT[0] = -1):

Interlock of the negative motion direction ON/OFF: \$A_OUT[1] = 0 / 1

62524	CLC_ACTIVE_AFTER_RESET	-	-			
-	Clearance control active after RESET	BOOLEAN	PowerOn			
-						
-	-	FALSE	-	-	7/2	M

Description: 1D clearance control:

This machine data parameterizes the RESET behavior (program end RESET or NC RESET) of the 1D clearance control.

- CLC_ACTIVE_AFTER_RESET = 0: after RESET the clearance control is switched off analog to the part program command CLC(0).
- CLC_ACTIVE_AFTER_RESET = 1: after RESET the clearance control maintains its current activation status.

3D clearance control:

This machine data does not effective with a 3D clearance control. The clearance control will in this case always be switched off after RESET.

1.6 Compile cycles

62525	CLC_SENSOR_FILTER_TIME	-	-
s	Time constant of PT1 sensor filtering	DOUBLE	Immediately
-			
-	-	0.0	0.0

Description: This machine data parameterizes the time constant for the PT1 filter of the clearance control (corresponds to an RC element). With the PT1 filter, the higher-frequency noise components in the input signal of the clearance control can be diminished. The filter's effect can be observed through the function-specific display data (see section 2.7, /TE1/). A value of zero switches the filter off completely.

Note:
Any additional time constant in the control loop reduces the max. achievable control loop dynamics.

62528	CLC_PROG_ORI_AX_MASK	-	-
-	Axis screen for CLC with free direction specification	DWORD	PowerOn
-			
-	-	0x0	-

Description: Each bit of the axis screen refers to the channel axis[n+1] depending on its bit index n. Only exactly 3 bits may be set according to the three direction axes of the compensation vector. The bits are evaluated in ascending order. The first channel axis parameterized like that corresponds to the X coordinate of the compensation vector. The second channel axis to the Y coordinate, and so on.

62529	CLC_PROG_ORI_MAX_ANGLE	-	-
degrees	Limit angle for CLC with free direction specification	DOUBLE	Reset
-			
-	-	45.0	0.0

Description: Permissible limit angle between tool orientation and CLC direction defined freely through additional axes.

62530	CLC_PROG_ORI_ANGLE_AC_PARAM	-	-
-	Index of the display variables f. the current differential angle	DWORD	Reset
-			
-	-	-1	-1

Description: Index n of system variable \$AC_PARAM[n] in which the current differential angle between tool orientation and CLC direction is output.

62560	FASTON_NUM_DIG_OUTPUT	-	-
-	Configuration of the switching output	BYTE	PowerOn
-			
-	-	0	0

Description: This machine data assigns the number of the digital onboard output (1...4) to the NCU, on which the fast switching signal is output.
Output of the switching signal is deactivated with 0.

62561	FASTON_OUT_DELAY_MICRO_SEC	-	-			
-	still missing	DWORD	NEW CONF			
-						
-	2	0,0	-5000	5000	7/2	M

Description: This MD enables separate specification of time delay values for the switch-on and switch-off edge of the fast switching signal.
\$MC_FASTON_OUT_DELAY_MICRO_SEC[0] Time delay of the switch-on edge
\$MC_FASTON_OUT_DELAY_MICRO_SEC[1] Time delay of the switch-off edge
Negative values create a derivative action time for signal output. Positive values cause the output to be delayed. Derivative action time or delay are used to compensate external switching delays. The values must be determined empirically and should not exceed a few 100 microseconds. Values that are larger than approx. a half position control cycle clock will possibly not have a correct effect.

62571	RESU_RING_BUFFER_SIZE	-	-			
-	RESU ring buffer size (block buffer)	DWORD	PowerOn			
-						
-	-	1000	10	1000000	7/2	M

Description: The block buffer includes the geometrical information for the part program. The value entered in the machine data corresponds to the number of loggable part program blocks (with 32 byte / part program block). The block buffer size corresponds to the number of retrace-capable blocks.

62572	RESU_SHARE_OF_CC_HEAP_MEM	-	-			
%	RESU share of the parameterized heap memory	DOUBLE	PowerOn			
-						
-	-	100.0	1.0	100.0	7/2	M

Description: The total heap memory size available for all compile cycles is parameterized by channel-specific machine data MD 28105 \$MC_MM_NUM_CC_HEAP_MEM
The RESU machine data can limit the maximum heap memory share that RESU is to use.

62573	RESU_INFO_SA_VAR_INDEX	-	-			
-	RESU indices of the synchronized action variables used	DWORD	PowerOn			
-						
-	2	-1	-1	10000	7/2	M

Description: Reserved. This machine data must not be used.

1.6 Compile cycles

62574	RESU_SPECIAL_FEATURE_MASK	-	-
-	RESU parameterizable behavior	DWORD	PowerOn
-			
-	-	0x0	0x0

Description: With bit settings parameterizable behavior of the RESU function:
 Bit 0:reserved. Do not use!
 Bit 1:
 Bit 1 = 0:(default) RESU main program CC_RESU.MPF is created in the dynamic memory area
 of the NC (DRAM) (recommended setting)
 Bit 1 = 1:RESU main program CC_RESU.MPF is created in the buffered part program memory
 of the NC(SRAM).
 Bit 2:
 Bit 2 = 0:(default)
 The following RESU-specific subroutines are created as user cycles:
 - CC_RESU_INI.SPF
 - CC_RESU_END.SPF
 - CC_RESU_BS_ASUP.SPF
 - CC_RESU_ASUP.SPF
 Bit 2 = 1:(recommended setting)
 The RESU-specific subroutines (see above) are created as OEM cycles.
 Bit 3:
 Bit 3 = 0: (default)
 No effect (see under bit 3 = 1).
 Bit 3 = 1: (recommended setting, if bit 2 = 1)
 If the RESU-specific subroutines (see above) are created as OEM cycles
 and if during NC start RESU-specific subroutines are nevertheless available
 as user
 cycles, these will be canceled without prior checkback.

62575	RESU_SPECIAL_FEATURE_MASK_2	-	-
-	RESU additional parameterizable behavior	DWORD	Reset
-			
-	-	0x0	0x0

Description: With bit settings parameterizable behavior of the RESU function:
 Bit 0:
 Bit 0 = 0: (default)
 For continued machining at the contour, a block search with contour calculation beginning at
 the part program start is used (recommended setting).
 Bit 0 = 1:In order to accelerate that machining is continued, 2 different block search types are used:
 - From part program start to the last main block: block search without calculation
 - From the last main block to the current part program block: block search with contour
 calculation

62580	RESU_WORKING_PLANE	-	-			
-	RESU determination of the working plane	DWORD	NEW CONF			
-						
-	-	1	1	3	7/2	M

Description: These machine data determine the working plane for the 2-dim. function RESU. The following settings are possible:
 1 : for working plane G17 (first and second geometry axis)
 2 : for working plane G18 (first and third geometry axis)
 3 : for working plane G19 (second and third geometry axis)

62600	TRAFO6_KINCLASS	-	-			
-	Kinematics class	DWORD	NEW CONF			
-						
-	-	1	1	2	7/2	M

Description: The following kinematics classes can be indicated:

- Standard transformation: 1
- Special transformation: 2

62601	TRAFO6_AXES_TYPE	-	-			
-	Axis type for transformation [axis no.]: 0...5	DWORD	NEW CONF			
-						
-	6	1, 1, 1, 3, 3, 3	1	4	7/2	M

Description: This machine data identifies the axis type used in the transformation. The following axis types can be indicated:

- Linear axis: 1
- Delta/acme spindle drive: 2
- Rotary axis: 3 (4)

62602	TRAFO6_SPECIAL_KIN	-	-			
-	Special kinematics type	DWORD	NEW CONF			
-						
-	-	1	-	-	7/2	M

Description: This machine data identifies the type of special kinematics. The following special kinematics are available:

- No special kinematics:1
- 5-axis articulated arm with coupling of axis 2 to axis 3: 2
- 2-axis SCARA with forced coupling to tool: 3
- 3-axis SCARA with degrees of freedom X, Y, A: 4
- 2-articulated arm with coupling of axis 1 to axis 2: 5
- 2-axis articulated arm without coupling of axis 1 to axis 2: 8
- 4-axis SCARA with coupling of axis 1 to axis 2: 7

1.6 Compile cycles

62603	TRAFO6_MAIN_AXES	-	-
-	Basic axis identification	DWORD	NEW CONF
-			
-	-	1	1

Description: This machine data identifies the type of basic axis assignment. Normally, the first 3 axes are the basic axes.

The following basic axis assignments are included:

- SS (gantry) : 1
- CC (SCARA) : 2
- NR (articulated arm) : 3
- SC (SCARA) : 4
- RR (articulated arm) : 5
- CS (SCARA) : 6
- NN (articulated arm) : 7

62604	TRAFO6_WRIST_AXES	-	-
-	Identification of the hand axes	DWORD	NEW CONF
-			
-	-	1	1

Description: This machine data identifies the robot hand type. Normally, axes 4 to 6 are the robot hand.

The following hand types are included:

- No hand: 1
- Central hand: 2
- Beveled hand: 3
- Hand with elbow: 5
- Beveled hand with elbow: 6

62605	TRAFO6_NUM_AXES	-	-
-	Number of transformed axes	DWORD	NEW CONF
-			
-	-	3	2

Description: This machine data identifies the number of axes involved in the transformation.

Package 2.3 (810D) or 4.3 (840D) support kinematics with a max. of 5 axes.

62606	TRAFO6_A4PAR	-	-
-	Axis 4 parallel / antiparallel to the last basic axis	DWORD	NEW CONF
-			
-	-	0	0

Description: This machine data identifies whether the 4th axis is parallel / antiparallel to the last rotary basic axis.

This machine data only applies for kinematics with more than 3 axes.

- Axis 4 is parallel / antiparallel: 1
- Axis 4 is not parallel: 0

62607	TRAFO6_MAIN_LENGTH_AB	-	-			
mm	Basic axis length A and B, n = 0...1	DOUBLE	NEW CONF			
-						
-	2	0.0, 500.0	-	-	7/2	M

Description: This machine data identifies the basic axis lengths A and B. These lengths are particularly defined for each basic axis type.

- n = 0: basic axis length A
- n = 1: basic axis length B

62608	TRAFO6_TX3P3_POS	-	-			
mm	Attachment of the hand (position share), n = 0...2	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0	-	-	7/2	M

Description: This machine data identifies the position share of frame TX3P3 connecting the basic axes with the hand.

- Index 0: X component
- Index 1: Y component
- Index 2: Z component

62609	TRAFO6_TX3P3_RPY	-	-			
degrees	Attachment of the hand (rotation share), n = 0...2	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0	-	-	7/2	M

Description: This machine data identifies the orientation share of frame TX3P3 connecting the basic axes with the hand.

- Index 0: rotation with RPY angle A
- Index 1: rotation with RPY angle B
- Index 2: rotation with RPY angle C

62610	TRAFO6_TFLWP_POS	-	-			
mm	Frame between hand pt. and flange coordinate system, n = 0...2	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0	-	-	7/2	M

Description: This machine data identifies the position share of frame TFLWP that connects the hand point with the flange.

- Index 0: X component
- Index 1: Y component
- Index 2: Z component

62611	TRAFO6_TFLWP_RPY	-	-			
degrees	Frame between hand point and flange coordinate system, n = 0...2	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0	-	-	7/2	M

Description: This machine data identifies the orientation share of frame TFLWP that connects the hand point with the flange.

- Index 0: rotation with RPY angle A
- Index 1: rotation with RPY angle B
- Index 2: rotation with RPY angle C

1.6 Compile cycles

62612	TRAFO6_TIRORO_POS	-	-
mm	Frame between foot pt. and int. coordinate system, n = 0...2	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0	- -	7/2 M

Description: This machine data identifies the position share of frame TIRORO that connects the basic coordinate system with the internal transformation coordinate system.

- Index 0: X component
- Index 1: Y component
- Index 2: Z component

62613	TRAFO6_TIRORO_RPY	-	-
degrees	Frame between foot pt. and int. coordinate system, n = 0...2	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0	- -	7/2 M

Description: This machine data identifies the orientation share of frame TIRORO that connects the basic coordinate system with the internal transformation coordinate system.

- Index 0: rotation with RPY angle A
- Index 1: rotation with RPY angle B
- Index 2: rotation with RPY angle C

62614	TRAFO6_DHPAR4_5A	-	-
mm	Parameter A for configuration of the hand, n = 0...1	DOUBLE	NEW CONF
-			
-	2 0.0, 0.0	- -	7/2 M

Description: This machine data identifies length a.

- n = 0: transition axis 4 to 5
- n = 1: transition axis 5 to 6

62615	TRAFO6_DHPAR4_5D	-	-
mm	Parameter D for configuration of the hand, n = 0...1	DOUBLE	NEW CONF
-			
-	2 0.0, 0.0	- -	7/2 M

Description: This machine data identifies length d.

- n = 0: transition axis 4 to 5
- n = 1: transition axis 5 to 6

62616	TRAFO6_DHPAR4_5ALPHA	-	-
degrees	Parameter ALPHA for configuration of the hand, n = 0...1	DOUBLE	NEW CONF
-			
-	2 -90.0, 90.0	- -	7/2 M

Description: This machine data identifies angle alpha

- n = 0: transition axis 4 to 5
- n = 1: transition axis 5 to 6

62617	TRAFO6_MAMES	-	-			
-	Offset of math. to mech. zero point [axis no.]: 0...5	DOUBLE	NEW CONF			
-						
-	6	0.0, 0.0, 0.0, 0.0, 0.0, 0.0	-	-	7/2	M

Description: This machine data can specify an adjustment of the zero point for a rotary axis to the mathematical zero point specified by the transformation. Based on the mechanical zero point the offset is hereby related to the mathematically positive direction of axis rotation.

62618	TRAFO6_AXES_DIR	-	-			
-	Adjustm. of the phys. and math. dir. of rot. [axis no.]: 0...5	DWORD	NEW CONF			
-						
-	6	1, 1, 1, 1, 1, 1	-1	1	7/2	M

Description: This machine data can adjust the mathematical and physical direction of rotation of the axes.

- +1: same direction of rotation
- -1: different direction of rotation

62619	TRAFO6_DIS_WRP	-	-			
mm	Medium distance between hand point and singularity	DOUBLE	NEW CONF			
-						
-	-	10.0	0.00001	999999.9999	7/2	M

Description: Through this machine data a limit value for the distance between the hand point and the singularity can be entered.
Inactive!

62620	TRAFO6_AXIS_SEQ	-	-			
-	Axis reorganization	DWORD	NEW CONF			
-						
-	6	1, 2, 3, 4, 5, 6	1	6	7/2	M

Description: This machine data can reverse the order of the axes in order to internally transfer a kinematic system into a standard kinematic system.

62621	TRAFO6_SPIN_ON	-	-			
-	Triangular or acme-screw spindles available	DWORD	NEW CONF			
-						
-	-	0	0	1	7/2	M

Description: This machine data identifies whether triangular spindles or acme connections are available.

- 0: not available
- 1: available

This function is currently not supported.

MD62621 must be set to 0. Machine data MD62622 through MD62628 are thus inactive!

1.6 Compile cycles

62622	TRAFO6_SPIND_AXIS	-	-
-	Axis on which the triangular spindle has an effect, n = 0...2	DWORD	NEW CONF
-			
-	3 0, 0, 0 - - 7/2 M		

Description: This machine data identifies for which axis a triangular spindle is active. A maximum of 3 triangular spindles may be available.

- n = 0: 1st triangular axis
- n = 1: 2nd triangular axis
- n = 2: 3rd triangular axis

62623	TRAFO6_SPINDLE_RAD_G	-	-
mm	Length G for triangular spindle, n = 0...2	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0 - - 7/2 M		

Description: This machine data identifies length G for the n-th triangular spindle.

62624	TRAFO6_SPINDLE_RAD_H	-	-
mm	Length H for triangular spindle, n = 0...2	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0 - - 7/2 M		

Description: This machine data identifies length H for the n-th triangular spindle.

62625	TRAFO6_SPINDLE_SIGN	-	-
-	Sign for triangular spindle, n = 0...2	DWORD	NEW CONF
-			
-	3 1, 1, 1 -1 1 7/2 M		

Description: This machine data identifies the sign for the adjustment of the direction of rotation for the n-th triangular spindle.

62626	TRAFO6_SPINDLE_BETA	-	-
degrees	Angular offset for triangular spindles, n = 0...2	DOUBLE	NEW CONF
-			
-	3 0.0, 0.0, 0.0 - - 7/2 M		

Description: This machine data identifies offset angle b for adjustment of the zero point for the n-th triangular spindle.

62627	TRAFO6_TRP_SPIND_AXIS	-	-
-	Axes driven by acme spindle, n = 0...1	DWORD	NEW CONF
-			
-	2 0, 0 - - 7/2 M		

Description: This machine data identifies which axes are driven by an acme connection.

- n = 0: axis driven by an acme
- n = 1: coupling axis

62628	TRAFO6_TRP_SPIND_LEN	-	-
mm	Acme length, n = 0...3	DOUBLE	NEW CONF
-			

Description: This machine data specifies the lengths of the acme connection.

62629	TRAFO6_VELCP	-	-
mm/min	Cartesian velocity [no.]: 0...2	DOUBLE	Immediately
-			
-	3	600000.0, 600000.0, 600000.0	-

Description: This machine data can specify a velocity for the Cartesian directions of traversing blocks with G0.

- n = 0: velocity in X direction
- n = 1: velocity in Y direction
- n = 2: velocity in Z direction

62630	TRAFO6_ACCCP	-	-
m/s ²	Cartesian accelerations [no.]: 0...2	DOUBLE	Immediately
-			
-	3	0.5, 0.5, 0.5	0.001 100000 7/2 M

Description: This machine data can specify an acceleration for the Cartesian directions of traversing blocks with G0.

- n = 0: velocity in X direction
- n = 1: velocity in Y direction
- n = 2: velocity in Z direction

62631	TRAFO6_VELORI	-	-
rev/min	Orientation angle velocities [no.]: 0...2	DOUBLE	Immediately
-			
-	3	1.6666, 1.6666, 1.6666	- - 7/2 M

Description: This machine data can specify a velocity for the orientation angles of traversing blocks with G0.

- n = 0: velocity angle A
- n = 1: velocity angle B
- n = 2: velocity angle C

62632	TRAFO6_ACCORI	-	-
rev/s ²	Orientation angle accelerations [no.]: 0...2	DOUBLE	Immediately
-			
-	3	0.00277, 0.00277, 0.00277	0.001 100000 7/2 M

Description: This machine data can specify an acceleration for the orientation angles of traversing blocks with G0.

- n = 0: velocity angle A
- n = 1: velocity angle B
- n = 2: velocity angle C

1.6 Compile cycles

62634	TRAFO6_DYN_LIM_REDUCE	-	-			
-	Reduction factor for velocity controller	DOUBLE	NEW CONF			
-						
-	-	1.0	0.001	1.0	7/2	M

Description: This MD can be used to specify a reserve for the maximum velocity, so that an excessive increase in the velocity by the velocity controller will not cause the maximum velocity to be exceeded.

The value must be regarded as a factor that has an effect on the maximum velocity.

62635	TRAFO6_VEL_FILTER_TIME	-	-			
s	Time constant for velocity controller	DOUBLE	NEW CONF			
-						
-	-	0.024	0.0	100.0	7/2	M

Description: This MD can be used to set the time constant for the velocity controller in the interpolator. This can avoid controller vibration.

62636	TRAFO6_TFL_EXT_RPY	-	-			
degrees	Frame for rotating the flange coordinate system, n = 0...2	DOUBLE	NEW CONF			
-						
-	3	0.0, 0.0, 0.0	-	-	7/2	M

Description: For machines with 5 axes it was specified that the flange coordinate system must be aligned such that the tool is oriented in the X direction (robotics convention).

With the machine data TRAFO6_TFL_EXT_RPY, the flange coordinate system can be aligned such that for a machine with 5 axes a tool direction in accordance with the NC convention is achieved (tool orientation in the Z direction).

- Index 0: Rotation by the RPY angle A
- Index 1: Rotation by the RPY angle B
- Index 2: Rotation by the RPY angle C

62637	TRAFO6_TOOL_DIR	-	-			
-	Definition of tool direction	DWORD	NEW CONF			
-						
-	-	0	0	1	7/2	M

Description: This machine data identifies the tool direction for a machine with 5/6 axes

- 0: Tool orientation in the X direction (robotics convention)
- 1: Tool orientation in the Z direction (NC convention)

This machine data also affects how the rotation sequence of the virtual orientation axes is interpreted and calculated in the Handling Transformation.

- 0: Rotation sequence: 1st rotation around Z, 2nd rotation around Y', 3rd rotation around X" (does not apply for 5-axis machines)
- 1: Rotation sequence: 1st rotation around X, 2nd rotation around Y', 3rd rotation around Z" (does not apply for 5-axis machines)

63514	CC_PROTECT_ACCEL	-	-
m/s ² , rev/s ²	PROT braking acceleration in the case of collision	DOUBLE	Reset
-			
-	-	1000.0	1.0

Description: If the axis collision protection function PROT has detected a collision, the involved axes are braked using the acceleration set in this machine data.
 Recommended setting: a few per cent higher than 32300__\$MA_MAX_AX_ACCEL, provided that the dimensioning of the drive and the mechanical system allow it.
 Notice: the braking acceleration set here always has a BRISK effect independently of other parameterizations (e.g. parameter set, active dyn. G code)

63540	CC_MASTER_AXIS	-	-			
-	Indicates the corresponding CC_Master axis for a CC_Slave axis	DWORD	Reset			
-						
-	-	0	0	CC_MAXNUM_AXES_IN_SYSTEM	7/2	M

Description: By assigning a valid CC_Master axis in this machine data, the relevant axis is defined as the CC-Slave axis of an MCS coupling. The assignment is made by entering the machine axis number of the CC_Master axis.
 The machine axis number and the axis name must be taken from the channel-specific machine data:

- 20070 \$MC_AXCONF_MACHAX_USED
- 20080 \$MC_AXCONF_CHANAX_NAME_TAB

 Notice:
 CC_Master and CC_Slave must have the same axis type (linear or rotary axis).
 CC_Master and CC_Slave must not be a spindle.
 CC_Master and CC_Slave must not be replacement axes.
 If the axes are dynamically different, it is recommended to make the axis with the lower dynamics the CC_Master axis.
 The machine data may be changed only when the coupling has been switched off.

63541	CC_POSITION_TOL	-	-
mm, degrees	Monitoring window (only relevant to a CC_Slave axis)	DOUBLE	Reset
-			
-	-	0.0	-

Description: Monitoring window of the MCS coupling. Only the entry in the machine data of the CC_Slave axis is evaluated. The difference of the actual values between the CC_Master and CC_Slave must always range within this window. Otherwise an alarm will be output.
 The following condition is monitored:

$$\text{abs}(\text{ActualPos[CC_Master]} - (\text{ActualPos[CC_Slave]} + \text{CC_Offset})) \leq \text{MD63541}$$
 with:

$$\text{CC_Offset} = \text{position difference between CC_Master and CC_Slave when switching on the coupling.}$$
 Monitoring is switched off by entering value 0.0

1.6 Compile cycles

63542	CC_PROTECT_MASTER	-	-			
-	Indicates the corresponding PMaster axis for a PSlave axis	DWORD	Reset			
-						
-	-	0	0	CC_MAXNUM_AXES_IN_SYS TEM	7/2	M

Description: By assigning a valid Protect-Master axis in this machine data the relevant axis is defined as the Protect-Slave axis. Assignment is made by entering the machine axis number of the Protect-Master axis.

The machine axis and the axis name must be taken from the channel-specific machine data:

- MD20070 \$MC_AXCONF_MACHAX_USED[n-1]
- MD20080 \$MC_AXCONF_CHANAX_NAME_TAB

Notice:

Protect-Master and Protect-Slave axis must have the same axis type (linear or rotary axis).

63543	CC_PROTECT_OPTIONS	-	-			
-	Configuration of the collision protection function	DWORD	Reset			
-						
-	-	0	0	0xFF	7/2	M

Description: The collision protection function can be adapted to the special situation by setting the following:

Bit 0 - bit 3 for Protect-Master and Protect-Slave

Bit 0 = 1:

Retraction in PLUS

Bit 1 = 1:

Braking to avoid collision is made by increasing the max. braking acceleration by factor 1.2

Bit 2 = 1:

Monitoring can be activated even without a referenced axis

Bit 3 = 1

Reverse the direction of retraction, if the axis is the master axis

Bit 4 - bit 7 only relevant to Protect-Slave

Bit 4 = 1:

Monitoring always active (otherwise ON/OFF via PLC)

Bit 5

Reserve

Bit6

Reserve

Bit 7=1:

Display active protection in DB3x, DBX66.0

63544	CC_COLLISION_WIN	-	-			
mm, degrees	Collision protection window	DOUBLE	Reset			
-						
-	-	-1.0	-	-	7/2	M

Description: Minimum distance between the Protect-Slave axis and the Protect-Master axis. Only the value entered in the Slave axis is used. With a value smaller than 0, the monitoring function cannot be activated.

63545	CC_OFFSET_MASTER	-	-
mm, degrees	Work offset for collision protection	DOUBLE	PowerOn
-			
-	-	0.0	-

Description: Work offset for collision detection between Protect-Slave and Protect-Master axis.
The value entered for the Protect-Slave axis is used only.

SINAMICS parameters

Product: ALL_840, Version: 4502400, Language: eng
 Objects: A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTÖR, VECTOR_AC

r0002 Infeed operating display			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 250	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r0002 Infeed operating display			
B_INF, B_INF_840	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 250	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r0002 Control Unit operating display			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 117	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r0002 Encoder DO operating display			
ENC, ENC_840	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 250	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -

r0002	DRIVE-CLiQ Hub Module operating display		
HUB	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	Drive operating display		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TB30 operating display		
TB30	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM120 operating display		
TM120	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM15 operating display		
TM15	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM150 operating display		
TM150	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -

r0002	TM15DI/DO operating display		
TM15DI_DO	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM17 operating display		
TM17	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM31 operating display		
TM31	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM41 operating display		
TM41	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
r0002	TM54F operating display		
TM54F_MA, TM54F_SL	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 250	Factory setting -
p0003	BOP access level		
CU_I_840, CU_NX_840	Can be changed: C1, U, T	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 0
	Min 1	Max 4	Factory setting 1

p0003	BOP access level		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1, U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 4	Factory setting 1
p0004	BOP display filter		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C2(1), U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 0
p0005[0...1]	BOP operating display selection		
A_INF, B_INF, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, HUB, S_INF, SERVO, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting [0] 2 [1] 0
p0006	BOP operating display mode		
A_INF, B_INF, S_INF, SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting 4

p0006	BOP operating display mode		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 4	Max 4	Factory setting 4
p0007	BOP background lighting		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [s]	Max 2000 [s]	Factory setting 0 [s]
p0008	BOP drive object after booting		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 65535	Factory setting 1
p0009	Device commissioning parameter filter		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 10000	Factory setting 1
p0010	Infeed commissioning parameter filter		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 30	Factory setting 1

p0010	Encoder DO commissioning parameter filter			
ENC, ENC_840	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 30	Factory setting 0	
p0010	Drive commissioning parameter filter			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2800, 2846 Unit selection: - Expert list: 1	
	Min 0	Max 10000	Factory setting 1	
p0010	TB30 commissioning parameter filter			
TB30	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 30	Factory setting 0	
p0010	TM120 commissioning parameter filter			
TM120	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 30	Factory setting 0	
p0010	TM15 commissioning parameter filter			
TM15	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 30	Factory setting 0	
p0010	TM150 commissioning parameter filter			
TM150	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 30	Factory setting 0	

p0010	TM15DI/DO commissioning the parameterizing filter		
TM15DI_DO	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 30	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0010	TM17 commissioning parameter filter		
TM17	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 30	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0010	TM31 commissioning parameter filter		
TM31	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 30	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0010	TM41 commissioning parameter filter		
TM41	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 30	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0010	TM54F commissioning parameter filter		
TM54F_MA	Can be changed: C2(1), T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 95	Access level: 1 Func. diagram: 2847 Unit selection: - Expert list: 1 Factory setting 0
p0011	BOP password entry (p0013)		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Functions Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 65535	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0

p0012	BOP password acknowledgement (p0013)		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p0013[0...49]	BOP user-defined list		
A_INF, B_INF, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, HUB, S_INF, SERVO, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p0015	Macro drive object		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM150, TM15DI_DO, TM31, VECTOR, VECTOR_AC	Can be changed: C2(1) Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 999999	Factory setting 0
p0015	Macro drive unit		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1 Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 999999	Factory setting 0

p0016	Activate BOP user-defined list		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1, U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r0018	Control Unit firmware version		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4294967295	Factory setting -
r0019.0...14	CO/BO: Control word BOP		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9912 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0020	Speed setpoint smoothed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 5020, 6799 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0020	Velocity setpoint smoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 5020, 6799 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r0021	CO: Actual speed smoothed		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 1580, 1680, 4710, 6799 Unit selection: p0505 Expert list: 1

		Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0021	CO: Actual velocity smoothed			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	 	Access level: 2 Func. diagram: 1580, 1680, 4710, 6799 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]		Factory setting - [m/min]
r0021	CO: Actual speed smoothed			
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	 	Access level: 2 Func. diagram: 4710, 6799 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]		Factory setting - [rpm]
r0022	Speed actual value rpm smoothed			
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	 	Access level: 2 Func. diagram: 1580, 1680, 4710, 6799 Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]		Factory setting - [rpm]
r0022	Actual velocity smoothed			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	 	Access level: 2 Func. diagram: 1580, 1680, 4710, 6799 Unit selection: - Expert list: 1
	Min - [m/min]	Max - [m/min]		Factory setting - [m/min]
r0022	Speed actual value rpm smoothed			
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	 	Access level: 3 Func. diagram: 6799 Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]		Factory setting - [rpm]

r0024	CO: Line supply frequency smoothed		
A_INF, A_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Hz]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2000</p> <p>Max - [Hz]</p>	<p>Access level: 3</p> <p>Func. diagram: 8850, 8950</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [Hz]</p>
r0024	Output frequency smoothed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Hz]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2000</p> <p>Max - [Hz]</p>	<p>Access level: 3</p> <p>Func. diagram: 1690, 5300, 5730, 6799</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [Hz]</p>
r0025[0...3]	CO: Input voltage smoothed		
A_INF, A_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Vrms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2001</p> <p>Max - [Vrms]</p>	<p>Access level: 2</p> <p>Func. diagram: 8850, 8950</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [Vrms]</p>
r0025	CO: Output voltage smoothed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Vrms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2001</p> <p>Max - [Vrms]</p>	<p>Access level: 2</p> <p>Func. diagram: 1690, 5730, 6799</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [Vrms]</p>
r0026	CO: DC link voltage smoothed		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [V]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2001</p> <p>Max - [V]</p>	<p>Access level: 2</p> <p>Func. diagram: 5730, 6799, 8750, 8850, 8950</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [V]</p>
r0026	CO: DC link voltage smoothed		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2001</p>	<p>Access level: 2</p> <p>Func. diagram: 5730, 8750, 8850, 8950</p> <p>Unit selection: -</p> <p>Expert list: 1</p>

		Min - [V]	Max - [V]	Factory setting - [V]
r0026	CO: DC link voltage smoothed			
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 6799, 8750, 8850, 8950	
	P-Group: Displays, signals Not for motor type: -	Units group: - Scaling: p2001	Unit selection: - Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
r0027	CO: Absolute actual current smoothed			
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 5730, 6799, 8850, 8950	
	P-Group: Displays, signals Not for motor type: -	Units group: - Scaling: p2002	Unit selection: - Expert list: 1	
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]	
r0027	CO: Absolute actual current smoothed			
B_INF, B_INF_840	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 8750	
	P-Group: Displays, signals Not for motor type: -	Units group: 6_4 Scaling: p2002	Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	
r0028	Modulation depth smoothed			
A_INF, A_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 5730, 6799, 8950	
	P-Group: Displays, signals Not for motor type: -	Units group: - Scaling: p2002	Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
r0029	Reactive current actual value smoothed			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8850, 8950	
	P-Group: Displays, signals Not for motor type: -	Units group: - Scaling: p2002	Unit selection: - Expert list: 1	
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]	

r0029	Current actual value field-generating smoothed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: - Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 5730, 6799 Unit selection: - Expert list: 1 Factory setting - [Arms]
r0030	Active current actual value smoothed		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: - Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1 Factory setting - [Arms]
r0030	Current actual value torque-generating smoothed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: - Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 5730, 6799 Unit selection: - Expert list: 1 Factory setting - [Arms]
r0030	Current actual value force generating smoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: - Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 5730, 6799 Unit selection: - Expert list: 1 Factory setting - [Arms]
r0031	Actual torque smoothed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Nm]	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003 Max - [Nm]	Access level: 2 Func. diagram: 5730, 6799 Unit selection: p0505 Expert list: 1 Factory setting - [Nm]
r0031	Force actual value smoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [N]	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003 Max - [N]	Access level: 2 Func. diagram: 5730, 6799 Unit selection: p0505 Expert list: 1 Factory setting - [N]

r0032	CO: Active power actual value smoothed		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_10 Scaling: r2004	Access level: 2 Func. diagram: 5730, 6799, 8750, 8850, 8950 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r0032	CO: Active power actual value smoothed		
B_INF, B_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_10 Scaling: r2004	Access level: 2 Func. diagram: 5730, 6799, 8750, 8850, 8950 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r0033	Torque utilization smoothed		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r0033	Force utilization smoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r0033	Torque utilization smoothed		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r0034	CO: Motor utilization		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: ASM, REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 2</p> <p>Func. diagram: 8017</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>
r0035	CO: Temperature input		
A_INF, A_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 21_1</p> <p>Scaling: p2006</p>	<p>Access level: 2</p> <p>Func. diagram: 8850, 8950</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [°C]</p>	<p>Max - [°C]</p>	<p>Factory setting - [°C]</p>
r0035	CO: Temperature input		
B_INF, B_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 21_1</p> <p>Scaling: p2006</p>	<p>Access level: 2</p> <p>Func. diagram: 8750</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [°C]</p>	<p>Max - [°C]</p>	<p>Factory setting - [°C]</p>
r0035	CO: Motor temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 21_1</p> <p>Scaling: p2006</p>	<p>Access level: 2</p> <p>Func. diagram: 7008, 8016, 8017</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [°C]</p>	<p>Max - [°C]</p>	<p>Factory setting - [°C]</p>
r0036	CO: Power unit overload I2t		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 8014</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>

r0037[0...19]	CO: Power unit temperatures		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: 8014 Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r0037[0...1]	Control Unit temperature		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r0038	Power factor smoothed		
A_INF, A_INF_840, S_INF, S_INF_840, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 6799, 8850, 8950 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0039[0...2]	Energy display		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [kWh]	Max - [kWh]	Factory setting - [kWh]
p0040	Reset energy consumption display		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

r0041	Energy consumption saved		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [kWh]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [kWh]	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [kWh]
p0045	Display values smoothing time constant		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.00 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10000.00 [ms]	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 150.00 [ms]
p0045	Display values smoothing time constant		
S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.00 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10000.00 [ms]	Access level: 2 Func. diagram: 4715, 5610, 5730, 6714, 8012 Unit selection: - Expert list: 1 Factory setting 1.00 [ms]
r0046.0...29	CO/BO: Missing enable sig		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 8834, 8934 Unit selection: - Expert list: 1 Factory setting -
r0046.0...29	CO/BO: Missing enable sig		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 8734 Unit selection: - Expert list: 1 Factory setting -
r0046.0...31	CO/BO: Missing enable sig		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 2634 Unit selection: - Expert list: 1 Factory setting -

r0046.0...31	CO/BO: Missing enable sig		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2634 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0047	Identification status		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	104	-
r0047	Motor data identification and speed controller optimization		
VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	300	-
r0049[0...3]	Motor data set/encoder data set effective		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0050.0...3	CO/BO: Command Data Set CDS effective		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8560 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0051.0...4	CO/BO: Drive Data Set DDS effective		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0056.1...15	CO/BO: Status word, closed-loop control		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2526 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0056.0...15	CO/BO: Status word, closed-loop control		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2526 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0056.0...13	CO/BO: Status word, closed-loop control		
VECTOR (F3E), VECTOR_AC (F3E)	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2526 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0060	CO: Speed setpoint before the setpoint filter		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 2701, 2704, 5020, 6030, 6799 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r0060	CO: Velocity setpoint before the setpoint filter		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 2701, 2704, 5020, 6030, 6799
	P-Group: Displays, signals	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r0061	CO: Actual speed unsmoothed		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1580, 4710, 4715
	P-Group: Displays, signals	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0061	CO: Actual velocity unsmoothed		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: -	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1580, 4710, 4715
	P-Group: Displays, signals	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r0061[0...1]	CO: Actual speed unsmoothed		
SERVO, SERVO_840, SERVO_AC	Can be changed: -	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1580, 4710, 4715
	P-Group: Displays, signals	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0061[0...1]	CO: Actual velocity unsmoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: -	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1580, 4710, 4715
	P-Group: Displays, signals	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

r0061[0...2]	CO: Actual speed unsmoothed		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [rpm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 3_1</p> <p>Scaling: p2000</p> <p>Max - [rpm]</p>	<p>Access level: 2</p> <p>Func. diagram: 1580, 4710, 4715</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [rpm]</p>
r0062	CO: Speed setpoint after the filter		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [rpm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 3_1</p> <p>Scaling: p2000</p> <p>Max - [rpm]</p>	<p>Access level: 3</p> <p>Func. diagram: 1590, 1750, 5020, 5030, 5210, 6030</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [rpm]</p>
r0062	CO: Velocity setpoint after the filter		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [m/min]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 4_1</p> <p>Scaling: p2000</p> <p>Max - [m/min]</p>	<p>Access level: 3</p> <p>Func. diagram: 1590, 1750, 5020, 5030, 5210, 6030</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [m/min]</p>
r0063	CO: Actual speed smoothed		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [rpm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 3_1</p> <p>Scaling: p2000</p> <p>Max - [rpm]</p>	<p>Access level: 3</p> <p>Func. diagram: 1580, 1590, 4710, 5300</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [rpm]</p>
r0063	CO: Actual velocity smoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [m/min]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 4_1</p> <p>Scaling: p2000</p> <p>Max - [m/min]</p>	<p>Access level: 3</p> <p>Func. diagram: 1580, 1590, 4710, 5300</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [m/min]</p>

r0063	CO: Speed actual value		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Displays, signals	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0063[0...2]	CO: Speed actual value		
VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1680, 4715
	P-Group: Displays, signals	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0064	CO: Speed controller system deviation		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 5040, 6040
	P-Group: Displays, signals	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0064	CO: Velocity controller system deviation		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 5040, 6040
	P-Group: Displays, signals	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r0065	Slip frequency		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1710, 6310, 6727, 6730, 6732
	P-Group: Displays, signals	Units group: 2_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]

r0066[0...1]	CO: Line frequency		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8850, 8864, 8950, 8964
	P-Group: Displays, signals Not for motor type: -	Units group: 2_1 Scaling: p2000	Unit selection: p0505 Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r0066	CO: Output frequency		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 1690, 5300, 5730, 6310, 6730, 6731, 6799
	P-Group: Displays, signals Not for motor type: -	Units group: 2_1 Scaling: p2000	Unit selection: p0505 Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r0067[0...1]	Absolute current value permissible		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: -
	P-Group: Displays, signals Not for motor type: -	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r0067	CO: Output current, maximum		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 5722, 6300, 6640, 6724
	P-Group: Displays, signals Not for motor type: -	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r0068	CO: Absolute current actual value		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 5730, 7017, 8014, 8017, 8850, 8950
	P-Group: Displays, signals Not for motor type: -	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r0068	CO: DC current in the DC link		
B_INF, B_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8014, 8750
	P-Group: Displays, signals	Units group: 6_4	Unit selection: p0505
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r0068[0...1]	CO: Absolute current actual value		
VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1690, 6714, 6799, 7017, 8014, 8017, 8018
	P-Group: Displays, signals	Units group: 6_2	Unit selection: p0505
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r0069[0...6]	CO: Phase current actual value		
A_INF, A_INF_840, S_INF, S_INF_840, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1630, 5730, 6714, 6730, 6731, 8850, 8950
	P-Group: Displays, signals	Units group: 6_5	Unit selection: p0505
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r0069[0...6]	Phase current actual value		
SERVO, SERVO_840, SERVO_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1630, 5730, 6714, 6730, 6731, 8850, 8950
	P-Group: Displays, signals	Units group: 6_5	Unit selection: p0505
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r0070	CO: Actual DC link voltage		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1774, 8750, 8850, 8864, 8940, 8950, 8964
	P-Group: Displays, signals	Units group: 5_2	Unit selection: p0505
	Not for motor type: -	Scaling: p2001	Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

r0070	CO: Actual DC link voltage		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 5_2</p> <p>Scaling: p2001</p>	<p>Access level: 3</p> <p>Func. diagram: 5730</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [V]</p>	<p>Max - [V]</p>	<p>Factory setting - [V]</p>
r0070	CO: Actual DC link voltage		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 5_2</p> <p>Scaling: p2001</p>	<p>Access level: 3</p> <p>Func. diagram: 6723, 6724, 6730, 6731, 6799</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [V]</p>	<p>Max - [V]</p>	<p>Factory setting - [V]</p>
r0071	Maximum output voltage		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 5_1</p> <p>Scaling: p2001</p>	<p>Access level: 3</p> <p>Func. diagram: 1710, 6300, 6640, 6722, 6723, 6724, 6725, 6727</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [Vrms]</p>	<p>Max - [Vrms]</p>	<p>Factory setting - [Vrms]</p>
r0072[0...3]	CO: Input voltage		
A_INF, A_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 5_1</p> <p>Scaling: p2001</p>	<p>Access level: 3</p> <p>Func. diagram: 8850, 8950</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [Vrms]</p>	<p>Max - [Vrms]</p>	<p>Factory setting - [Vrms]</p>
r0072	CO: Output voltage		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 5_1</p> <p>Scaling: p2001</p>	<p>Access level: 3</p> <p>Func. diagram: 1630, 5730, 6730, 6731, 6799</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [Vrms]</p>	<p>Max - [Vrms]</p>	<p>Factory setting - [Vrms]</p>

r0073	Maximum modulation depth		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 6723, 6724, 6725
	P-Group: Modulation Not for motor type: -	Units group: - Scaling: PERCENT	Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r0074	CO: Modulat_depth		
A_INF, A_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 5730, 6730, 6731, 6799, 8940, 8950
	P-Group: Displays, signals Not for motor type: -	Units group: - Scaling: PERCENT	Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r0075	CO: Reactive current setpoint		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8946
	P-Group: Displays, signals Not for motor type: -	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r0075	CO: Current setpoint field-generating		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 1630, 5714, 5722, 6714
	P-Group: Displays, signals Not for motor type: -	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r0076	CO: Reactive current actual value		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 1774, 1775, 8850, 8946, 8950
	P-Group: Displays, signals Not for motor type: -	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r0076	CO: Current actual value field-generating		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Arms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 6_2</p> <p>Scaling: p2002</p> <p>Max - [Arms]</p>	<p>Access level: 3</p> <p>Func. diagram: 1630, 1710, 5714, 5730, 6714, 6799</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Arms]</p>
r0077	CO: Active current setpoint		
A_INF, A_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Arms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 6_2</p> <p>Scaling: p2002</p> <p>Max - [Arms]</p>	<p>Access level: 3</p> <p>Func. diagram: 1774, 8940, 8946</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Arms]</p>
r0077	CO: Current setpoint torque-generating		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Arms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 6_2</p> <p>Scaling: p2002</p> <p>Max - [Arms]</p>	<p>Access level: 3</p> <p>Func. diagram: 1630, 1774, 5714, 6710, 6714, 6719</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Arms]</p>
r0077	CO: Current setpoint force-generating		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Arms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 6_2</p> <p>Scaling: p2002</p> <p>Max - [Arms]</p>	<p>Access level: 3</p> <p>Func. diagram: 1630, 1774, 5714, 6710, 6714, 6719</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Arms]</p>
r0078	CO: Active current actual value		
A_INF, A_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Arms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 6_2</p> <p>Scaling: p2002</p> <p>Max - [Arms]</p>	<p>Access level: 3</p> <p>Func. diagram: 1774, 1775, 8850, 8946, 8950</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Arms]</p>

r0078[0...1]	CO: Current actual value torque-generating		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 1630, 5714, 5730 Unit selection: p0505 Expert list: 1 Factory setting - [Arms]
r0078[0...1]	CO: Current actual value force-generating		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 1630, 5714, 5730 Unit selection: p0505 Expert list: 1 Factory setting - [Arms]
r0078	CO: Current actual value torque-generating		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 1710, 6310, 6714, 6799 Unit selection: p0505 Expert list: 1 Factory setting - [Arms]
r0079[0...1]	CO: Torque setpoint total		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Nm]	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003 Max - [Nm]	Access level: 3 Func. diagram: 5610, 8012 Unit selection: p0505 Expert list: 1 Factory setting - [Nm]
r0079[0...1]	CO: Total force setpoint		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [N]	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003 Max - [N]	Access level: 3 Func. diagram: 5610, 8012 Unit selection: p0505 Expert list: 1 Factory setting - [N]

r0079	CO: Torque setpoint		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Nm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 7_1</p> <p>Scaling: p2003</p> <p>Max - [Nm]</p>	<p>Access level: 3</p> <p>Func. diagram: 1700, 1710, 6030, 6060, 6710, 8012</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Nm]</p>
r0080	CO: Torque actual value		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Nm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 7_1</p> <p>Scaling: p2003</p> <p>Max - [Nm]</p>	<p>Access level: 3</p> <p>Func. diagram: 5730</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Nm]</p>
r0080	CO: Force actual value		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [N]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 8_1</p> <p>Scaling: p2003</p> <p>Max - [N]</p>	<p>Access level: 3</p> <p>Func. diagram: 5730</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [N]</p>
r0080[0...1]	CO: Torque actual value		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [Nm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 7_1</p> <p>Scaling: p2003</p> <p>Max - [Nm]</p>	<p>Access level: 3</p> <p>Func. diagram: 6714, 6799</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [Nm]</p>
r0081	CO: Torque utilization		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [%]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p> <p>Max - [%]</p>	<p>Access level: 3</p> <p>Func. diagram: 8012</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [%]</p>
r0081	CO: Force utilization		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p> <p>Min - [%]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p> <p>Max - [%]</p>	<p>Access level: 3</p> <p>Func. diagram: 8012</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [%]</p>

r0081	CO: Torque utilization		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r0082	CO: Active power actual value		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_7 Scaling: r2004	Access level: 3 Func. diagram: 8750, 8850, 8950 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r0082	CO: Active power actual value		
B_INF, B_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_7 Scaling: r2004	Access level: 3 Func. diagram: 8750, 8850, 8950 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r0082[0..2]	CO: Active power actual value		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_5 Scaling: r2004	Access level: 3 Func. diagram: 5730 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r0082[0..2]	CO: Active power actual value		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_8 Scaling: r2004	Access level: 3 Func. diagram: 5730 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]

r0082[0...2]	CO: Active power actual value		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 14_5</p> <p>Scaling: r2004</p>	<p>Access level: 3</p> <p>Func. diagram: 6714, 6799</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min - [kW]</p>	<p>Max - [kW]</p>	<p>Factory setting - [kW]</p>
r0083	CO: Flux setpoint		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 5722</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>
r0083	CO: Flux setpoint		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>
r0084	CO: Flux actual value		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 5722</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>
r0084[0...1]	CO: Flux actual value		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 6726, 6730, 6732</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>

r0087	CO: Actual power factor		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 6714, 6730, 6732, 6799 Unit selection: - Expert list: 1 Factory setting -
r0088	CO: DC link voltage setpoint		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [V]	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001 Max - [V]	Access level: 3 Func. diagram: 8940, 8964 Unit selection: p0505 Expert list: 1 Factory setting - [V]
r0088	CO: DC link voltage setpoint		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [V]	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001 Max - [V]	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1 Factory setting - [V]
r0089[0...2]	Actual phase voltage		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [V]	Calculated: - Dynamic index: - Units group: 5_3 Scaling: p2001 Max - [V]	Access level: 3 Func. diagram: 6719 Unit selection: p0505 Expert list: 1 Factory setting - [V]
p0092	Clock synchronous operation pre-assignment/check		
CU_I_840, CU_NX_840	Can be changed: C1(1) Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 1

p0092	Clock synchronous operation pre-assignment/check		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r0093	CO: Pole position angle electrically scaled		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: 4710 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r0094	CO: Transformation angle		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r0094	CO: Transformation angle		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: 1580, 1680, 1690, 4710, 6714, 6730, 6731, 6732 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
p0097	Select drive object type		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 24	Factory setting 0

r0098[0...5]	Actual device topology		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0099[0...5]	Device target topology		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p0100	IEC/NEMA mot stds		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1) Data type: Integer16 P-Group: Converter Not for motor type: FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0100	IEC/NEMA mot stds		
VECTOR, VECTOR_AC	Can be changed: C2(1) Data type: Integer16 P-Group: Converter Not for motor type: FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0101[0...23]	Drive object numbers		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 62	Factory setting 0

r0102[0...1]	Number of drive objects			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r0103	Application-specific view			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 65535	Factory setting -	
p0103[0...23]	Application-specific view			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(2) Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 999	Factory setting 0	
p0105	Activate/de-activate drive object			
A_INF, A_INF_840, B_INF, B_INF_840, CU_LINK, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM17, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 2	Factory setting 1	

p0105	Activate/de-activate drive object		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p0105	Activate/de-activate drive object		
TM15, TM31, TM41	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
p0105	Activate/de-activate drive object		
TM54F_MA, TM54F_SL	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
r0106	Drive object active/inactive		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting -

r0107	Drive object type		
A_INF, A_INF_840, B_INF, B_INF_840, CU_LINK, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 600	Factory setting -
p0107[0...23]	Drive object type		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(2) Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 600	Factory setting 0
r0108	Drive objects, function module		
A_INF	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0108	Drive objects, function module		
A_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0108	Drive objects, function module		
B_INF_840, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0108	Drive objects, function module		
B_INF, S_INF	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p0108[0...23]	Drive objects, function module		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(2)	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 0000 0000 0000 0000 bin
r0108	Drive objects, function module		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0108	Drive objects, function module		
SERVO	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0108	Drive objects, function module		
SERVO_840	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0108	Drive objects, function module		
SERVO_AC	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r0108	Drive objects, function module		
TB30, TM120, TM150, TM15DI_DO, TM31, TM41	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r0108	Drive objects, function module		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r0110[0...2]	Basic sampling times		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.00 [μs]	Max 10000.00 [μs]	Factory setting - [μs]
r0111	Basic sampling time selection		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Integer16</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 2	Factory setting -

r0111	Basic sampling time selection		
TB30, TM15, TM15DI_DO, TM17, TM31, TM41	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting -
p0112	Sampling times pre-setting p0115		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 5	Factory setting 3
p0113	Minimum pulse frequency, selection		
SERVO, SERVO_840, SERVO_AC	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2.000 [kHz]	Max 4.000 [kHz]	Factory setting 4.000 [kHz]
p0113	Minimum pulse frequency, selection		
VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.000 [kHz]	Max 4.000 [kHz]	Factory setting 2.000 [kHz]
r0114[0..9]	Minimum pulse frequency, recommended		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [kHz]	Max - [kHz]	Factory setting - [kHz]

p0115[0...6]	Sampling times for internal control loops		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 16000.00 [μs]	Factory setting [0] 125.00 [μs] [1] 125.00 [μs] [2] 125.00 [μs] [3] 4000.00 [μs] [4] 1000.00 [μs] [5] 4000.00 [μs] [6] 4000.00 [μs]
p0115[0]	Sampling time for supplementary functions		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 16000.00 [μs]	Factory setting 4000.00 [μs]
p0115[0]	Sampling time for speed detection		
ENC, ENC_840	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 125.00 [μs]	Max 500.00 [μs]	Factory setting 125.00 [μs]
p0115[0...6]	Sampling times for internal control loops		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 16000.00 [μs]	Factory setting [0] 125.00 [μs] [1] 125.00 [μs] [2] 125.00 [μs] [3] 4000.00 [μs] [4] 1000.00 [μs] [5] 4000.00 [μs] [6] 4000.00 [μs]

p0115[0]	Sampling time for supplementary functions		
TB30, TM150, TM15DI_DO, TM31	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 16000.00 [µs]	Factory setting 4000.00 [µs]
p0115[0]	Sampling time for supplementary functions		
TM120	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 16000.00 [µs]	Factory setting 4000.00 [µs]
p0115[0]	Sampling time for supplementary functions		
TM41	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 16000.00 [µs]	Factory setting 4000.00 [µs]
p0115[0...6]	Sampling times for internal control loops		
VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 16000.00 [µs]	Factory setting [0] 250.00 [µs] [1] 1000.00 [µs] [2] 1000.00 [µs] [3] 1000.00 [µs] [4] 2000.00 [µs] [5] 4000.00 [µs] [6] 4000.00 [µs]

r0116[0...1]	Drive object clock cycle recommended			
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM15, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [μ s]	Max - [μ s]	Factory setting - [μ s]	
p0117	Current controller computing dead time mode			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 6	Factory setting 6	
p0118	Current controller computing dead time			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.00 [μ s]	Max 2000.00 [μ s]	Factory setting 0.00 [μ s]	
p0118	Current controller computing dead time			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.00 [μ s]	Max 2000.00 [μ s]	Factory setting 0.00 [μ s]	

p0120	Number of Power unit Data Sets (PDS)		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 8	Factory setting 1
p0121[0...n]	Power unit component number		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0124[0...n]	Power unit detection via LED		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned8 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0124[0...23]	Main component detection using LED		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p0125[0...n]	Activate/de-activate power unit components			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4), T Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 2	Factory setting 1	

r0126[0...n]	Power unit components active/inactive			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 1	Factory setting -	

r0127[0...n]	Power unit version EPROM data			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	

r0128[0...n]	Power unit, firmware version			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	

p0130	Number of Motor Data Sets (MDS)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min 1	Max 16	Factory setting 1
p0131[0...n]	Motor component number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0139[0...2]	Copy Motor Data Set MDS		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(15) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min 0	Max 31	Factory setting 0
p0140	Number of VSM data sets		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 8	Factory setting 1
p0140	Number of Encoder Data Sets (EDS)		
ENC, ENC_840	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 1	Factory setting 1
p0140	Number of Encoder Data Sets (EDS)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 16	Factory setting 1

p0141[0...n]	VSM component number		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0141[0...n]	Encoder interface (Sensor Module) component number		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704, 8570 Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0142[0...n]	Encoder component number		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0144[0...n]	Voltage Sensing Module detection via LED		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0144[0...n]	Sensor Module detection via LED		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p0145[0...n]	Voltage Sensing Module, activate/de-activate		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C1(4), T Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
p0145[0...n]	Activate/de-activate encoder interface		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4), U, T Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
r0146[0...n]	Voltage Sensing Module, active/inactive		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting -
r0146[0...n]	Encoder interface active/inactive		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting -
r0147[0...n]	Voltage Sensing Module, EPROM data version		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0147[0...n]	Sensor Module EEPROM data version		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0148[0...n]	Voltage Sensing Module firmware version		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0148[0...n]	Sensor Module firmware version		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0150	VSM2 data sets selection		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1
p0150	Number of VSM data sets		
VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1

p0151[0...n]	Voltage Sensing Module 2 component number		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0151[0...1]	DRIVE-CLiQ Hub Module component number		
HUB	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0151	Terminal Module component number		
TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0151[0...n]	Voltage Sensing Module component number		
VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p0154[0...n]	Voltage Sensing Module 2 detection via LED		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0154	DRIVE-CLiQ Hub Module detection via LED		
HUB	Can be changed: U, T Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p0154	Terminal Module detection via LED		
TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Unsigned8 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0155[0...n]	Voltage Sensing Module 2, activate/de-activate		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C1(4), T Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
p0155[0...n]	Voltage Sensing Module, activate/de-activate		
VECTOR, VECTOR_AC	Can be changed: C1(4), T Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
r0156[0...n]	Voltage Sensing Module 2, active/inactive		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting -
r0156[0...n]	Voltage Sensing Module, active/inactive		
VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting -
r0157[0...n]	Voltage Sensing Module 2, EPROM data version		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0157	DRIVE-CLiQ Hub Module EPROM data version		
HUB	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0157	Terminal Module EPROM data version		
TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0157[0...n]	Voltage Sensing Module, EPROM data version		
VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: p0150	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0158[0...n]	Voltage Sensing Module 2 firmware version		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned32	Dynamic index: p0150	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0158	DRIVE-CLiQ Hub Module firmware version		
HUB	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0158	Terminal Module firmware version		
TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0158[0...n]	Voltage Sensing Module firmware version		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: - Min -	Calculated: - Dynamic index: p0150 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p0161	HF Damping Module component number		
SERVO, SERVO_840, SERVO_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 199	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0161	Option board, component number		
TB30	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 199	Access level: 4 Func. diagram: 9100 Unit selection: - Expert list: 1 Factory setting 0
p0162	CU-LINK slave component number		
CU_LINK	Can be changed: C1(4) Data type: Unsigned8 P-Group: Terminals Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 199	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0162	HF Choke Module component number		
SERVO, SERVO_840, SERVO_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Terminals Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 199	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p0165	Activate/de-activate filter module		
SERVO, SERVO_840, SERVO_AC	Can be changed: C1(4), T Data type: Integer16 P-Group: Data sets Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 2	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 1

r0166	Filter module active/inactive		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Integer16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting -
p0170	Number of Command Data Sets (CDS)		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1
p0170	Number of Command Data Sets (CDS)		
TM41	Can be changed: C1(3) Data type: Unsigned8 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 1	Factory setting 1
p0170	Number of Command Data Sets (CDS)		
VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 2	Max 4	Factory setting 2
p0180	Number of Drive Data Sets (DDS)		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min 1	Max 32	Factory setting 1
p0186[0...n]	Motor Data Sets (MDS) number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min 0	Max 15	Factory setting 0

p0187[0...n]	Encoder 1 encoder data set number		
SERVO, SERVO_840, SERVO_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1580, 8570 Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 99
p0187[0...n]	Encoder 1 encoder data set number		
VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1580, 8570 Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 99
p0188[0...n]	Encoder 2 encoder data set number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1580, 8570 Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 99
p0189[0...n]	Encoder 3 encoder data set number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(4) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1580, 8570 Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 99
r0192	Power unit firmware properties		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0194[0...n]	VSM properties		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0194[0...n]	VSM properties		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0196[0...255]	DRIVE-CLiQ component status		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0197	Bootloader vers		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0198[0...1]	BIOS/EEPROM data version		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p0199[0...24]	Drive object name		
All objects	Can be changed: C1 Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
r0200[0...n]	Power unit code number actual		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0201[0...n]	Power unit code number		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: C2(2) Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Min 0	Max 65535	Factory setting 0
p0201[0...n]	Power unit code number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(2) Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
r0203[0...n]	Actual power unit type		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2	Max 400	Factory setting -

r0203[0...15]	Firmware package name		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0204[0...n]	Power unit hardware properties		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0204[0...n]	Power unit hardware properties		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0205	Power unit application		
VECTOR, VECTOR_AC	Can be changed: C2(1, 2) Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 7	Factory setting 6
r0206[0...4]	Rated power unit power		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_6 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]

r0207[0...4]	Rated power unit current		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8014 Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r0208	Rated power unit line supply voltage		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r0209[0...4]	Power unit, maximum current		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8750, 8850, 8950 Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p0210	Drive unit line supply voltage		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 8860, 8960 Unit selection: - Expert list: 1
	Min 100 [Vrms]	Max 1000 [Vrms]	Factory setting 400 [Vrms]
p0210	Drive unit line supply voltage		
B_INF, B_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 8760 Unit selection: - Expert list: 1
	Min 70 [Vrms]	Max 1000 [Vrms]	Factory setting 400 [Vrms]

p0210	Drive unit line supply voltage		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(2), T</p> <p>Data type: Unsigned16</p> <p>P-Group: Converter</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 1 [V]</p>	<p>Max 63000 [V]</p>	<p>Factory setting 600 [V]</p>
p0210	Drive unit line supply voltage		
VECTOR, VECTOR_AC	<p>Can be changed: C2(2), T</p> <p>Data type: Unsigned16</p> <p>P-Group: Converter</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 1 [V]</p>	<p>Max 63000 [V]</p>	<p>Factory setting 600 [V]</p>
p0211	Rated line freq		
A_INF_840, S_INF_840	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8864, 8964</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 10 [Hz]</p>	<p>Max 100 [Hz]</p>	<p>Factory setting 55 [Hz]</p>
p0211	Rated line freq		
A_INF, S_INF	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8864, 8964</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 10 [Hz]</p>	<p>Max 100 [Hz]</p>	<p>Factory setting 50 [Hz]</p>
p0212	Power unit configuration		
B_INF, B_INF_840	<p>Can be changed: C2(2)</p> <p>Data type: Unsigned16</p> <p>P-Group: Converter</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0000 bin</p>
p0212	Power unit configuration		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(2)</p> <p>Data type: Unsigned16</p> <p>P-Group: Converter</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0000 bin</p>

p0212	Power unit configuration		
VECTOR, VECTOR_AC	Can be changed: C2(2) Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p0220[0...1]	Infeed line filter type		
A_INF, A_INF_840	Can be changed: C2(1) Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8950 Unit selection: - Expert list: 1
	Min 0	Max 45	Factory setting 0
p0221[0...1]	Infeed filter capacitance		
A_INF, A_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8950 Unit selection: - Expert list: 1
	Min 0.00 [μ F]	Max 100000.00 [μ F]	Factory setting 0.00 [μ F]
p0222[0...1]	Infeed filter resistance		
A_INF, A_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [ohm]	Max 100.00000 [ohm]	Factory setting 0.00000 [ohm]
p0223	Infeed inductance between filter and power unit		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1
	Min 0.001 [mH]	Max 1000.000 [mH]	Factory setting 2.100 [mH]
p0224	Infeed resistance between filter and power unit		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1
	Min 0.00000 [ohm]	Max 100.00000 [ohm]	Factory setting 0.00100 [ohm]

p0225	Infeed inductance between line supply and filter		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1
	Min 0.001 [mH]	Max 1000.000 [mH]	Factory setting 0.001 [mH]
p0226	Infeed resistance between line supply and filter		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1
	Min 0.00 [ohm]	Max 100.00 [ohm]	Factory setting 0.00 [ohm]
p0227	Infeed, DC link capacitance, power unit		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8850, 8950 Unit selection: - Expert list: 1
	Min 0.20 [mF]	Max 1000.00 [mF]	Factory setting 1.00 [mF]
p0230	Drive filter type, motor side		
VECTOR, VECTOR_AC	Can be changed: C2(1, 2) Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting 0
p0233	Power unit motor reactor		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(2), U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [mH]	Max 1000.000 [mH]	Factory setting 0.000 [mH]
p0233	Power unit motor reactor		
VECTOR, VECTOR_AC	Can be changed: C2(2), U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [mH]	Max 1000.000 [mH]	Factory setting 0.000 [mH]

p0234	Power unit sine-wave filter capacitance		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(2), U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 4 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.000 [μF]</p>	<p>Max 1000.000 [μF]</p>	<p>Factory setting 0.000 [μF]</p>
p0234	Power unit sine-wave filter capacitance		
VECTOR, VECTOR_AC	<p>Can be changed: C2(2), U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.000 [μF]</p>	<p>Max 1000.000 [μF]</p>	<p>Factory setting 0.000 [μF]</p>
p0235	Motor reactor in series number		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 2) Data type: Unsigned8 P-Group: Converter Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 1 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 1</p>	<p>Max 3</p>	<p>Factory setting 1</p>
r0238	Internal power unit resistance		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min - [ohm]</p>	<p>Max - [ohm]</p>	<p>Factory setting - [ohm]</p>
p0249	Power unit cooling type		
S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 2) Data type: Integer16 P-Group: Converter Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 4 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	<p>Factory setting 0</p>

p0251[0...n]	Operating hours counter power unit fan		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [h]	Max 4294967295 [h]	Factory setting 0 [h]
p0252	Maximum operating time power unit fan		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [h]	Max 100000 [h]	Factory setting 40000 [h]
p0254[0...n]	Power unit internal fan operating hours counter		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Unsigned32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [h]	Max 4294967295 [h]	Factory setting 0 [h]
p0255[0...1]	Power unit contactor monitoring time		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 6500 [ms]	Factory setting 0 [ms]

p0260 Cooling unit, starting time 1

A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9795 Unit selection: - Expert list: 1
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Min 0.0 [s]	Max 60.0 [s]	Factory setting 5.0 [s]
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p0261 Cooling unit, starting time 2

A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9795 Unit selection: - Expert list: 1
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Min 0.0 [s]	Max 1200.0 [s]	Factory setting 180.0 [s]
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p0262	Cooling unit, fault conductivity delay time		
A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9795 Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 30.0 [s]	Factory setting 0.0 [s]
p0263	Cooling unit fault liquid flow, delay time		
A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9795 Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 20.0 [s]	Factory setting 3.0 [s]

p0264	Cooling unit, run-on time		
A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9795 Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 180.0 [s]	Factory setting 30.0 [s]

r0265.0...3	BO: Cooling unit, control word		
A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: - Data type: Unsigned8 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p0266[0...7]	BI: Cooling unit, feedback signals, signal source			
A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max	Factory setting	
	-	-	1	
r0267.0...7	BO: Cooling unit status word			
A_INF (Cool_unit), A_INF_840 (Cool_unit), B_INF (Cool_unit), B_INF_840 (Cool_unit), S_INF (Cool_unit), S_INF_840 (Cool_unit), SERVO (Cool_unit), SERVO_840 (Cool_unit), SERVO_AC (Cool_unit), VECTOR (Cool_unit), VECTOR_AC (Cool_unit)	Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max	Factory setting	
	-	-	-	
p0278	DC link voltage undervoltage threshold reduction			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max	Factory setting	
	-80 [V]	0 [V]	0 [V]	

p0279	DC link voltage offset alarm threshold		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8760, 8864, 8964
	P-Group: Converter Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 0 [V]	Max 500 [V]	Factory setting 0 [V]
p0280	DC link voltage maximum steady-state		
A_INF, A_INF_840	Can be changed: C2(1), T Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8940, 8964
	P-Group: Converter Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 270 [V]	Max 1500 [V]	Factory setting 660 [V]
p0281	Line supply overvoltage, alarm threshold		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8860, 8960
	P-Group: Converter Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 100 [%]	Max 200 [%]	Factory setting 110 [%]
p0282	Line supply undervoltage, alarm threshold		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8860, 8960
	P-Group: Converter Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 10 [%]	Max 100 [%]	Factory setting 85 [%]
p0283	Line supply undervoltage, shutdown (trip) threshold		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: C2(1), T Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8860, 8960
	P-Group: Converter Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 10 [%]	Max 100 [%]	Factory setting 75 [%]
p0284	Line supply frequency exceeded, alarm threshold		
A_INF_840, S_INF_840	Can be changed: T Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 8864, 8964
	P-Group: Converter Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 100.0 [%]	Max 300.0 [%]	Factory setting 118.0 [%]

p0284	Line supply frequency exceeded, alarm threshold		
A_INF, S_INF	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8864, 8964 Unit selection: - Expert list: 1
	Min 100.0 [%]	Max 300.0 [%]	Factory setting 110.0 [%]
p0285	Line supply frequency undershot, alarm threshold		
A_INF_840, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8864, 8964 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 82.0 [%]
p0285	Line supply frequency undershot, alarm threshold		
A_INF, S_INF	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8864, 8964 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 90.0 [%]
p0287[0...1]	Ground fault monitoring thresholds		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting [0] 6.0 [%] [1] 16.0 [%]
r0289	CO: Maximum power unit output current		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

p0290	Power unit overload response		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8014 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0290	Power unit overload response		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8014 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
r0293	CO: Power unit alarm threshold model temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: 8014 Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
p0294	Power unit alarm with I2t overload		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8014 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 100.0 [%]	Factory setting 95.0 [%]
p0294	Power unit alarm with I2t overload		
B_INF, B_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8014 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 100.0 [%]	Factory setting 95.0 [%]

p0295	Fan run-on time		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [s]	Max 600 [s]	Factory setting 0 [s]
r0296	DC link voltage undervoltage threshold		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8750, 8760, 8850, 8864, 8950, 8964 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r0296	DC link voltage undervoltage threshold		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r0297	DC link voltage overvoltage threshold		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8750, 8760, 8850, 8864, 8950, 8964 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
p0300[0...n]	Motor type selection		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 10001	Factory setting 0

p0300[0...n]	Motor type selection		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: Integer16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 6310</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 10001</p>	<p>Factory setting 0</p>
p0301[0...n]	Motor code number selection		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 65535</p>	<p>Factory setting 0</p>
p0301[0...n]	Motor code number selection		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: C2(1, 3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 65535</p>	<p>Factory setting 0</p>
p0301[0...n]	Motor code number selection		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 65535</p>	<p>Factory setting 0</p>
r0302[0...n]	Motor code number of motor with DRIVE-CLiQ		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>
r0303[0...n]	Motor with DRIVE-CLiQ status word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>

p0304[0...n]	Rated motor voltage		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 6300, 6724 Unit selection: - Expert list: 1
	Min 0 [Vrms]	Max 20000 [Vrms]	Factory setting 0 [Vrms]
p0305[0...n]	Rated motor current		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0305[0...n]	Rated motor current		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0306[0...n]	Number of motors connected in parallel		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: Unsigned8 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 10	Factory setting 1
p0306[0...n]	Number of motors connected in parallel		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: Unsigned8 P-Group: Motor Not for motor type: FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 50	Factory setting 1
p0307[0...n]	Rated motor power		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 14_6 Scaling: -	Access level: 1 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00 [kW]	Max 100000.00 [kW]	Factory setting 0.00 [kW]

p0307[0...n]	Rated motor power		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 14_6</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min -100000.00 [kW]</p>	Max 100000.00 [kW]	Factory setting 0.00 [kW]
p0308[0...n]	Rated motor power factor		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: PEM, REL</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.000</p>	Max 1.000	Factory setting 0.000
p0309[0...n]	Rated motor efficiency		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: PEM, REL</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.0 [%]</p>	Max 99.9 [%]	Factory setting 0.0 [%]
p0310[0...n]	Rated motor frequency		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00 [Hz]</p>	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]
p0310[0...n]	Rated motor frequency		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 6300</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00 [Hz]</p>	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]
p0311[0...n]	Rated motor speed		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.0 [rpm]</p>	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]

p0311[0...n]	Rated motor velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [m/min]	Max 6000.0 [m/min]	Factory setting 0.0 [m/min]
p0311[0...n]	Rated motor speed		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [rpm]	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]
p0312[0...n]	Rated motor torque		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 7_4 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]
p0312[0...n]	Rated motor force		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 8_4 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
r0313[0...n]	Motor pole pair number, actual (or calculated)		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 5300 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0313[0...n]	Motor pole pair number, actual (or calculated)		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 5300 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p0314[0...n]	Motor pole pair number		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 4000</p>	<p>Factory setting 0</p>
p0314[0...n]	Motor pole pair number		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 255</p>	<p>Factory setting 0</p>
p0315[0...n]	Motor pole pair width		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: C2(1, 3)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 1.00 [mm]</p>	<p>Max 1000.00 [mm]</p>	<p>Factory setting 30.00 [mm]</p>
p0316[0...n]	Motor torque constant		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 28_1</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min 0.00 [Nm/A]</p>	<p>Max 400.00 [Nm/A]</p>	<p>Factory setting 0.00 [Nm/A]</p>
p0316[0...n]	Motor force constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: C2(1, 3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 29_1</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min 0.00 [N/Arms]</p>	<p>Max 15000.00 [N/Arms]</p>	<p>Factory setting 0.00 [N/Arms]</p>
p0316[0...n]	Motor torque constant		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 28_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min 0.00 [Nm/A]</p>	<p>Max 400.00 [Nm/A]</p>	<p>Factory setting 0.00 [Nm/A]</p>

p0317[0...n]	Motor voltage constant		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 24000.0 [Vrms]	Factory setting 0.0 [Vrms]
p0317[0...n]	Motor voltage constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [Vrms s/m]	Max 5000.0 [Vrms s/m]	Factory setting 0.0 [Vrms s/m]
p0318[0...n]	Motor stall current		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 8017 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0318[0...n]	Motor stall current		
VECTOR, VECTOR_AC	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 8017 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0319[0...n]	Motor stall torque		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 7_4 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00 [Nm]	Max 100000.00 [Nm]	Factory setting 0.00 [Nm]
p0319[0...n]	Motor stall force		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 8_4 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00 [N]	Max 100000.00 [N]	Factory setting 0.00 [N]

p0320[0...n]	Motor rated magnetizing current/short-circuit current		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL, FEM</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1</p>
	<p>Min 0.000 [Arms]</p>	<p>Max 5000.000 [Arms]</p>	<p>Factory setting 0.000 [Arms]</p>
p0322[0...n]	Maximum motor speed		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 1 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.0 [rpm]</p>	<p>Max 210000.0 [rpm]</p>	<p>Factory setting 0.0 [rpm]</p>
p0322[0...n]	Motor maximum velocity		
SERVO (Lin, Spin_diag), SERVO_840 (Lin, Spin_diag), SERVO_AC (Lin, Spin_diag)	<p>Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 1 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.0 [m/min]</p>	<p>Max 1000.0 [m/min]</p>	<p>Factory setting 0.0 [m/min]</p>
p0322[0...n]	Maximum motor speed		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	<p>Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 1 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.0 [rpm]</p>	<p>Max 260000.0 [rpm]</p>	<p>Factory setting 0.0 [rpm]</p>
p0322[0...n]	Maximum motor speed		
VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.0 [rpm]</p>	<p>Max 210000.0 [rpm]</p>	<p>Factory setting 0.0 [rpm]</p>
p0323[0...n]	Maximum motor current		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, FEM</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 1 Func. diagram: 5722 Unit selection: - Expert list: 1</p>
	<p>Min 0.00 [Arms]</p>	<p>Max 20000.00 [Arms]</p>	<p>Factory setting 0.00 [Arms]</p>

p0323[0...n]	Maximum motor current		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 20000.00 [Arms]	Factory setting 0.00 [Arms]
p0324[0...n]	Winding maximum speed		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [rpm]	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]
p0324[0...n]	Winding maximum velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [m/min]	Max 1000.0 [m/min]	Factory setting 0.0 [m/min]
p0324[0...n]	Winding maximum speed		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [rpm]	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]
p0325[0...n]	Motor pole position identification current, 1st phase		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [Arms]	Max 10000.000 [Arms]	Factory setting 0.000 [Arms]
p0326[0...n]	Motor stall torque correction factor		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5 [%]	Max 300 [%]	Factory setting 60 [%]

p0326[0...n]	Motor stall force correction factor		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5 [%]	Max 300 [%]	Factory setting 60 [%]
p0327[0...n]	Optimum motor load angle		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0.0 [°]	Max 135.0 [°]	Factory setting 90.0 [°]
p0328[0...n]	Motor reluctance torque constant		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1000.00 [mH]	Max 1000.00 [mH]	Factory setting 0.00 [mH]
p0328[0...n]	Motor reluctance force constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1000.00 [mH]	Max 1000.00 [mH]	Factory setting 0.00 [mH]
p0329[0...n]	Motor pole position identification current		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
r0330[0...n]	Rated motor slip		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]

r0331[0...n]	Actual motor magnetizing current/short-circuit current		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 5722, 6722, 6724</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [Arms]</p>	<p>Max - [Arms]</p>	<p>Factory setting - [Arms]</p>
r0332[0...n]	Rated motor power factor		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: PEM, REL</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>
r0333[0...n]	Rated motor torque		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 7_4</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min - [Nm]</p>	<p>Max - [Nm]</p>	<p>Factory setting - [Nm]</p>
r0333[0...n]	Rated motor force		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 8_4</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min - [N]</p>	<p>Max - [N]</p>	<p>Factory setting - [N]</p>
r0334[0...n]	Actual motor-torque constant		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 28_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min - [Nm/A]</p>	<p>Max - [Nm/A]</p>	<p>Factory setting - [Nm/A]</p>
r0334[0...n]	Actual motor force constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 29_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: p0100</p> <p>Expert list: 1</p>
	<p>Min - [N/Arms]</p>	<p>Max - [N/Arms]</p>	<p>Factory setting - [N/Arms]</p>

r0334[0...n]	Actual motor-torque constant		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 28_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min - [Nm/A]	Max - [Nm/A]	Factory setting - [Nm/A]
p0335[0...n]	Motor cooling type		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 3), T Data type: Integer16 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 128	Factory setting 0
r0336[0...n]	Actual rated motor frequency		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r0337[0...n]	Rated motor EMF		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r0337[0...n]	Rated motor EMF		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Vrms s/m]	Max - [Vrms s/m]	Factory setting - [Vrms s/m]
p0338[0...n]	Motor limit current		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]

r0339[0...n]	Rated motor voltage		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p0340	Automatic calculation, control parameters		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p0340[0...n]	Automatic calculation, motor/control parameters		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 5	Factory setting 0
p0341[0...n]	Motor moment of inertia		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: 1700, 5042, 5210, 6030, 6031 Unit selection: p0100 Expert list: 1
	Min 0.000000 [kgm ²]	Max 100000.000000 [kgm ²]	Factory setting 0.000000 [kgm ²]
p0341[0...n]	Motor weight		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0100 Expert list: 1
	Min 0.000000 [kg]	Max 10000.000000 [kg]	Factory setting 0.000000 [kg]

p0342[0...n]	Ratio between the total and motor moment of inertia		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 1700, 5042, 5210, 6030, 6031 Unit selection: - Expert list: 1
	Min 1.000	Max 10000.000	Factory setting 1.000
p0342[0...n]	Ratio between the total and motor force of inertia		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: - Expert list: 1
	Min 1.000	Max 10000.000	Factory setting 1.000
r0343[0...n]	Rated motor current identified		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting - [Arms]
p0344[0...n]	Motor weight (for the thermal motor model)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.0 [kg]	Max 50000.0 [kg]	Factory setting 0.0 [kg]
r0345[0...n]	Nominal motor starting time		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [s]	Max - [s]	Factory setting - [s]
p0346[0...n]	Motor excitation build-up time		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -20.000 [s]	Max 20.000 [s]	Factory setting 0.000 [s]

p0347[0...n]	Motor de-excitation time		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 20.000 [s]	Factory setting 0.000 [s]
p0347[0...n]	Motor de-excitation time		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 20.000 [s]	Factory setting 0.000 [s]
p0348[0...n]	Speed at the start of field weakening Vdc = 600 V		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0.0 [rpm]	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]
p0348[0...n]	Velocity at the start of field weakening Vdc = 600 V		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0.0 [m/min]	Max 1000.0 [m/min]	Factory setting 0.0 [m/min]
p0349	System of units, motor equivalent circuit diagram data		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3) Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1
p0350[0...n]	Motor stator resistance, cold		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [ohm]	Max 2000.00000 [ohm]	Factory setting 0.00000 [ohm]

p0352[0...n]	Cable resistance		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [ohm]</p>	<p>Max 120.00000 [ohm]</p>	<p>Factory setting 0.00000 [ohm]</p>
p0352[0...n]	Cable resistance		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [ohm]</p>	<p>Max 120.00000 [ohm]</p>	<p>Factory setting 0.00000 [ohm]</p>
p0353[0...n]	Motor series inductance		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.000 [mH]</p>	<p>Max 1000000.000 [mH]</p>	<p>Factory setting 0.000 [mH]</p>
p0353[0...n]	Motor series inductance		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.000 [mH]</p>	<p>Max 1000000.000 [mH]</p>	<p>Factory setting 0.000 [mH]</p>
p0354[0...n]	Motor rotor resistance cold / damping resistance d axis		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL</p>	<p>Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [ohm]</p>	<p>Max 300.00000 [ohm]</p>	<p>Factory setting 0.00000 [ohm]</p>
p0354[0...n]	Motor rotor resistance cold / damping resistance d axis		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL</p>	<p>Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 6727 Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [ohm]</p>	<p>Max 300.00000 [ohm]</p>	<p>Factory setting 0.00000 [ohm]</p>

p0355[0...n]	Motor damping resistance, q axis		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: p0349 Expert list: 1
	Min 0.00000 [ohm]	Max 300.00000 [ohm]	Factory setting 0.00000 [ohm]
p0356[0...n]	Motor stator leakage inductance		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]
p0356[0...n]	Motor stator leakage inductance		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]
p0357[0...n]	Motor stator inductance, d axis		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]
p0358[0...n]	Motor rotor leakage inductance / damping inductance, d axis		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]
p0358[0...n]	Motor rotor leakage inductance / damping inductance, d axis		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]

p0359[0...n]	Motor damping inductance, q axis		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL</p>	<p>Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 6727 Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [mH]</p>	<p>Max 1000.00000 [mH]</p>	<p>Factory setting 0.00000 [mH]</p>
p0360[0...n]	Motor magnetizing inductance/magn. inductance, d axis saturated		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL</p>	<p>Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [mH]</p>	<p>Max 10000.00000 [mH]</p>	<p>Factory setting 0.00000 [mH]</p>
p0360[0...n]	Motor magnetizing inductance/magn. inductance, d axis saturated		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL</p>	<p>Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 6727 Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [mH]</p>	<p>Max 10000.00000 [mH]</p>	<p>Factory setting 0.00000 [mH]</p>
p0361[0...n]	Motor magnetizing inductance q axis, saturated		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL</p>	<p>Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 6727 Unit selection: p0349 Expert list: 1</p>
	<p>Min 0.00000 [mH]</p>	<p>Max 10000.00000 [mH]</p>	<p>Factory setting 0.00000 [mH]</p>
p0362[0...n]	Motor saturation characteristic flux 1		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1</p>
	<p>Min 10.0 [%]</p>	<p>Max 300.0 [%]</p>	<p>Factory setting 60.0 [%]</p>
p0363[0...n]	Motor saturation characteristic flux 2		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1</p>
	<p>Min 10.0 [%]</p>	<p>Max 300.0 [%]</p>	<p>Factory setting 85.0 [%]</p>

p0364[0...n]	Motor saturation characteristic flux 3		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 115.0 [%]
p0365[0...n]	Motor saturation characteristic flux 4		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 125.0 [%]
p0366[0...n]	Motor saturation characteristic I_mag 1		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1
	Min 5.0 [%]	Max 800.0 [%]	Factory setting 50.0 [%]
p0367[0...n]	Motor saturation characteristic I_mag 2		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1
	Min 5.0 [%]	Max 800.0 [%]	Factory setting 75.0 [%]
p0368[0...n]	Motor saturation characteristic I_mag 3		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1
	Min 5.0 [%]	Max 800.0 [%]	Factory setting 150.0 [%]
p0369[0...n]	Motor saturation characteristic I_mag 4		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6726 Unit selection: - Expert list: 1
	Min 5.0 [%]	Max 800.0 [%]	Factory setting 210.0 [%]

r0370[0...n]	Motor stator resistance, cold		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: - Min - [ohm]	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: - Max - [ohm]	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1 Factory setting - [ohm]
r0372[0...n]	Cable resistance		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: - Min - [ohm]	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: - Max - [ohm]	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1 Factory setting - [ohm]
r0373[0...n]	Motor rated stator resistance		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM Min - [ohm]	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: - Max - [ohm]	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1 Factory setting - [ohm]
r0374[0...n]	Motor rotor resistance cold / damping resistance d axis		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL Min - [ohm]	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: - Max - [ohm]	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1 Factory setting - [ohm]
r0375[0...n]	Motor damping resistance, q axis		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL Min - [ohm]	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: - Max - [ohm]	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1 Factory setting - [ohm]
r0376[0...n]	Rated motor rotor resistance		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM Min - [ohm]	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: - Max - [ohm]	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1 Factory setting - [ohm]

r0377[0...n]	Motor leakage inductance, total		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: 6640 Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r0377[0...n]	Motor leakage inductance, total		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: 6640 Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r0378[0...n]	Motor stator inductance, d axis		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r0380[0...n]	Motor damping inductance, d axis		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r0381[0...n]	Motor damping inductance, q axis		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r0382[0...n]	Motor magnetizing inductance transformed / Lh d axis saturated		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]

r0383[0...n]	Motor magnetizing inductance q axis, saturated		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 4 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r0384[0...n]	Motor rotor time constant / damping time constant d axis		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6722 Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r0385[0...n]	Motor damping time constant, q axis		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r0386[0...n]	Motor stator leakage time constant		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r0387[0...n]	Motor stator leakage time constant, q axis		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
p0389[0...n]	Excitation rated no-load current		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 6722 Unit selection: - Expert list: 1
	Min 0.00 [A]	Max 10000.00 [A]	Factory setting 0.00 [A]

p0390[0...n]	Rated excitation current		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 0.00 [A]	Max 10000.00 [A]	Factory setting 0.00 [A]
p0391[0...n]	Current controller adaptation, starting point KP		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5714 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 6000.00 [Arms]	Factory setting 0.00 [Arms]
p0391[0...n]	Current controller adaptation, starting point KP		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 6000.00 [Arms]	Factory setting 0.00 [Arms]
p0392[0...n]	Current controller adaptation, starting point KP adapted		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5714 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 6000.00 [Arms]	Factory setting 0.00 [Arms]
p0392[0...n]	Current controller adaptation, starting point KP adapted		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 6000.00 [Arms]	Factory setting 0.00 [Arms]
p0393[0...n]	Current controller adaptation p gain adaptation		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 5714 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]

p0393[0...n]	Current controller adaptation P gain scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
r0395[0...n]	Actual stator resistance		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -	Access level: 3 Func. diagram: 6300, 6730, 6731, 6732 Unit selection: p0349 Expert list: 1
	Min - [ohm]	Max - [ohm]	Factory setting - [ohm]
r0396[0...n]	Actual rotor resistance		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -	Access level: 3 Func. diagram: 6730 Unit selection: p0349 Expert list: 1
	Min - [ohm]	Max - [ohm]	Factory setting - [ohm]
p0398[0...n]	Angle magn decoupling (cross saturation) coeff 1		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, FEM	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10.000000	Max 10.000000	Factory setting 0.000000
p0399[0...n]	Angle magn decoupling (cross saturation) coeff 3		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, FEM	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10.000000	Max 10.000000	Factory setting 0.000000

p0400[0...n]	Encoder type selection		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 1 Func. diagram: 1580, 4704 Unit selection: - Expert list: 1
	Min 0	Max 10100	Factory setting 0
p0401[0...n]	Encoder type, OEM selection		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: 1580, 4704 Unit selection: - Expert list: 1
	Min 0	Max 32767	Factory setting 0
p0402[0...n]	Gearbox type selection		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 10100	Factory setting 9999
p0404[0...n]	Encoder configuration effective		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p0405[0...n]	Square-wave encoder track A/B		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 1111 bin

p0407[0...n]	Linear encoder grid division		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min 0 [nm]	Max 250000000 [nm]	Factory setting 16000 [nm]
p0408[0...n]	Rotary encoder pulse No.		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min 0	Max 16777215	Factory setting 2048
p0408	TM41 encoder emulation pulse number		
TM41	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9674, 9676 Unit selection: - Expert list: 1
	Min 32	Max 16384	Factory setting 2048
p0410[0...n]	Encoder inversion actual value		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704, 4710, 4711, 4715 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p0410[0...n]	Encoder inversion actual value		
ENC (Lin_enc), ENC_840 (Lin_enc), SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704, 4710, 4711, 4715 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin

p0411[0...n]	Measuring gear, configuration		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 1 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p0412[0...n]	Measuring gear, absolute encoder, rotary, revolutions, virtual		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 1 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min 0	Max 4194303	Factory setting 0
p0413[0...n]	Measuring gear, position tracking tolerance window		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 4294967300.00	Factory setting 0.00
p0414[0...n]	Redundant coarse position value relevant bits (identified)		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 16
p0415[0...n]	Gx_XIST1 Coarse position safe most significant bit (identified)		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 31	Factory setting 14

p0416[0...n]	Non safety-relevant meas. steps position value pos1 (detected)			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 4294967295	Factory setting 22000	
p0417[0...n]	Encoder safety comparison algorithm (detected)			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 255	Factory setting 255	
p0418[0...n]	Fine resolution Gx_XIST1 (in bits)			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1	
	Min 2	Max 18	Factory setting 11	
p0418	TM41 encoder emulation fine resolution Gx_XIST1 (in bits)			
TM41	Can be changed: C2(4) Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9674, 9676 Unit selection: - Expert list: 1	
	Min 2	Max 18	Factory setting 11	
p0419[0...n]	Fine resolution absolute value Gx_XIST2 (in bits)			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704, 4710 Unit selection: - Expert list: 1	
	Min 2	Max 18	Factory setting 9	

p0420[0...n]	Encoder connection		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p0421[0...n]	Absolute encoder rotary multiturn resolution		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 4096
p0422[0...n]	Absolute encoder linear measuring step resolution		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min 0 [nm]	Max 4294967295 [nm]	Factory setting 100 [nm]
p0423[0...n]	Absolute encoder rotary singleturn resolution		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min 0	Max 1073741823	Factory setting 8192
p0424[0...n]	Encoder, linear zero mark distance		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [mm]	Max 65535 [mm]	Factory setting 20 [mm]

p0425[0...n]	Encoder, rotary zero mark distance			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 4704, 8570 Unit selection: - Expert list: 1	
	Min 0	Max 16777215	Factory setting 2048	
p0426[0...n]	Encoder zero mark differential distance			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 1	Max 65535	Factory setting 1	
p0427[0...n]	Encoder SSI baud rate			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0 [kHz]	Max 65535 [kHz]	Factory setting 100 [kHz]	
p0428[0...n]	Encoder SSI monoflop time			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0 [μ s]	Max 65535 [μ s]	Factory setting 30 [μ s]	
p0429[0...n]	Encoder SSI configuration			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0000 0000 bin	

p0430[0...n]	Sensor Module configuration		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1110 0000 0000 1000 0000 0000 0000 0000 bin
p0430[0...n]	Sensor Module configuration		
ENC (Lin_enc), ENC_840 (Lin_enc), SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1110 0000 0000 1000 0000 0000 0000 0000 bin
p0431[0...n]	Angular commutation offset		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -180.00 [°]	Max 180.00 [°]	Factory setting 0.00 [°]
p0432[0...n]	Gearbox factor, encoder revolutions		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 10000	Factory setting 1
p0433[0...n]	Gearbox factor, motor/load revolutions		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 10000	Factory setting 1

p0434[0...n]	Encoder SSI error bit		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p0435[0...n]	Encoder SSI alarm bit		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p0436[0...n]	Encoder SSI parity bit		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p0437[0...n]	Sensor Module configuration extended		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0011 0000 0000 0000 0000 1000 0000 0000 bin
p0437[0...n]	Sensor Module configuration extended		
ENC (Lin_enc), ENC_840 (Lin_enc), SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0011 0000 0000 0000 0000 1000 0000 0000 bin

p0438[0...n]	Squarewave encoder filter time		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 100.00 [µs]	Factory setting 0.64 [µs]
p0439[0...n]	Encoder ramp-up time		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 65535 [ms]	Factory setting 0 [ms]
p0440[0...n]	Copy encoder serial number		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0441[0...n]	Encoder commissioning serial number part 1		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p0442[0...n]	Encoder commissioning serial number part 2		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p0443[0...n]	Encoder commissioning serial number part 3			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex	
p0444[0...n]	Encoder commissioning serial number part 4			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex	
p0445[0...n]	Encoder commissioning serial number part 5			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex	
p0446[0...n]	Encoder SSI number of bits before the absolute value			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 65535	Factory setting 0	
p0447[0...n]	Encoder SSI number of bits absolute value			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 65535	Factory setting 25	

p0448[0...n]	Encoder SSI number of bits after the absolute value		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(4)</p> <p>Data type: Unsigned16</p> <p>P-Group: Encoder</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: EDS, p0140</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 65535	Factory setting 0
p0449[0...n]	Encoder SSI number of bits, filler bits		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(4)</p> <p>Data type: Unsigned16</p> <p>P-Group: Encoder</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: EDS, p0140</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 65535	Factory setting 1
r0451[0...2]	Commutation angle factor		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Encoder</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 4710</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -
r0452	Squarewave encoder filter time display		
ENC, ENC_840	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Encoder</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min - [μs]	Max - [μs]	Factory setting - [μs]
r0452[0...2]	Squarewave encoder filter time display		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Encoder</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min - [μs]	Max - [μs]	Factory setting - [μs]

p0453[0...n]	Pulse encoder evaluation zero speed measuring time		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [ms]	Max 10000.00 [ms]	Factory setting 1000.00 [ms]
r0455	Encoder configuration recognized		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0455[0...2]	Encoder configuration recognized		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0456	Encoder configuration supported		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0456[0...2]	Encoder configuration supported		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0458	Sensor Module properties		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0458	Sensor Module properties		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0458[0...2]	Sensor Module properties		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0458[0...2]	Sensor Module properties		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0459	Sensor Module properties extended		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0459	Sensor Module properties extended		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0459[0...2]	Sensor Module properties extended		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0459[0...2]	Sensor Module properties extended		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0460	Encoder serial number part 1		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0460[0...2]	Encoder serial number part 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0461	Encoder serial number part 2		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0461[0...2]	Encoder serial number part 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0462	Encoder serial number part 3		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0462[0...2]	Encoder serial number part 3		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0463	Encoder serial number part 4		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0463[0...2]	Encoder serial number part 4		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0464	Encoder serial number part 5		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0464[0...2]	Encoder serial number part 5		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0465[0...27]	Encoder 1 identification number/serial number		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0466[0...27]	Encoder 2 identification number/serial number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0467[0...27]	Encoder 3 identification number/serial number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0469	Absolute encoder linear measuring step		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [nm]	Max - [nm]	Factory setting - [nm]
r0469[0...2]	Absolute encoder linear measuring step		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [nm]	Max - [nm]	Factory setting - [nm]
r0470	Redundant coarse value valid bits		
ENC, ENC_840	Can be changed: - Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0470[0...2]	Redundant coarse value valid bits		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0471	Redundant coarse value fine resolution bits		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
-	-	-	-
r0471[0...2]	Redundant coarse value fine resolution bits		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
-	-	-	-
r0472	Redundant coarse position value relevant bits		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
-	-	-	-
r0472[0...2]	Redundant coarse position value relevant bits		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
-	-	-	-
r0473	Non safety-relevant measuring steps position value pos1		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
-	-	-	-
r0473[0...2]	Non safety-relevant measuring steps position value pos1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
-	-	-	-

r0474	Redundant coarse position value configuration		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0474[0...2]	Redundant coarse position value configuration		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0475	Gx_XIST1 coarse position safe most significant bit		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0475[0...2]	Gx_XIST1 coarse position safe most significant bit		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0477	CO: Measuring gear, position difference		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0477[0...2]	CO: Measuring gear, position difference		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0479	CO: Diagnostics encoder position actual value Gn_XIST1		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 4704
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r0479[0...2]	CO: Diagnostics encoder position actual value Gn_XIST1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 4704
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r0479	CO: TM41 encoder emulation diagnostics Gn_XIST1		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
p0480	CI: Encoder control word Gn_STW signal source		
ENC, ENC_840	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Integer16	Dynamic index: -	Func. diagram: 1580, 4720, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p0480[0...2]	CI: Encoder control word Gn_STW signal source		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Integer16	Dynamic index: -	Func. diagram: 1580, 4720, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0

r0481	CO: Encoder status word Gn_ZSW		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 4704, 4730, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0481[0...2]	CO: Encoder status word Gn_ZSW		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 4010, 4704, 4730, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0481	CO: TM41 encoder emulation status word Gn_ZSW		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0482	CO: Encoder actual position value Gn_XIST1		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 4704, 4735, 4740, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0482[0...2]	CO: Encoder actual position value Gn_XIST1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1580, 1680, 4704, 4735, 4740, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0482	CO: TM41 encoder emulation position actual value Gn_XIST1		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0483	CO: Encoder actual position value Gn_XIST2		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 4704, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0483[0...2]	CO: Encoder actual position value Gn_XIST2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1580, 1680, 4704, 4750
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0483	CO: TM41 encoder emulation position actual value Gn_XIST2		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0484	CO: Redundant coarse encoder position + CRC		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0484[0...2]	CO: Redundant coarse encoder position + CRC		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0485	CO: Measuring gear, encoder raw value incremental		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0485[0...2]	CO: Measuring gear, encoder raw value incremental		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0486	CO: Measuring gear, encoder raw value absolute		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0486[0...2]	CO: Measuring gear, encoder raw value absolute		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0487	Diagnostic encoder control word Gn_STW		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1580, 4704, 4720, 4740
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r0487[0...2]	Diagnostic encoder control word Gn_STW		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Encoder Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 1580, 4704, 4720, 4740 Unit selection: - Expert list: 1 Factory setting -
p0488	Measuring probe 1 input terminal		
ENC, ENC_840	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 8	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1 Factory setting 0
p0488[0...2]	Measuring probe 1 input terminal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 8	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1 Factory setting 0
p0488[0...2]	Measuring probe 1 input terminal		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 51	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1 Factory setting 0
p0489	Measuring probe 2 input terminal		
ENC, ENC_840	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 8	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1 Factory setting 0
p0489[0...2]	Measuring probe 2 input terminal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 8	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1 Factory setting 0

p0489[0...2]	Measuring probe 2 input terminal		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1
	Min 0	Max 51	Factory setting 0
p0490	Invert measuring probe or equivalent zero mark		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4740 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p0491	Motor encoder fault response ENCODER		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 5	Factory setting 0
p0491	Motor encoder fault response ENCODER		
TM41	Can be changed: T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 5	Factory setting 0
p0491	Motor encoder fault response ENCODER		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 5	Factory setting 0
p0492	Square-wave encoder, maximum speed difference per sampling cycle		
ENC, ENC_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]

p0492	Square-wave encoder, max. velocity difference per sampling cycle		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.00 [m/min]
p0492	Square-wave encoder, maximum speed difference per sampling cycle		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]
p0492	Square-wave encoder, max. velocity difference per sampling cycle		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.00 [m/min]
p0492	Maximum speed difference per sampling cycle		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]
p0493	Zero mark selection, input terminal		
ENC, ENC_840	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p0493[0...n]	Zero mark selection, input terminal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0

p0493[0...n]	Zero mark selection, input terminal		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 51	Factory setting 0
p0494[0...n]	Equivalent zero mark, input terminal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p0494[0...n]	Equivalent zero mark, input terminal		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 51	Factory setting 0
p0495	Equivalent zero mark, input terminal		
ENC, ENC_840	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4735 Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p0495[0...2]	Equivalent zero mark, input terminal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4735 Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p0495[0...2]	Equivalent zero mark, input terminal		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4735 Unit selection: - Expert list: 1
	Min 0	Max 51	Factory setting 0

p0496	Encoder diagnostic signal selection		
ENC, ENC_840	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 86	Factory setting 0
r0496[0...2]	Encoder diagnostic signal selection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 86	Factory setting 0
r0497	Encoder diagnostic signal double word		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r0497[0...2]	CO: Encoder diagnostic signal double word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r0498	Encoder diagnostic signal low word		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 4
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r0498[0...2]	CO: Encoder diagnostic signal low word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 4
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -

r0499	Encoder diagnostic signal high word		
ENC, ENC_840	Can be changed: - Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0499[0...2]	CO: Encoder diagnostic signal high word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0500	Technology application		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 5), T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 100	Max 102	Factory setting 100
p0500	Technology application		
VECTOR, VECTOR_AC	Can be changed: C2(1, 5), T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
p0505	Selecting the system of units		
A_INF, B_INF, ENC, ENC_840, S_INF, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C2(5) Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 4	Factory setting 1

p0528	Controller gain, system of units		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: C2(5) Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0528	Controller gain, system of units		
VECTOR, VECTOR_AC	Can be changed: C2(5) Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p0530[0...n]	Bearing version selection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: Unsigned16 P-Group: Motor Not for motor type: FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 104	Factory setting 0
p0531[0...n]	Bearing code number selection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3) Data type: Unsigned16 P-Group: Motor Not for motor type: FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p0532[0...n]	Bearing maximum speed		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [rpm]	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]
p0532[0...n]	Bearing maximum velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [m/min]	Max 1000.0 [m/min]	Factory setting 0.0 [m/min]

p0532[0...n]	Bearing maximum speed		
VECTOR, VECTOR_AC	Can be changed: C2(1, 3) Data type: FloatingPoint32 P-Group: Motor Not for motor type: FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [rpm]	Max 210000.0 [rpm]	Factory setting 0.0 [rpm]
r0565[0...15]	CO: Probe time stamp		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0566[0...3]	CO: Probe time stamp reference		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0567	CO: Probe diagnostics word		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0570	Inhibit list values effective number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned8 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 50	Factory setting 0

p0571[0...49]	Inhibit list, motor/closed-loop control parameter calculation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2142	Factory setting 0
p0571[0...49]	Inhibit list, motor/closed-loop control parameter calculation		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2142	Factory setting 0
p0572[0...n]	Activate/de-activate inhibit list		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0573	Inhibit automatic reference value calculation		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0578[0...n]	Calculate technology-dependent parameters		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(5), T Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p0580	Measuring probe, input terminal		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p0581	Measuring probe, edge		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0582	Measuring probe, pulses per revolution		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 12	Factory setting 1
p0583	Measuring probe, maximum measuring time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.040 [s]	Max 10.000 [s]	Factory setting 10.000 [s]
r0586	CO: Measuring probe, speed actual value		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r0586	CO: Measuring probe, velocity actual value		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

r0587	CO: Measuring probe, measuring time measured		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0588	CO: Measuring probe, pulse counter		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0589	Measuring probe, delay time		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0595	Technological unit selection		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: C2(5) Data type: Integer16 P-Group: Applications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 32	Factory setting 1
p0596	Technological unit reference quantity		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.01	Max 340.28235E36	Factory setting 1.00

p0600[0...n]	Motor temperature sensor for monitoring		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1</p>
	Min 0	Max 21	Factory setting 1
p0600[0...n]	Motor temperature sensor for monitoring		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1</p>
	Min 0	Max 21	Factory setting 0
p0601	Temperature sensor, sensor type		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	<p>Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0	Max 4	Factory setting 0
p0601[0...n]	Motor temperature sensor type		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1</p>
	Min 0	Max 11	Factory setting 2
p0602	Par_circuit power unit number, temperature sensor		
VECTOR (Parallel), VECTOR_AC (Parallel)	<p>Can be changed: C2(3), U, T Data type: Unsigned16 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0	Max 10	Factory setting 0
p0603	Cl: Motor temperature signal source		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(3), T Data type: Unsigned32 / FloatingPoint32 P-Group: Motor Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: p2006</p>	<p>Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 0

p0604[0...n]	Mot_temp_mod 1/KTY alarm threshold		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 0.0 [°C]	Max 200.0 [°C]	Factory setting 120.0 [°C]
p0604[0...n]	Mot_temp_mod 1/KTY alarm threshold		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 0.0 [°C]	Max 200.0 [°C]	Factory setting 130.0 [°C]
p0605[0...n]	Mot_temp_mod 1/2 threshold		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 2 Func. diagram: 8016, 8017 Unit selection: p0505 Expert list: 1
	Min 0.0 [°C]	Max 200.0 [°C]	Factory setting 145.0 [°C]
p0606[0...n]	Mot_temp_mod 2/KTY timer		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 600.000 [s]	Factory setting 240.000 [s]
p0606[0...n]	Mot_temp_mod 2/KTY timer		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 600.000 [s]	Factory setting 0.000 [s]
p0607[0...n]	Temperature sensor fault timer		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 600.000 [s]	Factory setting 0.100 [s]

p0608[0...3]	C1: Motor temperature signal source 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), T Data type: Unsigned32 / FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2006	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0609[0...3]	C1: Motor temperature signal source 3		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), T Data type: Unsigned32 / FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2006	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0610[0...n]	Motor overtemperature response		
VECTOR, VECTOR_AC	Can be changed: C2(3), T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 2
p0611[0...n]	I2t motor model thermal time constant		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 8017 Unit selection: - Expert list: 1
	Min 0 [s]	Max 20000 [s]	Factory setting 0 [s]
p0612[0...n]	Mot_temp_mod activation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8017 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0010 bin
p0612[0...n]	Mot_temp_mod activation		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8017 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0010 bin

p0615[0...n]	Mot_temp_mod 1 (I2t) fault threshold		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 2 Func. diagram: 8017 Unit selection: p0505 Expert list: 1
	Min 0.0 [°C]	Max 220.0 [°C]	Factory setting 180.0 [°C]
p0616[0...n]	Motor overtemperature alarm threshold 1		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 0.0 [°C]	Max 200.0 [°C]	Factory setting 195.0 [°C]
p0616[0...n]	Motor overtemperature alarm threshold 1		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 0.0 [°C]	Max 200.0 [°C]	Factory setting 130.0 [°C]
p0617[0...n]	Stator thermally relevant iron component		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 40.0 [%]
p0618[0...n]	Stator thermally relevant copper component		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 15.0 [%]
p0619[0...n]	Rotor thermally relevant weight		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 20.0 [%]

p0620[0...n]	Thermal adaptation, stator and rotor resistance		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 2
p0620[0...n]	Thermal adaptation, stator and rotor resistance		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
p0621[0...n]	Identification stator resistance after restart		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(3), T Data type: Integer16 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p0622[0...n]	Motor excitation time for Rs_ident after powering up again		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_REG Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 20.000 [s]	Factory setting 0.000 [s]
r0623	Stator resistance of Rs identification after powering up again		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ohm]	Max - [ohm]	Factory setting - [ohm]
p0624[0...n]	Motor temperature offset PT100		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: 21_2 Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min -100.0 [K]	Max 100.0 [K]	Factory setting 0.0 [K]

p0625[0...n]	Motor ambient temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 21_1 Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min -40 [°C]	Max 80 [°C]	Factory setting 20 [°C]
p0626[0...n]	Motor overtemperature, stator core		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 21_2 Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 20 [K]	Max 200 [K]	Factory setting 50 [K]
p0627[0...n]	Motor overtemperature, stator winding		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 21_2 Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 20 [K]	Max 200 [K]	Factory setting 80 [K]
p0628[0...n]	Motor overtemperature rotor winding		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: 21_2 Scaling: -	Access level: 3 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min 20 [K]	Max 200 [K]	Factory setting 100 [K]
r0630[0...n]	Mot_temp_mod ambient temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: p2006	Access level: 4 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r0631[0...n]	Mot_temp_mod stator iron temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor Not for motor type: REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: 21_1 Scaling: p2006	Access level: 4 Func. diagram: 8016 Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r0632[0...n]	Mot_temp_mod stator winding temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 21_1</p> <p>Scaling: p2006</p>	<p>Access level: 4</p> <p>Func. diagram: 8016</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r0633[0...n]	Mot_temp_mod rotor temperature		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: REL, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: 21_1</p> <p>Scaling: p2006</p>	<p>Access level: 4</p> <p>Func. diagram: 8016</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	Min - [°C]	Max - [°C]	Factory setting - [°C]
p0634[0...n]	Q flux flux constant unsaturated		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.000 [Vsrms]	Max 100.000 [Vsrms]	Factory setting 0.000 [Vsrms]
p0635[0...n]	Q flux quadrature axis current constant unsaturated		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0636[0...n]	Q flux direct axis current constant unsaturated		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0637[0...n]	Q flux flux gradient saturated		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: ASM, FEM</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.00 [mH]	Max 10000.00 [mH]	Factory setting 0.00 [mH]

p0640[0...n]	Current limit		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5722, 6640 Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p0641[0...n]	Cl: Current limit, variable		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p0642[0...n]	Encoderless operation current reduction		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 100.00 [%]
p0643[0...n]	Overvoltage protection for synchronous motors		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0643[0...n]	Overvoltage protection for synchronous motors		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(3) Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0645[0...n]	Motor kT characteristic kT1		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [N/Arms]	Max 200.00 [N/Arms]	Factory setting 0.00 [N/Arms]

p0645[0...n]	Motor kT characteristic kT1		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Nm/A]	Max 200.00 [Nm/A]	Factory setting 0.00 [Nm/A]
p0646[0...n]	Motor kT characteristic kT3		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0647[0...n]	Motor kT characteristic kT5		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0648[0...n]	Motor kT characteristic kT7		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: C2(1, 3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0650[0...n]	Actual motor operating hours		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [h]	Max 4294967295 [h]	Factory setting 0 [h]
p0651[0...n]	Motor operating hours maintenance interval		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [h]	Max 150000 [h]	Factory setting 0 [h]

p0652[0...n]	Motor stator resistance, scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0653[0...n]	Motor stator leakage inductance, scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0655[0...n]	Motor magnetizing inductance, d axis saturated scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0656[0...n]	Motor magnetizing inductance, q axis, saturated scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0657[0...n]	Motor damping inductance, d axis scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0658[0...n]	Motor damping inductance, q axis scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]

p0659[0...n]	Motor damping resistance, d axis scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0660[0...n]	Motor damping resistance, q axis scaling		
VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
p0680[0...7]	Central measuring probe, input terminal		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p0681	BI: Central measuring probe, synchronizing signal signal source		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0682	CI: Central measuring probe, control word signal source		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 / Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p0684	Central measuring probe evaluation technique		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 0
r0685	Central measuring probe, control word display		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0686[0...7]	CO: Central measuring probe, measuring time rising edge		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0687[0...7]	CO: Central measuring probe, measuring time falling edge		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0688	CO: Central measuring probe, status word display		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p0700[0...n]	Macro Binector Input (BI)		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 999999	Factory setting 0
p0700	Macro Binector Input (BI) for TMs		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, TB30, TM15DI_DO, TM31	Can be changed: C2(1), T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 999999	Factory setting 0
p0713[0...7]	BI: Cam function setpoint state		
CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0714[0...7]	CI: Cam function setting time		
CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 / Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0715[0...7]	CI: Cam function reset time		
CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 / Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

r0716.0...7	CO/BO: Cam function output		
CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0721	CU digital inputs, terminal actual value		
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0721	CX digital inputs, terminal actual value		
CU_NX_840	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2220, 2230, 2231 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0721	CU digital inputs, terminal actual value		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0722.0...21	CO/BO: CU digital inputs, status		
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0722.0...17	CO/BO: CX digital inputs, status		
CU_NX_840	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 2220, 2230, 2231
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0722.0...22	CO/BO: CU digital inputs, status		
CU_S_AC_DP,	Can be changed: -	Calculated: -	Access level: 1
CU_S_AC_PN	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0723.0...21	CO/BO: CU digital inputs, status inverted		
CU_I_840,	Can be changed: -	Calculated: -	Access level: 1
CU_S120_DP,	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133
CU_S120_PN			
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0723.0...17	CO/BO: CX digital inputs, status inverted		
CU_NX_840	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1512, 2220, 2230, 2231
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0723.0...22	CO/BO: CU digital inputs, status inverted		
CU_S_AC_DP,	Can be changed: -	Calculated: -	Access level: 1
CU_S_AC_PN	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

p0728	CU, set input or output		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1510, 2030, 2031, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1 Factory setting 0000 0000 0000 0000 bin
p0728	CX set input or output		
CU_NX_840	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1512, 2230, 2231 Unit selection: - Expert list: 1 Factory setting 0000 0000 0000 0000 bin
r0729	CU digital outputs access authority		
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 2030, 2031, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1 Factory setting -
r0729	CX digital outputs access authority		
CU_NX_840	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 2030, 2031, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1 Factory setting -
r0729	CU digital outputs access authority		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 2030, 2031, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1 Factory setting -

p0738	BI: CU, signal source for terminal DI/DO 8		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1510, 2030, 2130 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0738	BI: CX signal source for terminal DI/DO 8		
CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2230 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0739	BI: CU, signal source for terminal DI/DO 9		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2030, 2130 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0739	BI: CX signal source for terminal DI/DO 9		
CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2230 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0740	BI: CU, signal source for terminal DI/DO 10		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2031, 2131 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0740	BI: CX signal source for terminal DI/DO 10		
CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2231 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p0741	BI: CU, signal source for terminal DI/DO 11		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1510, 2031, 2131 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0741	BI: CX signal source for terminal DI/DO 11		
CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2231 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0742	BI: CU, signal source for terminal DI/DO 12		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1510, 2132 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0743	BI: CU, signal source for terminal DI/DO 13		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2132 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0744	BI: CU, signal source for terminal DI/DO 14		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2133 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0745	BI: CU, signal source for terminal DI/DO 15		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1510, 2133 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p0746	BI: CU signal source for terminal DO 16		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned32 / Binary	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1510, 2030, 2130
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r0747	CU, digital outputs status		
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 2130, 2131, 2132, 2133
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0747	CX digital outputs, status		
CU_NX_840	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0747	CU, digital outputs status		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: - Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 2130, 2131, 2132, 2133
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0748	CU, invert digital outputs		
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 2030, 2031, 2130, 2131, 2132, 2133
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin

p0748	CX invert digital outputs		
CU_NX_840	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2230, 2231 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p0748	CU, invert digital outputs		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2030, 2031, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
r0752[0]	CO: CU analog input input voltage/current actual		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0753[0]	CU analog input smoothing time constant		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 0.0 [ms]
r0755[0]	CO: CU analog input actual value in percent		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 1840, 9566 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p0756[0]	CU analog input type		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2040 Unit selection: - Expert list: 1
	Min 0	Max 5	Factory setting 4
p0757[0]	CU analog input characteristic value x1		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 0.000
p0758[0]	CU analog input characteristic value y1		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 0.00 [%]
p0759[0]	CU analog input characteristic value x2		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 10.000
p0760[0]	CU analog input characteristic value y2		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p0761[0]	CU analog input wire breakage monitoring response threshold		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min 0.00 [mA]	Max 20.00 [mA]	Factory setting 2.00 [mA]

p0762[0]	CU analog input wire breakage monitoring delay time		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 100 [ms]
p0763[0]	CU analog input offset		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 0.000
p0766[0]	CU analog input activate absolute value generation		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0767[0]	BI: CU analog input signal source for inversion		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0768[0]	CU analog input window to suppress noise		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 20.00 [%]	Factory setting 0.00 [%]
p0769[0]	BI: CU analog input enable signal source		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p0771[0...2]	Cl: Test sockets signal source			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
r0772[0...2]	Test sockets output signal			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
r0774[0...2]	Test sockets output voltage			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
p0776[0...2]	Test socket mode			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 8134 Unit selection: - Expert list: 1	
	Min 96	Max 99	Factory setting 99	
p0777[0...2]	Test socket characteristic value x1			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1	
	Min -100000.00 [%]	Max 100000.00 [%]	Factory setting 0.00 [%]	

p0778[0...2]	Test socket characteristic value y1		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1
	Min 0.00 [V]	Max 4.98 [V]	Factory setting 2.49 [V]
p0779[0...2]	Test socket characteristic value x2		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1
	Min -100000.00 [%]	Max 427.9E9 [%]	Factory setting 100.00 [%]
p0780[0...2]	Test socket characteristic value y2		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1
	Min 0.00 [V]	Max 4.98 [V]	Factory setting 4.98 [V]
p0783[0...2]	Test sockets offset		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1
	Min -4.98 [V]	Max 4.98 [V]	Factory setting 0.00 [V]
p0784[0...2]	Test socket limit on/off		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

r0786[0...2]	Test socket scaling per volt			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8134 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p0788[0...2]	Test sockets physical address			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin	
p0789[0...2]	Test sockets physical address gain			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -340.28235E36	Max 340.28235E36	Factory setting 1.00000	
r0790[0...2]	Test sockets physical address signal value			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p0795	CU digital inputs simulation mode			
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin	

p0795	CX digital inputs, simulation mode		
CU_NX_840	Can be changed: U, T Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 2220, 2230, 2231
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p0795	CU digital inputs simulation mode		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p0796	CU digital inputs simulation mode setpoint		
CU_I_840, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p0796	CX digital inputs, simulation mode, setpoint		
CU_NX_840	Can be changed: U, T Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 2020, 2030, 2031
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin

p0796	CU digital inputs simulation mode setpoint		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Unsigned32	Calculated: - Dynamic index: -	Access level: 2 Func. diagram: 1510, 2020, 2030, 2031, 2100, 2120, 2130, 2131, 2132, 2133
	P-Group: Commands Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p0797[0]	CU analog input simulation mode		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0798[0]	CU analog input simulation mode setpoint		
CU_S_AC_DP, CU_S_AC_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 0.000
p0799[0...2]	CU inputs/outputs, sampling time		
CU_I_840	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2020, 2030, 2031 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 5000.00 [μs]	Factory setting 4000.00 [μs]
p0799[0...2]	CX inputs/outputs, sampling time		
CU_NX_840	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2020, 2030, 2031 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 5000.00 [μs]	Factory setting 4000.00 [μs]

p0799[0...2]	CU inputs/outputs, sampling time			
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2020, 2030, 2031 Unit selection: - Expert list: 1	
	Min 0.00 [µs]	Max 5000.00 [µs]	Factory setting 4000.00 [µs]	
p0806	BI: Inhibit master control			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
r0807.0	BO: Master control active			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p0809[0...2]	Copy Command Data Set CDS			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned8 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8560 Unit selection: - Expert list: 1	
	Min 0	Max 15	Factory setting 0	
p0810	BI: Command data set selection CDS bit 0			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8560 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	

p0811	BI: Command data set selection CDS bit 1		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8560 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0819[0...2]	Copy Drive Data Set DDS		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C2(15) Data type: Unsigned8 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min 0	Max 31	Factory setting 0
p0820[0...n]	BI: Drive Data Set selection DDS bit 0		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C2(15), T Data type: Unsigned32 / Binary P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 8565, 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0821[0...n]	BI: Drive Data Set selection DDS bit 1		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C2(15), T Data type: Unsigned32 / Binary P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0822[0...n]	BI: Drive Data Set selection DDS bit 2		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C2(15), T Data type: Unsigned32 / Binary P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0823[0...n]	BI: Drive Data Set selection DDS bit 3		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: C2(15), T Data type: Unsigned32 / Binary P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p0824[0...n]	BI: Drive Data Set selection DDS bit 4		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	<p>Can be changed: C2(15), T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Data sets</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8565, 8575</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting 0
p0826[0...n]	Motor changeover, motor number		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8575</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 15	Factory setting 0
p0826[0...n]	Motor changeover, motor number		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8575</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 15	Factory setting 0
p0827[0...n]	Motor changeover status word bit number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(3)</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8575</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 15	Factory setting 0
p0828[0...n]	BI: Motor changeover, feedback signal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(3), T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8575</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting 0
r0830.0...15	CO/BO: Motor changeover, status word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8575</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -

p0831[0...15]	BI: Motor changeover, contactor feedback		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r0832.0...15	CO/BO: Mot. changeover, contactor feedback sig. status word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0833	Data set changeover configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(15) Data type: Unsigned16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p0833	Data set changeover configuration		
VECTOR, VECTOR_AC	Can be changed: C2(15) Data type: Unsigned16 P-Group: Data sets Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0010 bin
r0835.2	CO/BO: Data set changeover status word		
ENC, ENC_840, TM41	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0835.0...11	CO/BO: Data set changeover status word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8575 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0836.0...3	CO/BO: Command Data Set CDS selected		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 8560 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0837.0...4	CO/BO: Drive Data Set DDS selected		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0838[0...3]	Motor/Encoder Data Set selected		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8565 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0839	Motor changeover contactor control delay time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3) Data type: Unsigned16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 500 [ms]	Factory setting 0 [ms]
p0840[0...n]	BI: ON / OFF (OFF1)		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501, 2610, 8720, 8820, 8920 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p0840	BI: ON / OFF (OFF1)		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9677 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0844[0...n]	BI: No coast-down / coast-down (OFF2) signal source 1		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501, 8720, 8820, 8920 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p0844	BI: No coast-down / coast-down (OFF2)		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9677 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p0845[0...n]	BI: No coast-down / coast-down (OFF2) signal source 2		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501, 8720, 8820, 8920 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p0848[0...n]	BI: No Quick Stop / Quick Stop (OFF3) signal source 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p0848	BI: No Quick Stop / Quick Stop (OFF3)		
TM41	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9677
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	1
p0849[0...n]	BI: No Quick Stop / Quick Stop (OFF3) signal source 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: CDS, p0170	Func. diagram: 2501
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	1
p0852[0...n]	BI: Enable operation/inhibit operation		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: CDS, p0170	Func. diagram: 2501, 8820, 8920
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	1
p0852	BI: Enable operation/inhibit operation		
TM41	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9677
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	1
p0854[0...n]	BI: Control by PLC/no control by PLC		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: CDS, p0170	Func. diagram: 2501, 8720, 8820, 8920
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	1

p0854	BI: Control by PLC/no control by PLC		
ENC, ENC_840	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2501, 8720, 8820, 8920 Unit selection: - Expert list: 1 Factory setting 1
p0854	BI: Control by PLC/no control by PLC		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 9677, 9678 Unit selection: - Expert list: 1 Factory setting 1
p0855[0...n]	BI: Unconditionally release holding brake		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2501, 2701, 2707 Unit selection: - Expert list: 1 Factory setting 0
p0856[0...n]	BI: Speed controller enable		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2501, 2701, 2707 Unit selection: - Expert list: 1 Factory setting 1
p0856[0...n]	BI: Velocity controller enable		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2501, 2701, 2707 Unit selection: - Expert list: 1 Factory setting 1

p0857	Power unit monitoring time		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8760, 8864, 8964 Unit selection: - Expert list: 1
	Min 100.0 [ms]	Max 60000.0 [ms]	Factory setting 6000.0 [ms]
p0857	Power unit monitoring time		
SERVO_840	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8760, 8864, 8964 Unit selection: - Expert list: 1
	Min 100.0 [ms]	Max 60000.0 [ms]	Factory setting 2000.0 [ms]
p0858[0...n]	BI: Unconditionally close holding brake		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: 2501, 2701, 2707 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 9719.13
p0858[0...n]	BI: Unconditionally close holding brake		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: 2501, 2701, 2707 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p0860	BI: Line cont. fdbk sig		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2634, 8734, 8834, 8934 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 863.1

p0861	Line contactor monitoring time		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 2634, 8734, 8834, 8934 Unit selection: - Expert list: 1</p>
	Min 0 [ms]	Max 5000 [ms]	Factory setting 100 [ms]
p0862	Power unit ON delay		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 2610, 8732, 8832, 8932 Unit selection: - Expert list: 1</p>
	Min 0 [ms]	Max 65000 [ms]	Factory setting 0 [ms]
r0863.0...2	CO/BO: Drive coupling status word/control word		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting -
p0864	BI: Infeed operation		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 1773, 1774, 2610 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 0
p0868	Power unit DC switch debounce time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0 [ms]	Max 65000 [ms]	Factory setting 65000 [ms]

r0873	CO/BO: Infeed, total operation		
B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8732, 8832 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0874	BI: Smart/ Basic Line Module operation		
B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8732, 8832 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r0887.0...13	BO: ESR status word		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0888	ESR configuration		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 3082 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p0889	BI: ESR response enable		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 3082 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2090.9

p0890[0...4]	BI: ESR trigger		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 3082 Unit selection: - Expert list: 1</p>
	<p>Min -</p>	Max	<p>Factory setting [0] 2090.2 [1] 9721.15 [2] 9723.1 [3] 9723.2 [4] 0</p>
p0891	ESR OFF ramp		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	<p>Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 3082 Unit selection: - Expert list: 1</p>
	<p>Min 0</p>	Max 1	<p>Factory setting 0</p>
p0892	ESR timer		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.00 [s]</p>	Max 20.00 [s]	<p>Factory setting 0.50 [s]</p>
p0893	ESR velocity		
SERVO (ESR, Lin), SERVO_840 (ESR, Lin), SERVO_AC (ESR, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 3082 Unit selection: - Expert list: 1</p>
	<p>Min -340.28235E36 [m/min]</p>	Max 340.28235E36 [m/min]	<p>Factory setting 0 [m/min]</p>
p0893	ESR speed		
SERVO (ESR), SERVO_840 (ESR), SERVO_AC (ESR)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 3082 Unit selection: - Expert list: 1</p>
	<p>Min -340.28235E36 [rpm]</p>	Max 340.28235E36 [rpm]	<p>Factory setting 0 [rpm]</p>

p0894	Parking pre-setting		
ENC_840	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0001 bin
p0894	Parking pre-setting		
ENC, SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0000 bin
p0894	Parking pre-setting		
SERVO_840	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0001 bin
p0895[0...n]	Bi: Activate/de-activate power unit components		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: PDS, p0120</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	1
r0896.0	BO: Parking axis, status word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-

p0897	BI: Parking axis selection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r0898.0...10	CO/BO: Control word sequence control infeed		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 8820, 8920 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0898.0...10	CO/BO: Control word sequence control infeed		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8720 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0898.0...15	CO/BO: Control word drive object 1		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0898.10	CO/BO: Control word sequence control encoder DO		
ENC, ENC_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0898.0...14	CO/BO: Control word sequence control		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2501 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0898.0...14	CO/BO: Control word sequence control		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2501 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0898.0...13	CO/BO: Control word sequence control		
TM41	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9678 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0899.0...12	CO/BO: Status word sequence control infeed		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 8826, 8926 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0899.0...12	CO/BO: Status word sequence control infeed		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8726 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0899.0...15	CO/BO: Status word drive object 1		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0899.7...9	CO/BO: Status word sequence control encoder DO		
ENC, ENC_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0899.0...15	CO/BO: Status word sequence control		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2503 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0899.0...15	CO/BO: Status word sequence control		
TM41	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9680 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0915[0...29]	TM15 PROFIdrive PZD setpoint assignment		
TM15	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4273	Factory setting [0] 4201 [1] 4204 [2] 4205 [3] 4211 [4] 4212 [5] 4213 [6...29] 0

p0915[0...35]	TM17 PROFIdrive PZD setpoint assignment		
TM17	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4265	Factory setting [0] 4201 [1] 4204 [2] 4211 [3] 4212 [4...35] 0
p0916[0...29]	TM15 PROFIdrive PZD actual value assignment		
TM15	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4373	Factory setting [0] 4301 [1] 4304 [2] 4305 [3] 4311 [4] 4312 [5] 4313 [6...29] 0
p0916[0...35]	TM17 PROFIdrive PZD actual value assignment		
TM17	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4365	Factory setting [0] 4301 [1] 4304 [2] 4311 [3] 4312 [4...35] 0
p0918	PROFIBUS address		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1520, 2410 Unit selection: - Expert list: 1
	Min 1	Max 126	Factory setting 126

p0922	IF1 PROFIdrive telegram selection		
A_INF_840, B_INF_840, S_INF_840	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 999	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2420, 2423, 2447, 2457, 2481, 2483 Unit selection: - Expert list: 1 Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
A_INF, B_INF, S_INF	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 370	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2420, 2423, 2447, 2457, 2481, 2483 Unit selection: - Expert list: 1 Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
CU_I_840	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 390	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2420, 2423, 2481, 2483 Unit selection: - Expert list: 1 Factory setting 391
p0922	IF1 PROFIdrive telegram selection		
CU_NX_840	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 390	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2420, 2423, 2481, 2483 Unit selection: - Expert list: 1 Factory setting 390
p0922	IF1 PROFIdrive telegram selection		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 390	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2420, 2423, 2481, 2483 Unit selection: - Expert list: 1 Factory setting 999

p0922	IF1 PROFIdrive telegram selection		
ENC, ENC_840	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 81	Max 999	Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
SERVO_840	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 136
p0922	IF1 PROFIdrive telegram selection		
SERVO, SERVO_AC	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
SERVO (EPOS, Pos ctrl, Spin_diag), SERVO_840 (EPOS, Pos ctrl, Spin_diag), SERVO_AC (EPOS, Pos ctrl, Spin_diag)	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 7	Max 999	Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
SERVO (Pos ctrl, Spin_diag), SERVO_840 (Pos ctrl, Spin_diag), SERVO_AC (Pos ctrl, Spin_diag)	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 999	Max 999	Factory setting 999

p0922	IF1 PROFIdrive telegram selection		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 1	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423 Unit selection: - Expert list: 1 Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
TM15, TM17	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 0	Access level: 1 Func. diagram: 2481, 2483 Unit selection: - Expert list: 1 Factory setting 0
p0922	IF1 PROFIdrive telegram selection		
TM41	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 3	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 9677, 9679, 9681, 9683 Unit selection: - Expert list: 1 Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 1	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423 Unit selection: - Expert list: 1 Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
VECTOR (EPOS, n/M, Pos ctrl), VECTOR_AC (EPOS, n/M, Pos ctrl)	Can be changed: C2(1), T Data type: Unsigned16 P-Group: Communications Not for motor type: - Min 7	Calculated: - Dynamic index: - Units group: - Scaling: - Max 999	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423 Unit selection: - Expert list: 1 Factory setting 999

p0922	IF1 PROFIdrive telegram selection		
VECTOR (n/M, Pos ctrl), VECTOR_AC (n/M, Pos ctrl)	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 999	Max 999	Factory setting 999
p0922	IF1 PROFIdrive telegram selection		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(1), T Data type: Unsigned16	Calculated: - Dynamic index: -	Access level: 1 Func. diagram: 1520, 2415, 2416, 2419, 2420, 2421, 2422, 2423
	P-Group: Communications Not for motor type: -	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 999
r0924[0...1]	ZSW bit pulses enabled		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2454, 2456 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p0925	PROFIdrive clock synchronous sign-of-life tolerance		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 1
r0930	PROFIdrive operating mode		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0944	CO: Counter for fault buffer changes		
All objects	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0945[0...63]	Fault code		
All objects	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1750, 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0946[0...65534]	Fault code list		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 0
	Min	Max	Factory setting
	-	-	-
r0947[0...63]	Fault number		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1750, 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r0948[0...63]	Fault time received in milliseconds		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1750, 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
	-	-	-
r0949[0...63]	Fault value		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 1750, 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

p0952	Fault cases, counter		
All objects	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1710, 8060 Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
r0963	PROFIBUS baud rate		
CU_S_AC_DP, CU_S120_DP	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -
r0964[0...6]	Device identification		
CU_I_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0964[0...6]	Device identification		
CU_NX_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0964[0...6]	Device identification		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0965	PROFIdrive profile number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p0969	System runtime relative		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: T</p> <p>Data type: Unsigned32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 1750, 8060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0 [ms]	Max 4294967295 [ms]	Factory setting 0 [ms]
p0970	Reset infeed parameter		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	<p>Can be changed: C2(30)</p> <p>Data type: Unsigned16</p> <p>P-Group: Factory settings</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 100	Factory setting 0
p0970	ENCODER reset parameters		
ENC, ENC_840	<p>Can be changed: C2(30)</p> <p>Data type: Unsigned16</p> <p>P-Group: Factory settings</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 100	Factory setting 0
p0970	Reset drive parameters		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(30)</p> <p>Data type: Unsigned16</p> <p>P-Group: Factory settings</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 100	Factory setting 0
p0970	TB30 reset parameters		
TB30	<p>Can be changed: C2(30)</p> <p>Data type: Unsigned16</p> <p>P-Group: Factory settings</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 100	Factory setting 0
p0970	TM120 reset parameters		
TM120	<p>Can be changed: C2(30)</p> <p>Data type: Unsigned16</p> <p>P-Group: Factory settings</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 100	Factory setting 0

p0970	TM15 reset parameter		
TM15	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0
p0970	TM150 reset parameters		
TM150	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0
p0970	TM15DI/DO reset parameter		
TM15DI_DO	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0
p0970	TM17 reset parameter		
TM17	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0
p0970	TM31 reset parameters		
TM31	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0
p0970	TM41 reset parameters		
TM41	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0

p0970	TM54F reset parameters		
TM54F_MA	Can be changed: C2(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100	Factory setting 0
p0971	Save drive object parameters		
All objects	Can be changed: U, T Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p0972	Drive unit reset		
CU_I_840	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p0972	Drive unit reset		
CU_NX_840	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p0972	Drive unit reset		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
r0975[0...10]	Drive object identification		
All objects	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p0976	Reset and load all parameters		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(30) Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1013	Factory setting 0
p0977	Save all parameters		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Factory settings Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1013	Factory setting 0
p0978[0...24]	List of drive objects		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned8 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting [0] 1 [1...24] 0
r0979[0...10]	PROFIdrive encoder format		
ENC, ENC_840, TM41	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0979[0...10]	PROFIdrive encoder format		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r0979[0...30]	PROFdrive encoder format		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0979[0...30]	PROFdrive encoder format		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r0980[0...299]	List of existing parameters 1		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r0981[0...299]	List of existing parameters 2		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r0989[0...299]	List of existing parameters 10		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r0990[0...99]	List of modified parameters 1		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r0991[0...99]	List of modified parameters 2		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 0
	Min	Max	Factory setting
	-	-	-
r0999[0...99]	List of modified parameters 10		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 0
	Min	Max	Factory setting
	-	-	-
p1000[0...n]	Macro Connector Inputs (CI) for speed setpoints		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	999999	0
p1000[0...n]	Macro Connector Inputs (CI) for velocity setpoints		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1), T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	999999	0
p1001[0...n]	CO: Fixed velocity setpoint 1		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 1021, 3010 Unit selection: p0505 Expert list: 1
	Min	Max	Factory setting
	-1000.000 [m/min]	1000.000 [m/min]	0.000 [m/min]

p1001[0...n]	CO: Fixed speed setpoint 1		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 1021, 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1002[0...n]	CO: Fixed velocity setpoint 2		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1002[0...n]	CO: Fixed speed setpoint 2		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1003[0...n]	CO: Fixed velocity setpoint 3		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1003[0...n]	CO: Fixed speed setpoint 3		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]

p1004[0...n]	CO: Fixed velocity setpoint 4		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1004[0...n]	CO: Fixed speed setpoint 4		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1005[0...n]	CO: Fixed velocity setpoint 5		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1005[0...n]	CO: Fixed speed setpoint 5		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1006[0...n]	CO: Fixed velocity setpoint 6		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]

p1006[0...n]	CO: Fixed speed setpoint 6		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1007[0...n]	CO: Fixed velocity setpoint 7		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1007[0...n]	CO: Fixed speed setpoint 7		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1008[0...n]	CO: Fixed velocity setpoint 8		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1008[0...n]	CO: Fixed speed setpoint 8		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]

p1009[0...n]	CO: Fixed velocity setpoint 9		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1009[0...n]	CO: Fixed speed setpoint 9		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1010[0...n]	CO: Fixed velocity setpoint 10		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1010[0...n]	CO: Fixed speed setpoint 10		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1011[0...n]	CO: Fixed velocity setpoint 11		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]

p1011[0...n]	CO: Fixed speed setpoint 11		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1012[0...n]	CO: Fixed velocity setpoint 12		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1012[0...n]	CO: Fixed speed setpoint 12		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1013[0...n]	CO: Fixed velocity setpoint 13		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1013[0...n]	CO: Fixed speed setpoint 13		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000</p>	<p>Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1</p>
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]

p1014[0...n]	CO: Fixed velocity setpoint 14		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1014[0...n]	CO: Fixed speed setpoint 14		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3010 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1015[0...n]	CO: Fixed velocity setpoint 15		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 1021, 3010 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1015[0...n]	CO: Fixed speed setpoint 15		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 1021, 3010 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1020[0...n]	BI: Fixed velocity setpoint selection Bit 0		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1020[0...n]	BI: Fixed speed setpoint selection Bit 0			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1021[0...n]	BI: Fixed velocity setpoint selection Bit 1			
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1021[0...n]	BI: Fixed speed setpoint selection Bit 1			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1022[0...n]	BI: Fixed velocity setpoint selection Bit 2			
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1022[0...n]	BI: Fixed speed setpoint selection Bit 2			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	

p1023[0...n]	BI: Fixed velocity setpoint selection Bit 3		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1023[0...n]	BI: Fixed speed setpoint selection Bit 3		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1024	CO: Fixed velocity setpoint effective		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3010 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1024	CO: Fixed speed setpoint effective		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3010 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1030[0...n]	Motorized potentiometer configuration		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0110 bin

p1035[0...n]	BI: Motorized potentiometer setpoint raise		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505, 3020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1035	BI: Zero marks enable		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9677 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1036[0...n]	BI: Motorized potentiometer lower setpoint		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505, 3020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1037[0...n]	Motorized potentiometer maximum velocity		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1037[0...n]	Motorized potentiometer maximum speed		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]

p1038[0...n]	Motorized potentiometer minimum velocity		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1038[0...n]	Motorized potentiometer minimum speed		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1039[0...n]	BI: Motorized potentiometer inversion		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 3020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1040[0...n]	Motorized potentiometer starting value		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1040[0...n]	Motorized potentiometer starting value		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]

p1041[0...n]	BI: Motorized potentiometer manual/automatic			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 3020 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1042[0...n]	CI: Motorized potentiometer automatic setpoint			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3020 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1043[0...n]	BI: Motorized potentiometer accept setting value			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 3020 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1044[0...n]	CI: Motorized potentiometer setting value			
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3020 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
r1045	CO: Mot. potentiom. velocity setup. in front of ramp-fct. gen.			
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3020 Unit selection: p0505 Expert list: 1	
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]	

r1045	CO: Mot. potentiometer speed setup. in front of ramp-fct. gen.		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3020 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1047[0...n]	Motorized potentiometer ramp-up time		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 1000.000 [s]	Factory setting 10.000 [s]
p1048[0...n]	Motorized potentiometer ramp-down time		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3020 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 1000.000 [s]	Factory setting 10.000 [s]
r1050	CO: Motor. potentiometer setpoint after the ramp-function generator		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3020 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1050	CO: Motor. potentiometer setpoint after the ramp-function generator		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3020 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

p1051[0...n]	Cl: Velocity limit RFG positive direction		
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1083[0]
p1051[0...n]	Cl: Speed limit RFG positive direction of rotation		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1083[0]
p1052[0...n]	Cl: Velocity limit RFG negative direction		
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1086[0]
p1052[0...n]	Cl: Speed limit RFG negative direction of rotation		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1086[0]
p1055[0...n]	Bl: Jog bit 0		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501, 3030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1056[0...n]	Bl: Jog bit 1	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501, 3030 Unit selection: - Expert list: 1
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Min -	Max -	Factory setting 0	
p1058[0...n]	Jog 1 velocity setpoint	Can be changed: T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 1550, 3030 Unit selection: p0505 Expert list: 1
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]	
p1058[0...n]	Jog 1 speed setpoint	Can be changed: T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 1550, 3030 Unit selection: p0505 Expert list: 1
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]	
p1059[0...n]	Jog 2 velocity setpoint	Can be changed: T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 1550, 3030 Unit selection: p0505 Expert list: 1
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Min -1000.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]	
p1059[0...n]	Jog 2 speed setpoint	Can be changed: T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 1550, 3030 Unit selection: p0505 Expert list: 1
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Min -210000.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]	

p1063[0...n]	Velocity limit setpoint channel		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 1 Func. diagram: 3040 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 1000.000 [m/min]
p1063[0...n]	Speed limit setpoint channel		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 1 Func. diagram: 3040 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 210000.000 [rpm]
p1063[0...n]	Speed limit setpoint channel		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 1 Func. diagram: 3040 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 40000.000 [rpm]
p1070[0...n]	CI: Main setpoint		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 1550, 3030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1024[0]
p1071[0...n]	CI: Main setpoint scaling		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1550, 3030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

r1073	CO: Main setpoint effective		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3030 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1073	CO: Main setpoint effective		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3030 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1075[0...n]	Cl: Supplementary setpoint		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 1550, 3030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1076[0...n]	Cl: Supplementary setpoint scaling		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1550, 3030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
r1077	CO: Supplementary setpoint effective		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3030 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

r1077	CO: Supplementary setpoint effective		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3030 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1078	CO: Total setpoint effective		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3030 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1078	CO: Total setpoint effective		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3030 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1080[0...n]	Minimum velocity		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: C2(1), T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 1 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1080[0...n]	Minimum speed		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 1 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 19500.000 [rpm]	Factory setting 0.000 [rpm]

p1082[0...n]	Maximum speed		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1), T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min 0.000 [rpm]	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max 210000.000 [rpm]	Access level: 1 Func. diagram: 3020, 3050, 3060, 3070, 3095, 5300 Unit selection: p0505 Expert list: 1 Factory setting 1500.000 [rpm]
p1082[0...n]	Maximum velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1), T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min 0.000 [m/min]	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 4_1 Scaling: - Max 1000.000 [m/min]	Access level: 1 Func. diagram: 3020, 3050, 3060, 3070, 3095, 5300 Unit selection: p0505 Expert list: 1 Factory setting 1000.000 [m/min]
r1082[0...n]	Encoder emulation, maximum speed		
TM41	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: - Min - [rpm]	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max - [rpm]	Access level: 1 Func. diagram: 9674, 9676 Unit selection: p0505 Expert list: 1 Factory setting - [rpm]
p1082[0...n]	Maximum speed		
VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min 0.000 [rpm]	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max 210000.000 [rpm]	Access level: 1 Func. diagram: 3020, 3050, 3060, 3070, 3095, 5300 Unit selection: p0505 Expert list: 1 Factory setting 1500.000 [rpm]
p1083[0...n]	CO: Speed limit in positive direction of rotation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min 0.000 [rpm]	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000 Max 210000.000 [rpm]	Access level: 2 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1 Factory setting 210000.000 [rpm]

p1083[0...n]	CO: Velocity limit positive direction		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 1000.000 [m/min]
p1083[0...n]	CO: Speed limit in positive direction of rotation		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3050, 6732 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 40000.000 [rpm]
r1084	CO: Speed limit positive effective		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1084	CO: Velocity limit positive effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
p1085[0...n]	CI: Velocity limit positive direction		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1083[0]

p1085[0...n]	CI: Speed limit in positive direction of rotation		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1083[0]
p1086[0...n]	CO: Speed limit in negative direction of rotation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 0.000 [rpm]	Factory setting -210000.000 [rpm]
p1086[0...n]	CO: Velocity limit negative direction		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min -1000.000 [m/min]	Max 0.000 [m/min]	Factory setting -1000.000 [m/min]
p1086[0...n]	CO: Speed limit in negative direction of rotation		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min -210000.000 [rpm]	Max 0.000 [rpm]	Factory setting -40000.000 [rpm]
r1087	CO: Speed limit negative effective		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r1087	CO: Velocity limit negative effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050, 3095 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
p1088[0...n]	CI: Velocity limit negative direction		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1086[0]
p1088[0...n]	CI: Speed limit in negative direction of rotation		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1086[0]
p1091[0...n]	Skip velocity 1		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1091[0...n]	Skip speed 1		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]

p1092[0...n]	Skip velocity 2		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1092[0...n]	Skip speed 2		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1093[0...n]	Skip velocity 3		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1093[0...n]	Skip speed 3		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1094[0...n]	Skip velocity 4		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]

p1094[0...n]	Skip speed 4		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1101[0...n]	Skip velocity bandwidth		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 0.000 [m/min]
p1101[0...n]	Skip speed bandwidth		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 0.000 [rpm]
p1106[0...n]	Cl: Minimum velocity signal source		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1106[0...n]	Cl: Minimum speed signal source		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1110[0...n]	Bl: Inhibit negative direction		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505, 3040 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1111[0...n]	Bl: Inhibit positive direction		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505, 3040 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1112	CO: Velocity setpoint after minimum limiting		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1112	CO: Speed setpoint after minimum limiting		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3050 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1113[0...n]	Bl: Setpoint inversion		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2441, 2442, 2505, 3040 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

r1114	CO: Setpoint after the direction limiting		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3040, 3050 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1114	CO: Setpoint after the direction limiting		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3040, 3050 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1115	Ramp-function generator selection		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1550, 3080 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r1119	CO: Ramp-function generator setpoint at the input		
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 1690, 3050, 3060, 3070 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1119	CO: Ramp-function generator setpoint at the input		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 1690, 3050, 3060, 3070 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

p1120[0...n]	Ramp-function generator ramp-up time		
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]
p1120[0...n]	Ramp-function generator ramp-up time		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set)	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]
p1120[0...n]	Ramp-function generator ramp-up time		
VECTOR, VECTOR_AC	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]
p1121[0...n]	Ramp-function generator ramp-down time		
SERVO_840	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 0.000 [s]
p1121[0...n]	Ramp-function generator ramp-down time		
SERVO, SERVO_AC	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]

p1121[0...n]	Ramp-function generator ramp-down time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 0.000 [s]
p1121[0...n]	Ramp-function generator ramp-down time		
VECTOR, VECTOR_AC	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]
p1122[0...n]	Bl: Bypass ramp-function generator		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2505 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1130[0...n]	Ramp-function generator initial rounding-off time		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 30.000 [s]	Factory setting 0.000 [s]
p1131[0...n]	Ramp-function generator final rounding-off time		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 30.000 [s]	Factory setting 0.000 [s]

p1134[0...n]	Ramp-function generator rounding-off type		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3070 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1135[0...n]	OFF3 ramp-down time		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 600.000 [s]	Factory setting 0.000 [s]
p1135[0...n]	OFF3 ramp-down time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 600.000 [s]	Factory setting 0.000 [s]
p1135[0...n]	OFF3 ramp-down time		
VECTOR, VECTOR_AC	Can be changed: C2(1), U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 600.000 [s]	Factory setting 3.000 [s]
p1136[0...n]	OFF3 initial rounding-off time		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 30.000 [s]	Factory setting 0.000 [s]

p1137[0...n]	OFF3 final rounding-off time		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3070 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 30.000 [s]	Factory setting 0.000 [s]
p1138[0...n]	Cl: Up ramp scaling		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1139[0...n]	Cl: Down ramp scaling		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1140[0...n]	Bl: Enable ramp-function generator/inhibit ramp-function generator		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1140	Bl: Enable ramp-function generator/inhibit ramp-function generator		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9678 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p1141[0...n]	BI: Continue ramp-function generator/freeze ramp-function generator		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1141	BI: Continue ramp-function generator/freeze ramp-function generator		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9678 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1142[0...n]	BI: Enable setpoint/inhibit setpoint		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2501 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1142	BI: Enable setpoint/inhibit setpoint		
TM41	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9674, 9678 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1143[0...n]	BI: Ramp-function generator, accept setting value		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1144[0...n]	C1: Ramp-function generator setting value			
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3060, 3070 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1145[0...n]	Ramp-function generator tracking intensity.			
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3080 Unit selection: - Expert list: 1	
	Min 0.0	Max 50.0	Factory setting 1.3	
p1145[0...n]	Ramp-function generator tracking intensity.			
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3080 Unit selection: - Expert list: 1	
	Min 0.0	Max 50.0	Factory setting 1.3	
p1148[0...n]	Ramp-function gen., tolerance for ramp-up and ramp-down active			
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: 3060, 3070 Unit selection: p0505 Expert list: 1	
	Min 0.000 [m/min]	Max 10.000 [m/min]	Factory setting 0.200 [m/min]	
p1148[0...n]	Ramp-function gen., tolerance for ramp-up and ramp-down active			
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 3060, 3070 Unit selection: p0505 Expert list: 1	
	Min 0.000 [rpm]	Max 1000.000 [rpm]	Factory setting 19.800 [rpm]	

r1149	CO: Ramp-function generator, acceleration		
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 22_2 Scaling: p2007	Access level: 3 Func. diagram: 3060, 3070 Unit selection: p0505 Expert list: 1
	Min - [m/s ²]	Max - [m/s ²]	Factory setting - [m/s ²]
r1149	CO: Ramp-function generator, acceleration		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 39_1 Scaling: p2007	Access level: 3 Func. diagram: 3060, 3070 Unit selection: p0505 Expert list: 1
	Min - [rev/s ²]	Max - [rev/s ²]	Factory setting - [rev/s ²]
r1150	CO: Ramp-function generator velocity setpoint at the output		
SERVO (ESR, Extended set, Lin), SERVO_840 (ESR, Extended set, Lin), SERVO_AC (ESR, Extended set, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3080 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1150	CO: Ramp-function generator speed setpoint at the output		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 3080 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1151[0...n]	Ramp-function generator configuration		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3070 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin

p1152	BI: Setpoint 2 enable		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	<p>Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 2711, 4015 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	899.15
p1155[0...n]	CI: Speed controller speed setpoint 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000</p>	<p>Access level: 3 Func. diagram: 1550, 3080, 5030, 6031 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1155[0...n]	CI: Velocity controller, velocity setpoint 1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000</p>	<p>Access level: 3 Func. diagram: 1550, 3080, 5030, 6031 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1155	CI: TM41 encoder emulation speed setpoint 1		
TM41	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: p2000</p>	<p>Access level: 3 Func. diagram: 9674 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1160[0...n]	CI: Speed controller speed setpoint 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000</p>	<p>Access level: 3 Func. diagram: 1550, 3080 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0

p1160[0...n]	CI: Velocity controller, velocity setpoint 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 1550, 3080 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1169	CO: Speed controller, speed setpoints 1 and 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 3080 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1169	CO: Velocity controller, velocity setpoints 1 and 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 3080 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1170	CO: Speed controller, setpoint sum		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 1590, 1690, 1700, 1750, 3080, 5020, 6030 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1170	CO: Velocity controller, setpoint sum		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 1590, 1750, 3080, 5020 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

p1189[0...n]	Speed setpoint configuration		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3080 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0011 bin
p1189[0...n]	Velocity setpoint configuration		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 3080 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0011 bin
p1189	TM41 encoder simulation configuration		
TM41	Can be changed: U, T Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9674 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0010 bin
p1190	CI: DSC position deviation XERR		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1550, 3090 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1191	CI: DSC position controller gain KPC		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1550, 3090 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1192[0...n]	DSC enc selection		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3090 Unit selection: - Expert list: 1
	Min 1	Max 3	Factory setting 1

p1193[0...n]	DSC encoder adaptation factor		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Setpoints</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 3090</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.000</p>	<p>Max 1000000.000</p>	<p>Factory setting 1.000</p>
p1194	Cl: DSC control word DSC_STW		
SERVO (DSC spline, Lin), SERVO_840 (DSC spline, Lin), SERVO_AC (DSC spline, Lin)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Integer16</p> <p>P-Group: Setpoints</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 1550, 3090</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0</p>
p1194	Cl: DSC control word DSC_STW		
SERVO (DSC spline), SERVO_840 (DSC spline), SERVO_AC (DSC spline)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Integer16</p> <p>P-Group: Setpoints</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 1550, 3090</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0</p>
p1195	Cl: DSC symmetrizing time constant T_SYMM		
SERVO (DSC spline, Lin), SERVO_840 (DSC spline, Lin), SERVO_AC (DSC spline, Lin)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Integer16</p> <p>P-Group: Setpoints</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 1550, 3090</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0</p>
p1195	Cl: DSC symmetrizing time constant T_SYMM		
SERVO (DSC spline), SERVO_840 (DSC spline), SERVO_AC (DSC spline)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Integer16</p> <p>P-Group: Setpoints</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 1550, 3090</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0</p>
r1197	Fixed velocity setpoint number actual		
SERVO (Extended set, Lin), SERVO_840 (Extended set, Lin), SERVO_AC (Extended set, Lin)	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Setpoints</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 3010</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>

r1197	Fixed speed setpoint number actual		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1198.0...15	CO/BO: Control word setpoint channel		
SERVO (Extended set), SERVO_840 (Extended set), SERVO_AC (Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2505 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1199.0...8	CO/BO: Ramp-function generator status word		
SERVO (ESR, Extended set), SERVO_840 (ESR, Extended set), SERVO_AC (ESR, Extended set), VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1550, 3080, 8010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1200[0...n]	Flying restart operating mode		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1690 Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 0
p1201[0...n]	BI: Flying restart enable signal source		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p1202[0...n]	Flying restart search current		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 10 [%]	Max 400 [%]	Factory setting 100 [%]
p1203[0...n]	Flying restart search rate factor		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10 [%]	Max 4000 [%]	Factory setting 100 [%]
r1204.0...13	CO/BO: Flying restart, U/f control status		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Functions Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1205.0...15	CO/BO: Flying restart, vector control status		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Functions Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1206[0...9]	Faults without automatic restart		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0

p1207	BI: AR connection following drive object		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1208[0...1]	BI: AR modification infeed		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1210	Automatic restart, mode		
A_INF, A_INF_840	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 0
p1210	Automatic restart, mode		
B_INF, B_INF_840	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 0
p1210	Automatic restart, mode		
S_INF, S_INF_840	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 0
p1210	Automatic restart, mode		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 0

p1210	Automatic restart, mode		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 0
p1211	Automatic restart, start attempts		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 10	Factory setting 3
p1211	Automatic restart, start attempts		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 10	Factory setting 3
p1212	Automatic restart, delay time start attempts		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [s]	Max 1000.0 [s]	Factory setting 1.0 [s]
p1212	Automatic restart, delay time start attempts		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [s]	Max 1000.0 [s]	Factory setting 1.0 [s]
p1213[0...1]	Automatic restart, monitoring time		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 10000.0 [s]	Factory setting 0.0 [s]

p1213[0...1]	Automatic restart, monitoring time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 10000.0 [s]	Factory setting 0.0 [s]
r1214.0...15	CO/BO: Automatic restart, status		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1214.0...15	CO/BO: Automatic restart, status		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1215	Motor holding brake configuration		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2701, 2707, 2711 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p1216	Motor holding brake, opening time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2701, 2711 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 100 [ms]
p1217	Motor holding brake closing time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2701, 2711 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 100 [ms]

p1218[0...1]	Bl: Open motor holding brake		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2707 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1219[0...3]	Bl: Immediately close motor holding brake		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2707 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0 [1] 0 [2] 0 [3] 1229.9
p1220	Ci: Open motor holding brake, signal source, threshold		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 2707 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1221	Open motor holding brake, threshold		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2707 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 200.00 [%]	Factory setting 0.00 [%]

p1222	BI: Motor holding brake feedback signal brake closed			
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2711 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1223	BI: Motor holding brake feedback signal brake open			
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2711 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 1	
p1224[0...3]	BI: Close motor holding brake at standstill			
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2704 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p1225	CI: Standstill detection, threshold value			
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 2 Func. diagram: 2704 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 63[0]	

p1226[0...n]	Threshold for zero speed detection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 2701, 2704 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 20.00 [rpm]
p1226[0...n]	Standstill detection, velocity threshold		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 2701, 2704 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.20 [m/min]
p1227	Zero speed detection monitoring time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2701, 2704 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 300.000 [s]	Factory setting 4.000 [s]
p1228	Pulse suppression delay time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2701, 2704 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 299.000 [s]	Factory setting 0.000 [s]
r1229.1...11	CO/BO: Motor holding brake status word		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p1230[0...n]	Bl: Armature short-circuit / DC braking activation		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -</p> <p>Min -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -</p> <p>Max -</p>	<p>Access level: 1 Func. diagram: 7014, 7016, 7017 Unit selection: - Expert list: 1</p> <p>Factory setting 0</p>
p1231[0...n]	Armature short-circuit / DC braking configuration		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -</p> <p>Min 0</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p> <p>Max 14</p>	<p>Access level: 1 Func. diagram: 7014, 7016, 7017 Unit selection: - Expert list: 1</p> <p>Factory setting 0</p>
p1232[0...n]	DC braking, braking current		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL, FEM</p> <p>Min 0.00 [Arms]</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p> <p>Max 10000.00 [Arms]</p>	<p>Access level: 1 Func. diagram: 7017 Unit selection: - Expert list: 1</p> <p>Factory setting 0.00 [Arms]</p>
p1232[0...n]	DC braking, braking current		
VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL, FEM</p> <p>Min 0.00 [Arms]</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -</p> <p>Max 10000.00 [Arms]</p>	<p>Access level: 1 Func. diagram: 7017 Unit selection: - Expert list: 1</p> <p>Factory setting 0.00 [Arms]</p>
p1233[0...n]	DC braking time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL, FEM</p> <p>Min 0.0 [s]</p>	<p>Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -</p> <p>Max 3600.0 [s]</p>	<p>Access level: 1 Func. diagram: 7017 Unit selection: - Expert list: 1</p> <p>Factory setting 1.0 [s]</p>

p1234[0...n]	Speed at the start of DC braking		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 7017 Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1234[0...n]	DC braking, starting velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 7017 Unit selection: - Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 1000.00 [m/min]
p1234[0...n]	Speed at the start of DC braking		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: 7017 Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 40000.00 [rpm]
p1235[0...n]	BI: External armature short-circuit, contactor feedback signal		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1236[0...n]	Ext. armature short-cct., contactor feedback signal monit. time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 200 [ms]
p1237[0...n]	External armature short-circuit, delay time when opening		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 200 [ms]

r1238	CO: Armature short-circuit, external state		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Functions Not for motor type: ASM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2610 Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting -
r1239.0...13	CO/BO: Armature short-circuit / DC braking status word		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1240[0...n]	Vdc controller or Vdc monitoring configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3082, 5650 Unit selection: - Expert list: 1
	Min 0	Max 9	Factory setting 0
p1240[0...n]	Vdc controller or Vdc monitoring configuration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 1
r1242	Vdc_max controller switch-in level		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
p1243[0...n]	Vdc_max controller dynamic factor		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1
	Min 1 [%]	Max 10000 [%]	Factory setting 100 [%]

p1244[0...n]	DC link voltage threshold upper			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5650 Unit selection: - Expert list: 1	
	Min 165 [V]	Max 1200 [V]	Factory setting	750 [V]
p1245[0...n]	Vdc_min controller switch-in level (kinetic buffering)			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 65 [%]	Max 150 [%]	Factory setting	76 [%]
r1246	Vdc_min controller switch-in level (kinetic buffering)			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1	
	Min - [V]	Max - [V]	Factory setting	- [V]
p1247[0...n]	Vdc_min controller dynamic factor (kinetic buffering)			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1	
	Min 1 [%]	Max 10000 [%]	Factory setting	100 [%]
p1248[0...n]	DC link voltage threshold lower			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5650 Unit selection: - Expert list: 1	
	Min 100 [V]	Max 1000 [V]	Factory setting	450 [V]
p1249[0...n]	Vdc_max controller speed threshold			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting	10.00 [rpm]

p1250[0...n]	Vdc controller proportional gain		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 19_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 5650 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [A/V]</p>	<p>Max 10.00 [A/V]</p>	<p>Factory setting 1.00 [A/V]</p>
p1250[0...n]	Vdc controller proportional gain		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.00</p>	<p>Max 100.00</p>	<p>Factory setting 1.00</p>
p1251[0...n]	Vdc controller integral time		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1</p>
	<p>Min 0 [ms]</p>	<p>Max 10000 [ms]</p>	<p>Factory setting 0 [ms]</p>
p1252[0...n]	Vdc controller rate time		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 6220 Unit selection: - Expert list: 1</p>
	<p>Min 0 [ms]</p>	<p>Max 1000 [ms]</p>	<p>Factory setting 0 [ms]</p>
p1254	Vdc_max controller automatic ON level detection		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	<p>Factory setting 1</p>
p1255[0...n]	Vdc_min controller time threshold		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.000 [s]</p>	<p>Max 10000.000 [s]</p>	<p>Factory setting 0.000 [s]</p>

p1256[0...n]	Vdc_min controller response (kinetic buffering)		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1257[0...n]	Vdc_min controller speed threshold		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 50.00 [rpm]
r1258	CO: Vdc controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 6220 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p1260	Bypass configuration		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
r1261.0...9	CO/BO: Bypass control/status word		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1262[0...n]	Bypass dead time		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 20.000 [s]	Factory setting 1.000 [s]

p1263	Debypass delay time		
VECTOR(Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 300.000 [s]	Factory setting 1.000 [s]
p1264	Bypass delay time		
VECTOR(Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 300.000 [s]	Factory setting 1.000 [s]
p1265	Bypass speed threshold		
VECTOR(Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 1480.00 [rpm]
p1266	BI: Bypass, control command		
VECTOR(Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1267	Bypass changeover source configuration		
VECTOR(Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1268	BI: Bypass, feedback synchronization completed		
VECTOR(Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 3819.2

p1269[0...1]	BI: Bypass switch feedback signal		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1272	Simulation mode		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1274[0...1]	Bypass switch monitoring time		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 5000 [ms]	Factory setting 1000 [ms]
p1275	Motor holding brake control word		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: U, T Data type: Unsigned32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 bin
p1276	Motor holding brake, standstill detection, bypass		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2704 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 300.000 [s]	Factory setting 300.000 [s]

p1277	Motor holding brake, braking threshold delay exceeded		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2707 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 300.000 [s]	Factory setting 0.000 [s]
p1278	Brake control, diagnostics evaluation		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1279[0...3]	BI: Motor holding brake, OR/AND logic operation		
SERVO (Extended brk), SERVO_840 (Extended brk), SERVO_AC (Extended brk), VECTOR (Extended brk), VECTOR_AC (Extended brk)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2707 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1280[0...n]	Vdc controller or Vdc monitoring configuration (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1690, 6320 Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 1
r1282	Vdc_max controller switch-in level (U/f)		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

p1283[0...n]	Vdc_max controller dynamic factor (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min 1 [%]	Max 10000 [%]	Factory setting 100 [%]
p1285[0...n]	Vdc_min controller switch-in level (kinetic buffering) (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 65 [%]	Max 150 [%]	Factory setting 76 [%]
r1286	Vdc_min controller switch-in level (kinetic buffering) (U/f)		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
p1287[0...n]	Vdc_min controller dynamic factor (kinetic buffering) (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min 1 [%]	Max 10000 [%]	Factory setting 100 [%]
p1288[0...n]	Vdc_max controller feedback coupling factor ramp-fct. gen. (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000	Max 100.000	Factory setting 0.500
p1289[0...n]	Vdc_max controller speed threshold (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 10.00 [rpm]

p1290[0...n]	Vdc controller proportional gain (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 1.00
p1291[0...n]	Vdc controller integral time (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 40 [ms]
p1292[0...n]	Vdc controller rate time (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 10 [ms]
p1293[0...n]	Vdc min controller output limit (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6320 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 600.00 [Hz]	Factory setting 10.00 [Hz]
p1294	Vdc_max controller automatic detection ON signal level (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1295[0...n]	Vdc_min controller time threshold (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 10000.000 [s]	Factory setting 0.000 [s]

p1296[0...n]	Vdc_min controller response (kinetic buffering) (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1297[0...n]	Vdc_min controller speed threshold (U/f)		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 50.00 [rpm]
r1298	CO: Vdc controller output (U/f)		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 6320 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1300[0...n]	Open-loop/closed-loop control operating mode		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1), T Data type: Integer16 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1590, 1690, 5060, 6300 Unit selection: - Expert list: 1
	Min 20	Max 23	Factory setting 21
p1300[0...n]	Open-loop/closed-loop control operating mode		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1), T Data type: Integer16 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1590, 1690, 5060, 6300 Unit selection: - Expert list: 1
	Min 20	Max 23	Factory setting 21

p1300[0...n]	Open-loop/closed-loop control operating mode		
VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Integer16 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1690, 6300, 6310, 6320 Unit selection: - Expert list: 1
	Min 0	Max 19	Factory setting 0
p1300[0...n]	Open-loop/closed-loop control operating mode		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(1), T Data type: Integer16 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1690, 1700, 6300, 8012 Unit selection: - Expert list: 1
	Min 0	Max 23	Factory setting 20
p1302[0...n]	U/f control configuration		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned16 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1310[0...n]	Voltage boost permanent		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1690, 6300 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 250.0 [%]	Factory setting 50.0 [%]
p1311[0...n]	Voltage boost at acceleration		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1690, 6300 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 250.0 [%]	Factory setting 0.0 [%]

p1312[0...n]	Voltage boost when starting		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1690, 6300 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 250.0 [%]	Factory setting 0.0 [%]
r1315	Voltage boost total		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p1317[0...n]	U/f control activation		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1590, 5730 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1318[0...n]	U/f control ramp-up/ramp-down time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5300 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]
p1319[0...n]	U/f control voltage at zero frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5300 Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 50.0 [Vrms]	Factory setting 0.0 [Vrms]
p1320[0...n]	U/f control programmable characteristic frequency 1		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]

p1321[0...n]	U/f control programmable characteristic voltage 1		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 10000.0 [Vrms]	Factory setting 0.0 [Vrms]
p1322[0...n]	U/f control programmable characteristic frequency 2		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]
p1323[0...n]	U/f control programmable characteristic voltage 2		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 10000.0 [Vrms]	Factory setting 0.0 [Vrms]
p1324[0...n]	U/f control programmable characteristic frequency 3		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]
p1325[0...n]	U/f control programmable characteristic voltage 3		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 10000.0 [Vrms]	Factory setting 0.0 [Vrms]
p1326[0...n]	U/f control characteristic frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5300 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 10000.00 [Hz]	Factory setting 0.00 [Hz]

p1326[0...n]	U/f control programmable characteristic frequency 4		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 10000.00 [Hz]	Factory setting 0.00 [Hz]
p1327[0...n]	U/f control characteristic voltage		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5300 Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 10000.0 [Vrms]	Factory setting 0.0 [Vrms]
p1327[0...n]	U/f control programmable characteristic voltage 4		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min 0.0 [Vrms]	Max 10000.0 [Vrms]	Factory setting 0.0 [Vrms]
p1330[0...n]	Cl: U/f control independent voltage setpoint		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2001	Access level: 3 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1333[0...n]	U/f control FCC starting frequency		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6310 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]
p1334[0...n]	U/f control slip compensation starting frequency		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6310 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]

p1335[0...n]	Slip compensation, scaling		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: U/f open-loop control</p> <p>Not for motor type: PEM, REL</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 1690, 6310</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.0 [%]</p>	<p>Max 600.0 [%]</p>	<p>Factory setting 0.0 [%]</p>
p1336[0...n]	Slip compensation limit value		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: U/f open-loop control</p> <p>Not for motor type: PEM, REL</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 6310</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00 [%]</p>	<p>Max 600.00 [%]</p>	<p>Factory setting 250.00 [%]</p>
r1337	CO: Actual slip compensation		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: U/f open-loop control</p> <p>Not for motor type: PEM, REL</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 6310</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>
p1338[0...n]	U/f mode resonance damping gain		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: U/f open-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_CON</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00</p>	<p>Max 100.00</p>	<p>Factory setting 1.00</p>
p1338[0...n]	U/f mode resonance damping gain		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: U/f open-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_CON</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 1690, 6310</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00</p>	<p>Max 100.00</p>	<p>Factory setting 0.00</p>
p1339[0...n]	U/f mode resonance damping filter time constant		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: U/f open-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_CON</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 5300</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 1.00 [ms]</p>	<p>Max 1000.00 [ms]</p>	<p>Factory setting 20.00 [ms]</p>

p1339[0...n]	U/f mode resonance damping filter time constant		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6310 Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 1000.00 [ms]	Factory setting 20.00 [ms]
p1340[0...n]	I_max frequency controller proportional gain		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1690 Unit selection: - Expert list: 1
	Min 0.000	Max 0.500	Factory setting 0.000
p1341[0...n]	I_max frequency controller integral time		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1690 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 50.000 [s]	Factory setting 0.300 [s]
r1343	CO: I_max controller frequency output		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1690 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1344	I_max controller voltage output		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 3 Func. diagram: 1690 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p1345[0...n]	DC braking proportional gain		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000	Max 100000.000	Factory setting 0.000

p1345[0...n]	I_max voltage controller proportional gain		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1690 Unit selection: - Expert list: 1
	Min 0.000	Max 100000.000	Factory setting 0.000
p1346[0...n]	DC braking, integral time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [ms]	Max 50.000 [ms]	Factory setting 0.030 [ms]
p1346[0...n]	I_max voltage controller integral time		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1690 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 50.000 [s]	Factory setting 0.030 [s]
r1348	CO: U/f control Eco factor actual value		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 4 Func. diagram: 6300 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p1349[0...n]	U/f mode resonance damping maximum frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 3000.00 [Hz]
p1349[0...n]	U/f mode resonance damping maximum frequency		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6310 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 3000.00 [Hz]	Factory setting 0.00 [Hz]

p1350[0...n]	Soft starting		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1690 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1351[0...n]	CO: Motor holding brake starting frequency		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6310 Unit selection: - Expert list: 1
	Min -300.00 [%]	Max 300.00 [%]	Factory setting 0.00 [%]
p1356[0...n]	C1: U/f control, angular setpoint		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2005	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1358[0...n]	Angular difference, symmetrizing, actual angle		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r1359	CO: Angular difference		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
p1360	Braking chopper braking resistor cold		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [ohm]	Max 10.000 [ohm]	Factory setting 0.000 [ohm]

p1362[0...1]	Braking chopper activation threshold		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: U/f open-loop control Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [V]	Max 1158 [V]	Factory setting [0] 0 [V] [1] 60 [V]
r1363	CO: Braking chopper output voltage		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p1364	Braking chopper resistor asymmetry		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: U/f open-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 25.00 [%]
p1400[0...n]	Speed control configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1590, 5490 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0011 1010 0000 bin
p1400[0...n]	Velocity control, configuration		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1590, 5490 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0011 1010 0000 bin

p1400[0...n]	Speed control configuration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 6490 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 1000 0000 0010 0001 bin
p1401[0...n]	Flux control configuration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6491 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 1110 bin
p1402[0...n]	Closed-loop current control and motor model configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0100 bin
p1402[0...n]	Closed-loop current control and motor model configuration		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0100 bin
p1402[0...n]	Closed-loop current control and motor model configuration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0001 bin
p1404[0...n]	Encoderless operation changeover speed		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 1590, 5060 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]

p1404[0...n]	Encoderless operation changeover velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: 1590, 5060 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 1000.00 [m/min]
r1406.8...12	CO/BO: Control word speed controller		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2520 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1406.8...12	CO/BO: Control word velocity controller		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2520 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1406.4...15	CO/BO: Control word speed controller		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1407.0...22	CO/BO: Status word speed controller		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2522 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1407.0...22	CO/BO: Status word velocity controller		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2522 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r1407.0...17	CO/BO: Status word speed controller		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1530, 2522 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1408.0...9	CO/BO: Status word current controller		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2530, 5040 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1408.0...15	CO/BO: Status word current controller		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2530 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1409[0...n]	Speed control extended configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: C1(3) Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1409[0...n]	Velocity control extended configuration		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C1(3) Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1412[0...n]	TM41 increm. encoder emulation, speed setpoint filter deadtime		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 9674 Unit selection: - Expert list: 1
	Min 0.000 [ms]	Max 1.000 [ms]	Factory setting 0.000 [ms]

p1413[0...n]	Speed actual value filter activation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1413[0...n]	Velocity actual value filter activation		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1414[0...n]	Speed setpoint filter activation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1414[0...n]	Velocity setpoint filter activation		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1414[0...n]	TM41 incr. encoder emulation, speed setpoint filter activation		
TM41	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 9674 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p1415[0...n]	Speed setpoint filter 1 type		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0

p1415[0...n]	Velocity setpoint filter 1 type		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p1416[0...n]	Speed setpoint filter 1 time constant		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 5000.00 [ms]	Factory setting 0.00 [ms]
p1416[0...n]	Velocity setpoint filter 1 time constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 5000.00 [ms]	Factory setting 0.00 [ms]
p1416[0...n]	Speed setpoint filter 1 time constant		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1700, 6030 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 5000.00 [ms]	Factory setting 0.00 [ms]
p1417[0...n]	Speed setpoint filter 1 denominator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1417[0...n]	Velocity setpoint filter 1 denominator natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]

p1417[0...n]	TM41 Speed setpoint filter 1 denominator natural frequency		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 9674 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1418[0...n]	Speed setpoint filter 1 denominator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1418[0...n]	Velocity setpoint filter 1 denominator damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1418[0...n]	TM41 Speed setpoint filter 1 denominator damping		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 9674 Unit selection: - Expert list: 1
	Min 0.001	Max 1.000	Factory setting 0.700
p1419[0...n]	Speed setpoint filter 1 numerator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1419[0...n]	Velocity setpoint filter 1 numerator natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]

p1420[0...n]	Speed setpoint filter 1 numerator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1420[0...n]	Velocity setpoint filter 1 numerator damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1421[0...n]	Speed setpoint filter 2 type		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p1421[0...n]	Velocity setpoint filter 2 type		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p1422[0...n]	Speed setpoint filter 2 time constant		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 5000.00 [ms]	Factory setting 0.00 [ms]
p1422[0...n]	Velocity setpoint filter 2 time constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 5000.00 [ms]	Factory setting 0.00 [ms]

p1423[0...n]	Speed setpoint filter 2 denominator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1423[0...n]	Velocity setpoint filter 2 denominator natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1424[0...n]	Speed setpoint filter 2 denominator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1424[0...n]	Velocity setpoint filter 2 denominator damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1425[0...n]	Speed setpoint filter 2 numerator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1425[0...n]	Velocity setpoint filter 2 numerator natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]

p1426[0...n]	Speed setpoint filter 2 numerator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1426[0...n]	Velocity setpoint filter 2 numerator damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5020 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1427[0...n]	DSC symmetrizing time constant additive T_SYMM_ADD		
SERVO (DSC spline, Lin), SERVO_840 (DSC spline, Lin), SERVO_AC (DSC spline, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3090 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 0.00 [ms]
p1427[0...n]	DSC symmetrizing time constant additive T_SYMM_ADD		
SERVO (DSC spline), SERVO_840 (DSC spline), SERVO_AC (DSC spline)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 3090 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 0.00 [ms]
p1428[0...n]	Speed pre-control balancing dead time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5030, 5042, 5210 Unit selection: - Expert list: 1
	Min 0.0	Max 2.0	Factory setting 0.0

p1428[0...n]	Velocity pre-control balancing dead time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.0	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 2.0	Access level: 3 Func. diagram: 5030, 5042, 5210 Unit selection: - Expert list: 1 Factory setting 0.0
p1428[0...n]	Speed pre-control balancing dead time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.0	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 3.0	Access level: 3 Func. diagram: 6031 Unit selection: - Expert list: 1 Factory setting 0.0
p1429[0...n]	Speed pre-control balancing time constant		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [ms]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 10000.00 [ms]	Access level: 3 Func. diagram: 5030, 5042, 5210, 6031 Unit selection: - Expert list: 1 Factory setting 0.00 [ms]
p1429[0...n]	Velocity pre-control balancing time constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [ms]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 10000.00 [ms]	Access level: 3 Func. diagram: 5030, 5042, 5210 Unit selection: - Expert list: 1 Factory setting 0.00 [ms]
p1430[0...n]	Cl: Speed pre-control		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000 Max -	Access level: 3 Func. diagram: 1550, 1590, 5020 Unit selection: - Expert list: 1 Factory setting 0

p1430[0...n]	CI: Velocity pre-control		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000 Max -	Access level: 3 Func. diagram: 1550, 1590, 5020 Unit selection: - Expert list: 1 Factory setting 0
r1431	CO: Speed pre-control to motor model		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [rpm]	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000 Max - [rpm]	Access level: 4 Func. diagram: 6030 Unit selection: p0505 Expert list: 1 Factory setting - [rpm]
r1432	CO: Speed pre-control after symmetrizing		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [rpm]	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000 Max - [rpm]	Access level: 3 Func. diagram: 5030 Unit selection: p0505 Expert list: 1 Factory setting - [rpm]
r1432	CO: Velocity pre-control after symmetrizing		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [m/min]	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000 Max - [m/min]	Access level: 3 Func. diagram: 5030 Unit selection: p0505 Expert list: 1 Factory setting - [m/min]
p1433[0...n]	Speed controller reference model natural frequency		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.0 [Hz]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 8000.0 [Hz]	Access level: 3 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1 Factory setting 0.0 [Hz]
p1433[0...n]	Velocity controller reference model natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.0 [Hz]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 8000.0 [Hz]	Access level: 3 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1 Factory setting 0.0 [Hz]

p1434[0...n]	Speed controller reference model damping		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1
	Min 0.000	Max 5.000	Factory setting 1.000
p1434[0...n]	Velocity controller reference model damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1
	Min 0.000	Max 5.000	Factory setting 1.000
p1435[0...n]	Speed controller reference model dead time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1
	Min 0.00	Max 2.00	Factory setting 0.00
p1435[0...n]	Velocity controller reference model dead time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1
	Min 0.00	Max 2.00	Factory setting 0.00
p1435[0...n]	Speed controller reference model dead time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5030, 6031 Unit selection: - Expert list: 1
	Min 0.00	Max 3.00	Factory setting 0.00
r1436	CO: Speed controller reference model speed setpoint output		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 5030, 6031 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r1436	CO: Velocity controller, reference model velocity_setpoint output		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 5030, 6031 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
p1437[0...n]	CI: Speed controller, reference model I component input		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 6031 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1436[0]
r1438	CO: Speed controller, speed setpoint		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 1590, 1700, 5030, 5040, 5042, 5210, 5300, 5620, 6031, 6040 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1438	CO: Velocity controller, velocity setpoint		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 1550, 1590, 5030, 5040, 5042, 5210, 5300, 5620 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1439	Speed setpoint, I component		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 5030, 5040, 6031 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r1439	Velocity setpoint, I component		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p> <p>Min - [m/min]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: 4_1</p> <p>Scaling: p2000</p> <p>Max - [m/min]</p>	<p>Access level: 3</p> <p>Func. diagram: 5030, 5040, 6031</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p> <p>Factory setting - [m/min]</p>
p1440[0...n]	CI: Speed controller speed actual value		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: p2000</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 6040</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 63[0]</p>
p1441[0...n]	Actual speed smoothing time		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p> <p>Min 0.00 [ms]</p>	<p>Calculated: CALC_MOD_CON</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 50.00 [ms]</p>	<p>Access level: 3</p> <p>Func. diagram: 4710, 4715</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0.00 [ms]</p>
p1441[0...n]	Actual velocity smoothing time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p> <p>Min 0.00 [ms]</p>	<p>Calculated: CALC_MOD_CON</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 50.00 [ms]</p>	<p>Access level: 3</p> <p>Func. diagram: 4710, 4715</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0.00 [ms]</p>
p1441[0...n]	Actual speed smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p> <p>Min 0.00 [ms]</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 1000.00 [ms]</p>	<p>Access level: 3</p> <p>Func. diagram: 4710, 4715</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0.00 [ms]</p>
p1442[0...n]	Speed controller speed actual value smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p> <p>Min 0.00 [ms]</p>	<p>Calculated: CALC_MOD_ALL</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 32000.00 [ms]</p>	<p>Access level: 2</p> <p>Func. diagram: 1700, 6040</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 4.00 [ms]</p>

r1443	CO: Speed controller speed actual value at actual value input		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 6040 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1444	Speed controller, speed setpoint steady-state (static)		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 5030 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1444	Velocity controller, velocity setpoint, total		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 5030 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1445	CO: Actual speed smoothed		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 5040, 5210 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1445	CO: Actual velocity smoothed		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 5040, 5210 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1445	CO: Actual speed smoothed		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 4 Func. diagram: 6040 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

p1446[0...n]	Speed actual value filter type		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1</p>
	Min 1	Max 2	Factory setting 2
p1446[0...n]	Velocity actual value filter type		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1</p>
	Min 1	Max 2	Factory setting 2
p1447[0...n]	Speed actual value filter denominator natural frequency		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1</p>
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1447[0...n]	Velocity actual value filter denominator natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1</p>
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1448[0...n]	Speed actual value filter denominator damping		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1</p>
	Min 0.001	Max 10.000	Factory setting 0.700
p1448[0...n]	Velocity actual value filter denominator damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1</p>
	Min 0.001	Max 10.000	Factory setting 0.700

p1449[0...n]	Speed actual value filter numerator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1449[0...n]	Velocity actual value filter numerator natural frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p1450[0...n]	Speed actual value filter numerator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1450[0...n]	Velocity actual value filter numerator damping		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5040, 5210 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1451[0...n]	Speed actual value smoothing time sensorless		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 100 [ms]	Factory setting 0 [ms]
p1451[0...n]	Velocity actual value smoothing time sensorless		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 100 [ms]	Factory setting 0 [ms]

p1451[0...n]	Motor model speed actual value smoothing time SLVC		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 100 [ms]	Factory setting 4 [ms]
p1452[0...n]	Speed controller speed actual value smoothing time (SLVC)		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1700, 6040 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 32000.00 [ms]	Factory setting 10.00 [ms]
r1454	CO: Speed controller system deviation I component		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 5040 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1454	CO: Velocity controller system deviation I component		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 5040 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r1454	CO: Speed controller system deviation I component		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 6040 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1455[0...n]	CI: Speed controller P gain adaptation signal		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1455[0...n]	Cl: Velocity controller, P gain adaptation signal		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1455[0...n]	Cl: Speed controller P gain adaptation signal		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1456[0...n]	Speed controller P gain adaptation lower starting point		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 400.00 [%]	Factory setting 0.00 [%]
p1456[0...n]	Velocity controller P gain adaptation, lower starting point		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 400.00 [%]	Factory setting 0.00 [%]
p1456[0...n]	Speed controller P gain adaptation lower starting point		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 400.00 [%]	Factory setting 0.00 [%]
p1457[0...n]	Speed controller P gain adaptation upper starting point		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 400.00 [%]	Factory setting 0.00 [%]

p1457[0...n]	Velocity controller P gain adaptation upper starting point		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 400.00 [%]	Factory setting 0.00 [%]
p1457[0...n]	Speed controller P gain adaptation upper starting point		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 400.00 [%]	Factory setting 0.00 [%]
p1458[0...n]	Adaptation factor, lower		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]
p1458[0...n]	Adaptation factor, lower		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]
p1459[0...n]	Adaptation factor, upper		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]
p1459[0...n]	Adaptation factor, upper		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]

p1460[0...n]	Speed controller P gain adaptation speed, lower		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 17_1 Scaling: -	Access level: 2 Func. diagram: 5040, 5042 Unit selection: p0505 Expert list: 1
	Min 0.000 [Nms/rad]	Max 999999.000 [Nms/rad]	Factory setting 0.300 [Nms/rad]
p1460[0...n]	Velocity controller, P gain adaptation velocity, lower		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 24_2 Scaling: -	Access level: 2 Func. diagram: 5040, 5042 Unit selection: p0505 Expert list: 1
	Min 0.000 [Ns/m]	Max 999999.000 [Ns/m]	Factory setting 10.000 [Ns/m]
p1460[0...n]	Speed controller P gain adaptation speed, lower		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 1700, 6040 Unit selection: - Expert list: 1
	Min 0.000	Max 999999.000	Factory setting 0.300
p1461[0...n]	Speed controller Kp adaptation speed, upper scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]
p1461[0...n]	Velocity controller Kp adaptation velocity, upper scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]
p1461[0...n]	Speed controller Kp adaptation speed, upper scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]

p1462[0...n]	Speed controller integral time adaptation speed lower		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [ms]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100000.00 [ms]	Access level: 2 Func. diagram: 1700, 5040, 5042, 6040 Unit selection: - Expert list: 1 Factory setting 20.00 [ms]
p1462[0...n]	Velocity contr. integral act. time adaptation velocity lower		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [ms]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100000.00 [ms]	Access level: 2 Func. diagram: 5040, 5042 Unit selection: - Expert list: 1 Factory setting 20.00 [ms]
p1462[0...n]	Speed controller integral time adaptation speed lower		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [ms]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100000.00 [ms]	Access level: 2 Func. diagram: 1700, 5040, 5042, 6040 Unit selection: - Expert list: 1 Factory setting 20.00 [ms]
p1463[0...n]	Speed controller Tn adaptation speed, upper scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.0 [%]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 200000.0 [%]	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1 Factory setting 100.0 [%]
p1463[0...n]	Velocity controller Tn adaptation velocity, upper scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.0 [%]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 200000.0 [%]	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1 Factory setting 100.0 [%]

p1463[0...n]	Speed controller Tn adaptation speed, upper scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200000.0 [%]	Factory setting 100.0 [%]
p1464[0...n]	Speed controller adaptation speed, lower		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]
p1464[0...n]	Velocity controller adaptation velocity, lower		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.00 [m/min]
p1464[0...n]	Speed controller adaptation speed, lower		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]
p1465[0...n]	Speed controller adaptation speed, upper		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1465[0...n]	Velocity controller adaptation velocity, upper		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: 5050 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 1000.00 [m/min]

p1465[0...n]	Speed controller adaptation speed, upper		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 6050 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1466[0...n]	Cl: Speed controller P-gain scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1466[0...n]	Cl: Velocity controller P gain scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1466[0...n]	Cl: Speed controller P-gain scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6050 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
r1468	Speed controller P-gain effective		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 17_1 Scaling: -	Access level: 3 Func. diagram: 5040, 5042, 5210 Unit selection: p0505 Expert list: 1
	Min - [Nms/rad]	Max - [Nms/rad]	Factory setting - [Nms/rad]

r1468	Velocity controller P gain effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Ns/m]	Calculated: - Dynamic index: - Units group: 24_2 Scaling: - Max - [Ns/m]	Access level: 3 Func. diagram: 5040, 5042, 5210 Unit selection: p0505 Expert list: 1 Factory setting - [Ns/m]
r1468	CO: Speed controller P-gain effective		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 6040 Unit selection: - Expert list: 1 Factory setting -
r1469	Speed controller integral time effective		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [ms]	Access level: 3 Func. diagram: 5040, 5042, 6040 Unit selection: - Expert list: 1 Factory setting - [ms]
r1469	Velocity controller integral time effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [ms]	Access level: 3 Func. diagram: 5040, 5042 Unit selection: - Expert list: 1 Factory setting - [ms]
p1470[0...n]	Speed controller encoderless operation P-gain		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.000 [Nms/rad]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 17_1 Scaling: - Max 999999.000 [Nms/rad]	Access level: 2 Func. diagram: 5210 Unit selection: p0505 Expert list: 1 Factory setting 0.300 [Nms/rad]

p1470[0...n]	Velocity controller encoderless operation P-gain		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 24_2 Scaling: -	Access level: 2 Func. diagram: 5210 Unit selection: p0505 Expert list: 1
	Min 0.000 [Ns/m]	Max 999999.000 [Ns/m]	Factory setting 10.000 [Ns/m]
p1470[0...n]	Speed controller encoderless operation P-gain		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 6040, 6050 Unit selection: - Expert list: 1
	Min 0.000	Max 999999.000	Factory setting 0.300
p1472[0...n]	Speed controller encoderless operation integral time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5210 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 100000.0 [ms]	Factory setting 20.0 [ms]
p1472[0...n]	Velocity controller encoderless operation integral time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5210 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 100000.0 [ms]	Factory setting 20.0 [ms]
p1472[0...n]	Speed controller encoderless operation integral time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 6040, 6050 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 100000.0 [ms]	Factory setting 20.0 [ms]
p1475[0...n]	CI: Speed controller torque setting value for motor holding brake		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003	Access level: 3 Func. diagram: 6040 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1476[0...n]	Bl: Speed controller hold integrator		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2520, 5040, 5042, 5210, 6040 Unit selection: - Expert list: 1 Factory setting 0
p1476[0...n]	Bl: Velocity controller hold integrator		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2520, 5040, 5042, 5210 Unit selection: - Expert list: 1 Factory setting 0
p1477[0...n]	Bl: Speed controller set integrator value		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2520, 5040, 5042, 5210, 6040 Unit selection: - Expert list: 1 Factory setting 0
p1477[0...n]	Bl: Velocity controller set integrator value		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2520, 5040, 5042, 5210 Unit selection: - Expert list: 1 Factory setting 0
p1478[0...n]	Ci: Speed controller integrator setting value		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 5040, 5042, 5210 Unit selection: - Expert list: 1 Factory setting 0

p1478[0...n]	CI: Velocity controller integrator value		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 5040, 5042, 5210 Unit selection: - Expert list: 1 Factory setting 0
p1478[0...n]	CI: Speed controller integrator setting value		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 6040 Unit selection: - Expert list: 1 Factory setting 0
p1479[0...n]	CI: Speed controller integrator setting value scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 6040 Unit selection: - Expert list: 1 Factory setting 1
r1480	CO: Speed controller PI torque output		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Nm]	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003 Max - [Nm]	Access level: 3 Func. diagram: 1590, 5040, 5042, 5060, 5210, 6060 Unit selection: p0505 Expert list: 1 Factory setting - [Nm]
r1480	CO: Velocity controller PI force output		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [N]	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003 Max - [N]	Access level: 3 Func. diagram: 1590, 5040, 5042, 5060, 5210 Unit selection: p0505 Expert list: 1 Factory setting - [N]

r1481	CO: Speed controller P torque output		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 5040, 5042, 5210, 6040 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1481	CO: Velocity controller P force output		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: 5040, 5042, 5210 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
r1482	CO: Speed controller I torque output		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 5040, 5042, 5210, 6030, 6040 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1482	CO: Velocity controller I force output		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: 5040, 5042, 5210 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
p1486[0...n]	CI: Droop compensation torque		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003	Access level: 3 Func. diagram: 6030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1487[0...n]	Droop compensation torque scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6030 Unit selection: - Expert list: 1
	Min -2000.0 [%]	Max 2000.0 [%]	Factory setting 100.0 [%]
p1488[0...n]	Droop input source		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6030 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p1489[0...n]	Droop feedback scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6030 Unit selection: - Expert list: 1
	Min 0.000	Max 0.500	Factory setting 0.050
r1490	CO: Droop feedback speed reduction		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 6030 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1492[0...n]	BI: Droop feedback enable		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2520, 6030 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1493	CO: Moment of inertia, total		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0100 Expert list: 1
	Min - [kgm ²]	Max - [kgm ²]	Factory setting - [kgm ²]

r1493	CO: Load mass		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0100 Expert list: 1
	Min - [kg]	Max - [kg]	Factory setting - [kg]
r1493	CO: Moment of inertia, total		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: 6031 Unit selection: p0100 Expert list: 1
	Min - [kgm ²]	Max - [kgm ²]	Factory setting - [kgm ²]
p1494[0...n]	Speed controller integrator feedback time constant		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5040, 5042, 5210 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 0.00 [ms]
p1494[0...n]	Velocity controller integrator feedback time constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 5040, 5042, 5210 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 0.00 [ms]
p1495[0...n]	Cl: Acceleration pre-control		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2007	Access level: 3 Func. diagram: 6031 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1496[0...n]	Acceleration pre-control scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1700, 6031 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 10000.0 [%]	Factory setting 0.0 [%]
p1497[0...n]	CI: Moment of inertia, scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5042, 5210, 6030, 6031 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1497[0...n]	CI: Motor weight scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5042, 5210 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1497[0...n]	CI: Moment of inertia, scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5042, 5210, 6030, 6031 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1498[0...n]	Load moment of inertia		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0100 Expert list: 1
	Min 0.00000 [kgm ²]	Max 100000.00000 [kgm ²]	Factory setting 0.00000 [kgm ²]

p1498[0...n]	Load mass		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0100 Expert list: 1
	Min 0.00000 [kg]	Max 10000.00000 [kg]	Factory setting 0.00000 [kg]
p1499[0...n]	Accelerating for torque control, scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6030 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 400.0 [%]	Factory setting 100.0 [%]
p1500[0...n]	Macro Connector Inputs (CI) for torque setpoints		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Unsigned32 P-Group: Commands Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 999999	Factory setting 0
p1500[0...n]	Macro Connector Inputs (CI) for force setpoints		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: C2(1), T Data type: Unsigned32 P-Group: Commands Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 999999	Factory setting 0
p1501[0...n]	BI: Change over between closed-loop speed/torque control		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 1700, 2520, 5060, 6060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1501[0...n]	BI: Change over velocity/force control		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2520, 5060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p1502[0...n]	BI: Freeze moment of inertia estimator		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1503[0...n]	CI: Torque setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003	Access level: 3 Func. diagram: 1700, 6060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1508	CO: Torque setpoint before supplementary torque		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 6030, 6060, 6722 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1509	CO: Torque setpoint before torque limiting		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 1590, 5060, 5610 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1509	CO: Force setpoint before force limiting		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: 1590, 5060, 5610 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]

p1511[0...n]	Cl: Supplementary torque 1		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: p2003</p>	<p>Access level: 3</p> <p>Func. diagram: 5060, 6060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1511[0...n]	Cl: Supplementary force 1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: p2003</p>	<p>Access level: 3</p> <p>Func. diagram: 5060, 6060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1512[0...n]	Cl: Supplementary torque 1 scaling		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 5060, 6060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1512[0...n]	Cl: Supplementary force 1 scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: PERCENT</p>	<p>Access level: 3</p> <p>Func. diagram: 5060, 6060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1513[0...n]	Cl: Supplementary torque 2		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: p2003</p>	<p>Access level: 3</p> <p>Func. diagram: 5060, 6060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p1513[0...n]	Cl: Supplementary force 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: CDS, p0170</p> <p>Units group: -</p> <p>Scaling: p2003</p>	<p>Access level: 3</p> <p>Func. diagram: 5060, 6060</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0

p1514[0...n]	Supplementary torque 2 scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1700, 6060 Unit selection: - Expert list: 1
	Min -2000.0 [%]	Max 2000.0 [%]	Factory setting 100.0 [%]
r1515	Supplementary torque total		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 5040, 5060 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1515	Supplementary force total		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 2 Func. diagram: 5040, 5060 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
r1516	CO: Supplementary torque and acceleration torque		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 6060 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
p1517[0...n]	Accelerating torque smoothing time constant		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5042, 5210, 6060 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 4.00 [ms]
p1517[0...n]	Acceleration force smoothing time constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5042, 5210 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 4.00 [ms]

r1518[0...1]	CO: Accelerating torque		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1518[0...1]	CO: Accelerating force		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: 5042, 5210 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
r1518[0...1]	CO: Accelerating torque		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 6060 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
p1520[0...n]	CO: Torque limit upper/motoring		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 5620, 5630 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 10000000.00 [Nm]	Factory setting 0.00 [Nm]
p1520[0...n]	CO: Force limit upper/motoring		
SERVO_840 (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 8_1 Scaling: p2003	Access level: 2 Func. diagram: 5620, 5630 Unit selection: p0505 Expert list: 1
	Min 0.00 [N]	Max 10000000.00 [N]	Factory setting 0.00 [N]

p1520[0...n] CO: Torque limit upper/motoring

SERVO, SERVO_AC	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630
	P-Group: Closed-loop control	Units group: 7_1	Unit selection: p0505
	Not for motor type: REL	Scaling: p2003	Expert list: 1
	Min -1000000.00 [Nm]	Max 2000000.00 [Nm]	Factory setting 0.00 [Nm]

p1520[0...n] CO: Force limit upper/motoring

SERVO (Lin), SERVO_AC (Lin)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630
	P-Group: Closed-loop control	Units group: 8_1	Unit selection: p0505
	Not for motor type: REL	Scaling: p2003	Expert list: 1
	Min -1000000.00 [N]	Max 2000000.00 [N]	Factory setting 0.00 [N]

p1520[0...n] CO: Torque limit upper

VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 1700, 6630
	P-Group: Closed-loop control	Units group: 7_1	Unit selection: p0505
	Not for motor type: REL	Scaling: p2003	Expert list: 1
	Min -1000000.00 [Nm]	Max 2000000.00 [Nm]	Factory setting 0.00 [Nm]

p1521[0...n] CO: Torque limit lower/regenerative

SERVO_840	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630
	P-Group: Closed-loop control	Units group: 7_1	Unit selection: p0505
	Not for motor type: REL	Scaling: p2003	Expert list: 1
	Min -1000000.00 [Nm]	Max 0.00 [Nm]	Factory setting 0.00 [Nm]

p1521[0...n] CO: Force limit lower/regenerative

SERVO_840 (Lin)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630
	P-Group: Closed-loop control	Units group: 8_1	Unit selection: p0505
	Not for motor type: REL	Scaling: p2003	Expert list: 1
	Min -1000000.00 [N]	Max 0.00 [N]	Factory setting 0.00 [N]

p1521[0...n]	CO: Torque limit lower/regenerative			
SERVO, SERVO_AC	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2	
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630	
	P-Group: Closed-loop control	Units group: 7_1	Unit selection: p0505	
	Not for motor type: REL	Scaling: p2003	Expert list: 1	
	Min -20000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]	
p1521[0...n]	CO: Force limit lower/regenerative			
SERVO (Lin), SERVO_AC (Lin)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2	
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630	
	P-Group: Closed-loop control	Units group: 8_1	Unit selection: p0505	
	Not for motor type: REL	Scaling: p2003	Expert list: 1	
	Min -20000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]	
p1521[0...n]	CO: Torque limit lower			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 2	
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 5620, 5630	
	P-Group: Closed-loop control	Units group: 7_1	Unit selection: p0505	
	Not for motor type: REL	Scaling: p2003	Expert list: 1	
	Min -20000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]	
p1522[0...n]	CI: Torque limit upper/motoring			
SERVO_840	Can be changed: T	Calculated: -	Access level: 3	
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: CDS, p0170	Func. diagram: 1610, 5620, 5630, 6630	
	P-Group: Closed-loop control	Units group: -	Unit selection: -	
	Not for motor type: REL	Scaling: p2003	Expert list: 1	
	Min -	Max -	Factory setting 2902[5]	
p1522[0...n]	CI: Force limit upper/motoring			
SERVO_840 (Lin)	Can be changed: T	Calculated: -	Access level: 3	
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: CDS, p0170	Func. diagram: 1610, 5620, 5630, 6630	
	P-Group: Closed-loop control	Units group: -	Unit selection: -	
	Not for motor type: REL	Scaling: p2003	Expert list: 1	
	Min -	Max -	Factory setting 2902[5]	

p1522[0...n] CI: Torque limit upper/motoring

SERVO, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1610, 5620, 5630, 6630 Unit selection: - Expert list: 1 Factory setting 1520[0]
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p1522[0...n] CI: Force limit upper/motoring

SERVO (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1610, 5620, 5630, 6630 Unit selection: - Expert list: 1 Factory setting 1520[0]
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p1522[0...n] CI: Torque limit upper

VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 6630 Unit selection: - Expert list: 1 Factory setting 1520[0]
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p1523[0...n] CI: Torque limit lower/regenerative

SERVO_840	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1610, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 2902[12]
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p1523[0...n] CI: Force limit lower/regenerative

SERVO_840 (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1610, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 2902[12]
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p1523[0...n]	Cl: Torque limit lower/regenerative		
SERVO, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1610, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 1521[0]
p1523[0...n]	Cl: Force limit lower/regenerative		
SERVO (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1610, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 1521[0]
p1523[0...n]	Cl: Torque limit lower		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003 Max -	Access level: 3 Func. diagram: 1700, 6630 Unit selection: - Expert list: 1 Factory setting 1521[0]
p1524[0...n]	CO: Torque limit upper/motoring scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -2000.0 [%]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT Max 2000.0 [%]	Access level: 3 Func. diagram: 5620, 5630 Unit selection: - Expert list: 1 Factory setting 100.0 [%]
p1524[0...n]	CO: Force limit upper/motoring scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -2000.0 [%]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT Max 2000.0 [%]	Access level: 3 Func. diagram: 5620, 5630 Unit selection: - Expert list: 1 Factory setting 100.0 [%]

p1524[0...n]	CO: Torque limit upper scaling		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT</p>	<p>Access level: 3 Func. diagram: 6630 Unit selection: - Expert list: 1</p>
	<p>Min -2000.0 [%]</p>	<p>Max 2000.0 [%]</p>	<p>Factory setting 100.0 [%]</p>
p1525[0...n]	CO: Torque limit lower/regenerative scaling		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT</p>	<p>Access level: 3 Func. diagram: 5620, 5630 Unit selection: - Expert list: 1</p>
	<p>Min -2000.0 [%]</p>	<p>Max 2000.0 [%]</p>	<p>Factory setting 100.0 [%]</p>
p1525[0...n]	CO: Force limit lower/regenerative scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT</p>	<p>Access level: 3 Func. diagram: 5620, 5630 Unit selection: - Expert list: 1</p>
	<p>Min -2000.0 [%]</p>	<p>Max 2000.0 [%]</p>	<p>Factory setting 100.0 [%]</p>
p1525[0...n]	CO: Torque limit lower scaling		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT</p>	<p>Access level: 3 Func. diagram: 6630 Unit selection: - Expert list: 1</p>
	<p>Min -2000.0 [%]</p>	<p>Max 2000.0 [%]</p>	<p>Factory setting 100.0 [%]</p>
r1526	CO: Torque limit upper/motoring without offset		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003</p>	<p>Access level: 3 Func. diagram: 5620, 5630 Unit selection: p0505 Expert list: 1</p>
	<p>Min - [Nm]</p>	<p>Max - [Nm]</p>	<p>Factory setting - [Nm]</p>
r1526	CO: Force limit upper/motoring without offset		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003</p>	<p>Access level: 3 Func. diagram: 5620, 5630 Unit selection: p0505 Expert list: 1</p>
	<p>Min - [N]</p>	<p>Max - [N]</p>	<p>Factory setting - [N]</p>

r1526	CO: Torque limit upper without offset		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 6060, 6630, 6640 Unit selection: p0505 Expert list: 1
	P-Group: Closed-loop control Not for motor type: REL	Units group: 7_1 Scaling: p2003	
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1527	CO: Torque limit lower/regenerative without offset		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 5620, 5630 Unit selection: p0505 Expert list: 1
	P-Group: Closed-loop control Not for motor type: REL	Units group: 7_1 Scaling: p2003	
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1527	CO: Force limit lower/regenerative without offset		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 5620, 5630 Unit selection: p0505 Expert list: 1
	P-Group: Closed-loop control Not for motor type: REL	Units group: 8_1 Scaling: p2003	
	Min - [N]	Max - [N]	Factory setting - [N]
r1527	CO: Torque limit lower without offset		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: 6060, 6630, 6640 Unit selection: p0505 Expert list: 1
	P-Group: Closed-loop control Not for motor type: REL	Units group: 7_1 Scaling: p2003	
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
p1528[0...n]	CI: Torque limit upper/motoring scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32	Calculated: - Dynamic index: CDS, p0170	Access level: 3 Func. diagram: 1610, 3617, 5620, 5630 Unit selection: - Expert list: 1
	P-Group: Closed-loop control Not for motor type: REL	Units group: - Scaling: PERCENT	
	Min -	Max -	Factory setting 1524[0]

p1528[0...n]	Cl: Force limit upper/motoring scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 1610, 3617, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 1524[0]
p1528[0...n]	Cl: Torque limit upper scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 6630 Unit selection: - Expert list: 1 Factory setting 1524[0]
p1529[0...n]	Cl: Torque limit lower/regenerative scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 1610, 3617, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 1525[0]
p1529[0...n]	Cl: Force limit lower/regenerative scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 1610, 3617, 5620, 5630 Unit selection: - Expert list: 1 Factory setting 1525[0]
p1529[0...n]	Cl: Torque limit lower scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 6630 Unit selection: - Expert list: 1 Factory setting 1525[0]

p1530[0...n]	Power limit motoring		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [kW]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 14_5 Scaling: - Max 100000.00 [kW]	Access level: 2 Func. diagram: 5640 Unit selection: p0505 Expert list: 1 Factory setting 0.00 [kW]
p1530[0...n]	Power limit motoring		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [kW]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 14_8 Scaling: - Max 100000.00 [kW]	Access level: 2 Func. diagram: 5640 Unit selection: p0505 Expert list: 1 Factory setting 0.00 [kW]
p1530[0...n]	Power limit motoring		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.00 [kW]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 14_5 Scaling: - Max 100000.00 [kW]	Access level: 2 Func. diagram: 6640 Unit selection: p0505 Expert list: 1 Factory setting 0.00 [kW]
p1531[0...n]	Power limit regenerative		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -100000.00 [kW]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 14_5 Scaling: - Max -0.01 [kW]	Access level: 2 Func. diagram: 5640 Unit selection: p0505 Expert list: 1 Factory setting -0.01 [kW]
p1531[0...n]	Power limit regenerative		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min -100000.00 [kW]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 14_8 Scaling: - Max -0.01 [kW]	Access level: 2 Func. diagram: 5640 Unit selection: p0505 Expert list: 1 Factory setting -0.01 [kW]

p1531[0...n]	Power limit regenerative		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 14_5 Scaling: -	Access level: 2 Func. diagram: 6640 Unit selection: p0505 Expert list: 1
	Min -100000.00 [kW]	Max -0.01 [kW]	Factory setting -0.01 [kW]
p1532[0...n]	CO: Torque limit offset		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 5620, 5630, 5650, 7010, 8012 Unit selection: p0505 Expert list: 1
	Min -100000.00 [Nm]	Max 100000.00 [Nm]	Factory setting 0.00 [Nm]
p1532[0...n]	CO: Force offset, force limit		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: 5620, 5630, 5650, 7010, 8012 Unit selection: p0505 Expert list: 1
	Min -100000.00 [N]	Max 100000.00 [N]	Factory setting 0.00 [N]
r1533	Current limit torque-generating total		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 5640, 5722, 6640 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1533	Current limit force-generating total		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 5640, 5722, 6640 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r1534	CO: Torque limit upper total		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Nm]	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003 Max - [Nm]	Access level: 3 Func. diagram: 1610, 5620, 5630, 5640 Unit selection: p0505 Expert list: 1 Factory setting - [Nm]
r1534	CO: Force limit upper total		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [N]	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003 Max - [N]	Access level: 3 Func. diagram: 1610, 5620, 5630, 5640 Unit selection: p0505 Expert list: 1 Factory setting - [N]
r1535	CO: Torque limit lower total		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Nm]	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003 Max - [Nm]	Access level: 3 Func. diagram: 1610, 5620, 5630, 5640 Unit selection: p0505 Expert list: 1 Factory setting - [Nm]
r1535	CO: Force limit lower total		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [N]	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003 Max - [N]	Access level: 3 Func. diagram: 1610, 5620, 5630, 5640 Unit selection: p0505 Expert list: 1 Factory setting - [N]
r1536[0...1]	Current limit maximum torque-generating current		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002 Max - [Arms]	Access level: 4 Func. diagram: 6640, 6710 Unit selection: p0505 Expert list: 1 Factory setting - [Arms]

r1537[0...1]	Current limit minimum torque-generating current		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6640, 6710 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1538	CO: Upper effective torque limit		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 1610, 1700, 5610, 5650, 6060, 6640 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1538	CO: Upper force limit effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 2 Func. diagram: 1610, 5610, 5650 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
r1539	CO: Lower effective torque limit		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 1610, 1700, 5610, 5650, 6060, 6640 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1539	CO: Lower force limit effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 2 Func. diagram: 1610, 5610, 5650 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]

p1540[0...n]	Cl: Torque limit speed controller upper scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1700, 6060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1541[0...n]	Cl: Torque limit. speed controller lower scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1700, 6060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1542[0...n]	Cl: Travel to fixed stop torque reduction		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5610 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1542[0...n]	Cl: Travel to fixed stop force reduction		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5610 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1543	CO: Travel to fixed stop torque scaling		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5610 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1543	CO: Travel to fixed stop force scaling		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5610 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p1544	Travel to fixed stop evaluation torque reduction		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 5610 Unit selection: - Expert list: 1
	Min 0 [%]	Max 65535 [%]	Factory setting 100 [%]
p1544	Travel to fixed stop evaluation force reduction		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 5610 Unit selection: - Expert list: 1
	Min 0 [%]	Max 65535 [%]	Factory setting 100 [%]
p1545[0...n]	BI: Activates travel to a fixed stop		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2520, 3617, 8012 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1545[0...n]	BI: Activates travel to a fixed stop		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2520, 3617, 8012 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1546	Speed threshold motoring/regenerating		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 20.00 [rpm]

p1546	Velocity threshold motoring/regenerative		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.20 [m/min]
r1547[0...1]	CO: Torque limit for speed controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 6060 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1548[0...1]	CO: Stall current limit torque-generating maximum		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1549	CO: Stall power actual value		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_5 Scaling: r2004	Access level: 3 Func. diagram: 5640 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r1549	CO: Stall power actual value		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_8 Scaling: r2004	Access level: 3 Func. diagram: 5640 Unit selection: p0505 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
p1550[0...n]	BI: Transfer actual torque as torque offset		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 9718.23

p1550[0...n]	BI: Transfer actual force as force offset		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 9718.23
p1551[0...n]	BI: Torque limit variable/fixed signal source		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5620, 5630, 6060, 6630 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 1
p1551[0...n]	BI: Force limit variable/fixed signal source		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 5620, 5630, 6060, 6630 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 1
p1552[0...n]	CI: Torque limit upper scaling without offset		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT</p>	<p>Access level: 3 Func. diagram: 5060 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 1
p1552[0...n]	CI: Force limit upper scaling without offset		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT</p>	<p>Access level: 3 Func. diagram: 5060 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 1

p1552[0...n]	Cl: Torque limit upper scaling without offset		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1554[0...n]	Cl: Torque limit lower scaling without offset		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1554[0...n]	Cl: Force limit lower scaling without offset		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 5060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1554[0...n]	Cl: Torque limit lower scaling without offset		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1555[0...n]	Cl: Power limit		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: r2004	Access level: 3 Func. diagram: 6640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1556[0...n]	Power limit scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 6640 Unit selection: - Expert list: 1
	Min 0.00	Max 340.28235E36	Factory setting 0.00

p1569[0...n]	Cl: Supplementary torque 3		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 3841[0]
p1569[0...n]	Cl: Supplementary force 3		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2003	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 3841[0]
p1570[0...n]	CO: Flux setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 6722 Unit selection: - Expert list: 1
	Min 50.0 [%]	Max 200.0 [%]	Factory setting 100.0 [%]
p1571[0...n]	Cl: Supplementary flux setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6725 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p1572[0...n]	Supplementary flux setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 4 Func. diagram: 6726 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 0.0 [%]
p1573[0...n]	Flux threshold value magnetizing		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6722 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 200.0 [%]	Factory setting 100.0 [%]

p1574[0...n]	Voltage reserve dynamic		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 5_1 Scaling: -	Access level: 3 Func. diagram: 6723, 6724 Unit selection: p0505 Expert list: 1
	Min 0.0 [Vrms]	Max 150.0 [Vrms]	Factory setting 10.0 [Vrms]
p1576[0...n]	Flux boost, adaptation speed, lower		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 6725 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]
p1577[0...n]	Flux boost adaptation speed, upper		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6725 Unit selection: - Expert list: 1
	Min 1.0 [%]	Max 10000.0 [%]	Factory setting 200.0 [%]
p1578[0...n]	Flux reduction flux decrease smoothing time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 20 [ms]	Max 5000 [ms]	Factory setting 200 [ms]
p1579[0...n]	Flux reduction flux build-up smoothing time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 5000 [ms]	Factory setting 4 [ms]
p1580[0...n]	Efficiency optimization		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 6722 Unit selection: - Expert list: 1
	Min 0 [%]	Max 100 [%]	Factory setting 0 [%]

p1581[0...n]	Flux reduction factor		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 5722 Unit selection: - Expert list: 1</p>
	<p>Min 20 [%]</p>	<p>Max 100 [%]</p>	<p>Factory setting 100 [%]</p>
p1582[0...n]	Flux setpoint smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 6722, 6724, 6725 Unit selection: - Expert list: 1</p>
	<p>Min 4 [ms]</p>	<p>Max 5000 [ms]</p>	<p>Factory setting 15 [ms]</p>
r1583	Flux setpoint smoothed		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: PERCENT</p>	<p>Access level: 4 Func. diagram: 6722, 6723, 6724 Unit selection: - Expert list: 1</p>
	<p>Min - [%]</p>	<p>Max - [%]</p>	<p>Factory setting - [%]</p>
p1584[0...n]	Field weakening operation, flux setpoint smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL</p>	<p>Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 6722 Unit selection: - Expert list: 1</p>
	<p>Min 0 [ms]</p>	<p>Max 20000 [ms]</p>	<p>Factory setting 0 [ms]</p>
p1585[0...n]	Flux actual value, smoothing time		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL</p>	<p>Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0 [ms]</p>	<p>Max 1000 [ms]</p>	<p>Factory setting 0 [ms]</p>

p1585[0...n]	Flux actual value, smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6726 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 0 [ms]
p1586[0...n]	Field weakening characteristic, scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 80.0 [%]	Max 120.0 [%]	Factory setting 100.0 [%]
r1589	Field-weakening current, pre-control value		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6724 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p1590[0...n]	Flux controller P gain		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0.0 [A/Vs]	Max 999999.0 [A/Vs]	Factory setting 10.0 [A/Vs]
p1590[0...n]	Flux controller P gain		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6723 Unit selection: - Expert list: 1
	Min 0.0	Max 999999.0	Factory setting 10.0
p1592[0...n]	Flux controller integral time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5722 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 30 [ms]

p1592[0...n]	Flux controller integral time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6723 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 30 [ms]
r1593[0...1]	CO: Field weakening controller / flux controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6723, 6724, 6726 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p1594[0...n]	Field-weakening controller, P gain		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6724 Unit selection: - Expert list: 1
	Min 0.00	Max 1000.00	Factory setting 0.00
p1596[0...n]	Field weakening controller integral-action time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723, 6724 Unit selection: - Expert list: 1
	Min 10 [ms]	Max 10000 [ms]	Factory setting 50 [ms]
r1597	CO: Field weakening controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 4 Func. diagram: 6723 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r1598	CO: Total flux setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [%]	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT Max - [%]	Access level: 3 Func. diagram: 6714, 6723, 6724, 6725, 6726, 8018 Unit selection: - Expert list: 1 Factory setting - [%]
p1599[0...n]	Flux controller, excitation current difference		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL Min 0.0 [%]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.0 [%]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 3.0 [%]
p1600[0...n]	P flux controller, P gain		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL Min 0.0	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 999999.0	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 10.0
r1602	CO: P flux controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002 Max - [Arms]	Access level: 4 Func. diagram: 6726, 6727 Unit selection: p0505 Expert list: 1 Factory setting - [Arms]
p1603[0...n]	Field-generating current, maximum		
SERVO_840	Can be changed: C2, U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [%]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.0 [%]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 90.0 [%]
p1603[0...n]	Field-generating current, maximum		
SERVO, SERVO_AC	Can be changed: C2, U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [%]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.0 [%]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.0 [%]

p1604[0...n]	Pulse technique current limit		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM</p>	<p>Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.00 [Arms]</p>	<p>Max 10000.00 [Arms]</p>	<p>Factory setting 0.00 [Arms]</p>
p1605[0...n]	Pulse technique pattern configuration		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM</p>	<p>Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 1</p>	<p>Max 2</p>	<p>Factory setting 2</p>
r1606	CO: Pulse technique pattern actual		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0</p>	<p>Max 2</p>	<p>Factory setting -</p>
p1607[0...n]	Pulse technique stimulus		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM</p>	<p>Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 0.000 [mVs]</p>	<p>Max 20000.000 [mVs]</p>	<p>Factory setting 32.000 [mVs]</p>
r1608[0...6]	CO: Pulse technique response		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: ASM, REL, FEM</p>	<p>Calculated: - Dynamic index: - Units group: 6_5 Scaling: p2002</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1</p>
	<p>Min - [A]</p>	<p>Max - [A]</p>	<p>Factory setting - [A]</p>
p1609[0...n]	I/f operation current setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 6_2 Scaling: -</p>	<p>Access level: 3 Func. diagram: 6727 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [Arms]</p>	<p>Max 10000.00 [Arms]</p>	<p>Factory setting 0.00 [Arms]</p>

p1610[0...n]	Torque setpoint static (SLVC)		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32	Calculated: - Dynamic index: DDS, p0180	Access level: 2 Func. diagram: 1710, 6721, 6722, 6726
	P-Group: Closed-loop control Not for motor type: REL	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min -200.0 [%]	Max 200.0 [%]	Factory setting 50.0 [%]
p1611[0...n]	Supplementary accelerating torque (SLVC)		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180	Access level: 2 Func. diagram: 1710, 6721, 6722, 6726
	P-Group: Closed-loop control Not for motor type: REL	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting 30.0 [%]
p1612[0...n]	Current setpoint, open-loop control, encoderless		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 6_2 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p1612[0...n]	Current setpoint magnetizing open-loop controlled		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: 6_2 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
r1614	EMF maximum		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 4 Func. diagram: 6725 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]

p1616[0...n]	Current setpoint smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180	Access level: 3 Func. diagram: 6721, 6722, 6726
	P-Group: Closed-loop control Not for motor type: REL	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min 4 [ms]	Max 10000 [ms]	Factory setting 40 [ms]
r1617	CO: Torque setpoint (controlled)		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 3 Func. diagram: -
	P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Units group: - Scaling: -	Unit selection: - Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1618	Current model controller, pre-control		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32	Calculated: - Dynamic index: -	Access level: 4 Func. diagram: -
	P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p1619[0...n]	Setpoint/actual value tracking threshold		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180	Access level: 3 Func. diagram: 6727
	P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Units group: 6_2 Scaling: p2002	Unit selection: p0505 Expert list: 1
	Min 0.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p1620[0...n]	Stator current, minimum		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180	Access level: 3 Func. diagram: 6727
	P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Units group: 6_2 Scaling: -	Unit selection: p0505 Expert list: 1
	Min -10000.00 [Arms]	Max 10000.00 [Arms]	Factory setting 0.00 [Arms]
p1621[0...n]	Changeover speed, inner cos phi = 1		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180	Access level: 3 Func. diagram: 6727
	P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Units group: 3_1 Scaling: -	Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 0.00 [rpm]

p1622[0...n]	Field-generating current setpoint smoothing time constant		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 0.1 [ms]	Max 200.0 [ms]	Factory setting 20.0 [ms]
r1623[0...1]	Field-generating current setpoint (steady-state)		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6723, 6726, 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1624	Field-generating current setpoint, total		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6640, 6721, 6723, 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p1625[0...n]	Excitation current setpoint calibration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 10.0 [%]	Max 200.0 [%]	Factory setting 100.0 [%]
r1626	CO: Excitation current setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r1627	CO: Current model load angle		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
p1628[0...n]	Current model controller, dynamic factor		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 1 [%]	Max 400 [%]	Factory setting 50 [%]
p1629[0...n]	Current model controller P gain		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 0.000	Max 100000.000	Factory setting 0.000
p1630[0...n]	Current model controller integral time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 0.00 [ms]
r1631	Current model controller, P gain effective		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1632	Current model controller integral time effective		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]

r1633	Current model, flux setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1634	Current model, flux actual value		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1635	Current model controller, I component		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1636	Current model controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1637	Current model, magnetizing current, d axis		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1638	Current model, magnetizing current, q axis		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r1639	CO: Current model lsq after actual value tracking		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p1640[0...n]	CI: Excitation current actual value signal source		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r1641	Excitation current actual value		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 6727, 8018 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p1642[0...n]	Minimum excitation current		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 0.1 [%]	Max 50.0 [%]	Factory setting 5.0 [%]
p1643[0...n]	Gain factor, minimum excitation current closed-loop control		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6727 Unit selection: - Expert list: 1
	Min 0.00	Max 5.00	Factory setting 0.40
r1644	CO: Excitation current monitoring output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: 6727 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

p1645[0...6]	BI: Excitation feedback signals signal source		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 6495 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1646	Excitation monitoring time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 6495 Unit selection: - Expert list: 1
	Min 2.0 [s]	Max 1300.0 [s]	Factory setting 20.0 [s]
p1647	Excitation switch-off delay time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 6495 Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 5.0 [s]	Factory setting 0.8 [s]
r1648.0...11	CO/BO: Excitation, control word		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 6495 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1649.0...7	CO/BO: Excitation status word		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 6495 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1650	Current setpoint torque-generating before filter		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 5710 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r1650	Current setpoint force-generating before filter		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 5710 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1651	CO: Torque setpoint, function generator		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r1651	CO: Force setpoint, function generator		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
p1653[0...n]	Current setpoint torque-generating smoothing time minimum		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6710 Unit selection: - Expert list: 1
	Min 0.1 [ms]	Max 20.0 [ms]	Factory setting 0.1 [ms]
p1654[0...n]	Curr. setpoint torque-gen. smoothing time field weakening range		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6710 Unit selection: - Expert list: 1
	Min 0.1 [ms]	Max 50.0 [ms]	Factory setting 4.8 [ms]
p1655[0...4]	Cl: Current setpoint/Speed actual value filter nat. frequency tuning		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1710, 6710 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p1656[0...n]	Activates current setpoint filter			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0001 bin	
p1656[0...n]	Current setpoint/Speed actual value filter activation			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4715, 6710 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0000 0001 bin	
p1657[0...n]	Current setpoint filter 1 type			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1	
	Min 1	Max 2	Factory setting 1	
p1658[0...n]	Current setpoint filter 1 denominator natural frequency			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1	
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]	
p1659[0...n]	Current setpoint filter 1 denominator damping			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1	
	Min 0.001	Max 10.000	Factory setting 0.700	
p1660[0...n]	Current setpoint filter 1 numerator natural frequency			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1	
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]	

p1661[0...n]	Current setpoint filter 1 numerator damping		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1662[0...n]	Current setpoint filter 2 type		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1
p1663[0...n]	Current setpoint filter 2 denominator natural frequency		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1664[0...n]	Current setpoint filter 2 denominator damping		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1665[0...n]	Current setpoint filter 2 numerator natural frequency		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1666[0...n]	Current setpoint filter 2 numerator damping		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710, 6710 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700

p1667[0...n]	Current setpoint filter 3 type		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1
p1668[0...n]	Current setpoint filter 3 denominator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1669[0...n]	Current setpoint filter 3 denominator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1670[0...n]	Current setpoint filter 3 numerator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1671[0...n]	Current setpoint filter 3 numerator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1672[0...n]	Current setpoint filter 4 type		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1

p1673[0...n]	Current setpoint filter 4 denominator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1674[0...n]	Current setpoint filter 4 denominator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1675[0...n]	Current setpoint filter 4 numerator natural frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1676[0...n]	Current setpoint filter 4 numerator damping		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5710 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1677[0...n]	Speed actual value filter 5 type		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4715 Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 2
p1678[0...n]	Speed actual value filter 5 denominator natural frequency		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4715 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]

p1679[0...n]	Speed actual value filter 5 denominator damping		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4715 Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 0.700
p1680[0...n]	Speed actual value filter 5 numerator natural frequency		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4715 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 1999.0 [Hz]
p1681[0...n]	Speed actual value filter 5 numerator damping		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4715 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p1699	Filter data acceptance		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Integer16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1701[0...n]	Current controller reference model dead time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 5714 Unit selection: - Expert list: 1
	Min 0.0	Max 1.0	Factory setting 1.0
p1702[0...n]	Isd current controller pre-control scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting 70.0 [%]

p1703[0...n]	Isq current controller pre-control scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting 70.0 [%]
p1704[0...n]	Isq current controller pre-control EMF scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6714, 6726 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting 100.0 [%]
p1705[0...n]	Flux setpoint/actual value tracking threshold		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 4 Func. diagram: 6714, 6726 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 100.0 [%]
p1715[0...n]	Current controller P gain		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 18_1 Scaling: -	Access level: 3 Func. diagram: 5714, 7017 Unit selection: p0505 Expert list: 1
	Min 0.000 [V/A]	Max 100000.000 [V/A]	Factory setting 0.000 [V/A]
p1715[0...n]	Current controller P gain		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1710, 6714, 7017 Unit selection: - Expert list: 1
	Min 0.000	Max 100000.000	Factory setting 0.000

p1717[0...n]	Current controller integral-action time		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 1710, 5714, 6714, 7017 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 2.00 [ms]
r1718	CO: lsq controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 4 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r1719	lsq controller integral component		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 4 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r1723	CO: lsd controller output		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 4 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r1724	lsd controller integral component		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 4 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r1725	lsd controller integral component limit		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 4 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]

p1726[0...n]	Quadrature arm decoupling, scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting 75.0 [%]
p1727[0...n]	Quadrature arm decoupling at voltage limit scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: 6714 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting 50.0 [%]
r1728	De-coupling voltage, in-line axis		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 3 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r1729	De-coupling voltage, quadrature axis		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 3 Func. diagram: 6714 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p1730[0...n]	Isd controller integral component shutdown threshold		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 30 [%]	Max 150 [%]	Factory setting 30 [%]
p1731[0...n]	Isd controller combination current time component		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 0.00 [ms]

r1732	CO: Direct-axis voltage setpoint		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Vrms]	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001 Max - [Vrms]	Access level: 3 Func. diagram: 1630, 5714, 6714, 5718 Unit selection: p0505 Expert list: 1 Factory setting - [Vrms]
r1732[0...1]	CO: Direct-axis voltage setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Vrms]	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001 Max - [Vrms]	Access level: 3 Func. diagram: 1630, 5714, 6714, 5718 Unit selection: p0505 Expert list: 1 Factory setting - [Vrms]
r1733	CO: Quadrature-axis voltage setpoint		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Vrms]	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001 Max - [Vrms]	Access level: 3 Func. diagram: 1630, 5714, 5718, 6714, 6719 Unit selection: p0505 Expert list: 1 Factory setting - [Vrms]
r1733[0...1]	CO: Quadrature-axis voltage setpoint		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min - [Vrms]	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001 Max - [Vrms]	Access level: 3 Func. diagram: 1630, 5714, 5718, 6714, 6719 Unit selection: p0505 Expert list: 1 Factory setting - [Vrms]
p1740[0...n]	Gain resonance damping for encoderless closed-loop control		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL Min 0.000	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: - Max 10.000	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.025

p1744[0...n]	Motor model speed threshold stall detection		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 100.00 [rpm]
p1745[0...n]	Motor model error threshold stall detection		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 1000.0 [%]	Factory setting 5.0 [%]
r1746	Motor model error signal stall detection		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p1748[0...n]	Motor model lower changeover speed n_set -> n_act		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 90.0 [%]	Factory setting 50.0 [%]
p1749[0...n]	Motor model upper changeover speed / increase changeover speed		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 99.0 [%]	Factory setting 50.0 [%]
p1750[0...n]	Motor model configuration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned8 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 bin

r1751	Motor model status		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1752[0...n]	Motor model changeover speed operation with encoder		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1752[0...n]	Motor model with encoder changeover velocity		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 1000.00 [m/min]
p1752[0...n]	Motor model changeover speed operation with encoder		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1753[0...n]	Motor model changeover speed hysteresis operation with encoder		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 90.0 [%]	Factory setting 0.0 [%]
p1754[0...n]	Flux angle difference smoothing time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6733 Unit selection: - Expert list: 1
	Min 0.1 [ms]	Max 10000.0 [ms]	Factory setting 5.0 [ms]

p1755[0...n]	Motor model changeover speed encoderless operation		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1755[0...n]	Motor model changeover velocity encoderless operation		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 1000.00 [m/min]
p1755[0...n]	Motor model changeover speed encoderless operation		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p1756	Motor model changeover speed hysteresis		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 90.0 [%]	Factory setting 5.0 [%]
p1756	Motor model changeover velocity hysteresis		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 90.0 [%]	Factory setting 5.0 [%]
p1756	Motor model changeover speed hysteresis encoderless operation		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_REG Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 6730, 6731, 6732, 6733 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 95.0 [%]	Factory setting 50.0 [%]

p1757[0...n]	Motor model w/o enc. op./cl.-loop controlled stab. controller Kp		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.01	Max 10.00	Factory setting 0.70
p1758[0...n]	Motor model changeover delay time closed/open-loop control		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 100 [ms]	Max 10000 [ms]	Factory setting 1000 [ms]
p1759[0...n]	Motor model changeover delay time open/closed-loop control		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 2000 [ms]	Factory setting 0 [ms]
p1760[0...n]	Motor model with encoder speed adaptation Kp		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000	Max 100000.000	Factory setting 1000.000
p1761[0...n]	Motor model with encoder speed adaptation Tn		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 4 [ms]
r1762[0...1]	Motor model deviation component 1		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 6721, 6730, 6731 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r1763	Motor model deviation component 2		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting
p1764[0...n]	Motor model without encoder speed adaptation Kp		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6730 Unit selection: - Expert list: 1
	Min 0.000	Max 100000.000	Factory setting 1000.000
r1765	Motor model, speed adaptation Kp effective		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting
p1766[0...n]	Motor model voltage model calculation enable		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 90.0 [%]	Factory setting 50.0 [%]
p1767[0...n]	Motor model without encoder speed adaptation Tn		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6730 Unit selection: - Expert list: 1
	Min 1 [ms]	Max 200 [ms]	Factory setting 4 [ms]
r1768	Motor model, speed adaptation Vi effective		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting

r1770	CO: Motor model speed adaptation proportional component		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 6730 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1771	CO: Motor model speed adaptation I comp.		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 6730 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r1773[0...1]	Motor model slip speed		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p1774[0...n]	Motor model, offset voltage compensation alpha		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -5.000 [V]	Max 5.000 [V]	Factory setting 0.000 [V]
p1775[0...n]	Motor model, offset voltage compensation beta		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -5.000 [V]	Max 5.000 [V]	Factory setting 0.000 [V]
r1776[0...6]	Motor model status signals		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r1778	Motor model flux angle difference		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r1778	Motor model flux angle difference		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r1779	Motor model absolute flux		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p1780[0...n]	Motor model adaptation configuration		
SERVO_840	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p1780[0...n]	Motor model adaptation configuration		
SERVO, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0010 0000 bin
p1780[0...n]	Motor/converter model adaptation configuration		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0001 0010 1000 bin

p1780[0...n]	Motor model adaptation configuration		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0111 1100 bin
p1784[0...n]	Motor model feedback scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 1000.0 [%]	Factory setting 0.0 [%]
p1785[0...n]	Motor model Lh adaptation Kp		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.100
p1786[0...n]	Motor model Lh adaptation integral time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10 [ms]	Max 10000 [ms]	Factory setting 100 [ms]
r1787[0...n]	Motor model Lh adaptation corrective value		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r1791	Motor model Lh adaptation power-on frequency		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]

r1792	Motor model Lh adaptation power-on slip		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
p1795[0...n]	Motor model kT adaptation smoothing time		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1 [ms]	Max 10000 [ms]	Factory setting 100 [ms]
p1795[0...n]	Motor model kT adaptation integral time		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6731 Unit selection: - Expert list: 1
	Min 10 [ms]	Max 10000 [ms]	Factory setting 100 [ms]
r1797	Motor model kT adaptation corrective value		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [N/Arms]	Max - [N/Arms]	Factory setting - [N/Arms]
r1797	Motor model kT adaptation corrective value		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Nm/A]	Max - [Nm/A]	Factory setting - [Nm/A]
r1797[0...n]	Motor model kT adaptation corrective value		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6731 Unit selection: - Expert list: 1
	Min - [Nm/A]	Max - [Nm/A]	Factory setting - [Nm/A]

p1798[0...n]	Motor model pulse technique speed adaptation Kp		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000	Max 1000.000	Factory setting 1.000
p1800[0...n]	Pulse frequency setpoint		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.000 [kHz]	Max 32.000 [kHz]	Factory setting 4.000 [kHz]
p1800[0...n]	Pulse frequency setpoint		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.000 [kHz]	Max 16.000 [kHz]	Factory setting 4.000 [kHz]
r1801[0...1]	CO: Pulse frequency		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [kHz]	Max - [kHz]	Factory setting - [kHz]
p1802[0...n]	Modulator mode		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 9	Factory setting 0

p1802[0...n]	Modulator mode		
VECTOR (F3E), VECTOR_AC (F3E)	Can be changed: T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting 4
p1803[0...n]	Maximum modulation depth		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723 Unit selection: - Expert list: 1
	Min 20.0 [%]	Max 150.0 [%]	Factory setting 100.0 [%]
p1803[0...n]	Maximum modulation depth		
VECTOR (F3E), VECTOR_AC (F3E)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 6723 Unit selection: - Expert list: 1
	Min 20.0 [%]	Max 150.0 [%]	Factory setting 106.0 [%]
p1804[0...n]	Filter time constant smoothed modulation index		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 10.0 [ms]
p1806[0...n]	Filter time constant Vdc correction		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: CALC_MOD_REG Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 0.0 [ms]

r1807	Actual DC link voltage to calculate the modulation depth		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001	Access level: 4 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r1808	DC link voltage actual value for U_max calculation		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001	Access level: 4 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r1809	CO: Modulator mode actual		
VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 9	Factory setting -
p1810	Modulator configuration		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1000 0100 0001 0000 bin
p1810	Modulator configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p1810	Modulator configuration		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0010 bin

p1810	Modulator configuration		
VECTOR (F3E), VECTOR_AC (F3E)	Can be changed: U, T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p1811	Pulse frequency wobblulation amplitude		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [%]	Max 20 [%]	Factory setting 0 [%]
p1811[0...n]	Pulse frequency wobblulation amplitude		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [%]	Max 20 [%]	Factory setting 0 [%]
p1812	BI: Offset calibration output current measurement		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p1815	Phase for PWM generation subgroup		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0001 bin

p1816	Set phase for PWM generation manually		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 16	Factory setting -1
p1817	Minimum ratio, pulse frequency to the output frequency		
VECTOR, VECTOR_AC	Can be changed: C2(2) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 8.3	Max 15.0	Factory setting 12.0
p1818	Phase for PWM generation configuration		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p1819	Phase for PWM generation		
A_INF, A_INF_840	Can be changed: U, T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 16	Factory setting 0
p1819	Phase for PWM generation		
S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 16	Factory setting -1

p1820[0...n]	Reverse the output phase sequence		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3)</p> <p>Data type: Integer16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 6732</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	Factory setting 0
p1821[0...n]	Dir of rot		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: C2(3)</p> <p>Data type: Integer16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 4704, 4710, 4711, 4715, 5730, 6730, 6731, 6732</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	Factory setting 0
p1821[0...n]	Direction		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: C2(3)</p> <p>Data type: Integer16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 4704, 4710, 4711, 4715, 5730, 6730, 6731, 6732</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	Factory setting 0
p1821[0...n]	Dir of rot		
VECTOR, VECTOR_AC	<p>Can be changed: C2(3)</p> <p>Data type: Integer16</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 4704, 4710, 4711, 4715, 5730, 6730, 6731, 6732</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	Factory setting 0
p1825	Converter valve threshold voltage		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Modulation</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.0 [Vrms]</p>	<p>Max 100.0 [Vrms]</p>	Factory setting 0.6 [Vrms]

p1827	Infeed compensation valve lockout time operating mode		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Integer16 P-Group: Modulation Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p1828	Compensation valve lockout time phase U		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 1000000.00 [μs]	Factory setting 0.00 [μs]
p1829	Compensation valve lockout time phase V		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 1000000.00 [μs]	Factory setting 0.00 [μs]
p1830	Compensation valve lockout time phase W		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 1000000.00 [μs]	Factory setting 0.00 [μs]
p1832	Dead time compensation current level		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [Arms]	Max 10000.0 [Arms]	Factory setting 0.0 [Arms]
p1835[0...1]	Pulse frequency reduction switchover frequency shift		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 800.00 [Hz]	Factory setting 0.00 [Hz]

r1836[0...1]	Pulse frequency reduction, switchover frequency		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Modulation Not for motor type: REL, FEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r1837	Gating unit configuration		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1840[0...n]	Actual value correction configuration		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
r1841	Actual value correction status word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1845[0...n]	Actual value correction evaluation factor Lsig		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 10.00	Factory setting 1.00
p1846[0...n]	Actual value correction damping factor		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 10.00	Factory setting 1.00

r1848[0...5]	Actual value correction phase currents		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1849[0...5]	Actual value correction phase voltages		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1900	Motor data identification and rotating measurement		
VECTOR, VECTOR_AC	Can be changed: C2(1), T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 2
p1900	Motor data identification and rotating measurement		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(1), T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 2
p1901	Test pulse evaluation configuration		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
r1902	Test pulse evaluation status		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p1905	Parameter tuning selection		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: C2(1), T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 90	Factory setting 0
p1909[0...n]	Motor data identification control word		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: T Data type: Unsigned16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0110 0111 0000 0000 bin
p1909[0...n]	Motor data identification control word		
SERVO (Lin), SERVO, SERVO_840 (Lin), SERVO_840, SERVO_AC (Lin), SERVO_AC	Can be changed: T Data type: Unsigned16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0010 0111 0000 0000 bin
p1909[0...n]	Motor data identification control word		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 bin
p1910	Motor data identification routine, stationary (standstill)		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -3	Max 1	Factory setting 0

p1910	Motor data identification selection		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 26	Factory setting 1
p1911	Number of phases to be identified		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 3	Factory setting 1
r1912	Stator resistance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ohm]	Max - [ohm]	Factory setting - [ohm]
r1912[0...2]	Identified stator resistance		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ohm]	Max - [ohm]	Factory setting - [ohm]
r1913	Rotor time constant identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r1913[0...2]	Identified rotor time constant		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]

r1914[0...2]	Identified total leakage inductance		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1915	Stator inductance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1915[0...2]	Identified nominal stator inductance		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1916[0...2]	Identified stator inductance 1		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1917[0...2]	Identified stator inductance 2		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1918[0...2]	Identified stator inductance 3		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]

r1919[0...2]	Identified stator inductance 4		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1920[0...2]	Identified dynamic leakage inductance		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1921[0...2]	Identified dynamic leakage inductance 1		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1922[0...2]	Identified dynamic leakage inductance 2		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1923[0...2]	Identified dynamic leakage inductance 3		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1924[0...2]	Identified dynamic leakage inductance 4		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]

r1925	Threshold voltage identified		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p> <p>Min - [Vrms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [Vrms]</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [Vrms]</p>
r1925[0...2]	Identified threshold voltage		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p> <p>Min - [Vrms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [Vrms]</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [Vrms]</p>
r1926[0...2]	Identified effective valve lockout time		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p> <p>Min - [μs]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [μs]</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [μs]</p>
r1927	Rotor resistance identified		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p> <p>Min - [ohm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [ohm]</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [ohm]</p>
r1927[0...2]	Identified rotor resistance		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p> <p>Min - [ohm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [ohm]</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [ohm]</p>
r1929[0...2]	Identified cable resistance		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p> <p>Min - [ohm]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [ohm]</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [ohm]</p>

r1932[0...19]	d inductance identified		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [mH]</p>	<p>Max - [mH]</p>	<p>Factory setting - [mH]</p>
r1933[0...19]	d inductance identification current		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [Arms]</p>	<p>Max - [Arms]</p>	<p>Factory setting - [Arms]</p>
r1934[0...9]	q inductance identified		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [mH]</p>	<p>Max - [mH]</p>	<p>Factory setting - [mH]</p>
r1934[0...9]	q inductance identified		
VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [mH]</p>	<p>Max - [mH]</p>	<p>Factory setting - [mH]</p>
r1935[0...20]	Identification current		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [Arms]</p>	<p>Max - [Arms]</p>	<p>Factory setting - [Arms]</p>
r1935[0...20]	Identification current		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [Arms]</p>	<p>Max - [Arms]</p>	<p>Factory setting - [Arms]</p>

r1935[0...9]	q inductance identification current		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [Arms]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [Arms]
r1936	Magnetizing inductance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
r1937[0...10]	Torque constant identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [Nm/A]	Calculated: - Dynamic index: - Units group: 28_1 Scaling: - Max - [Nm/A]	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1 Factory setting - [Nm/A]
r1937[0...10]	Force constant identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [N/Arms]	Calculated: - Dynamic index: - Units group: 29_1 Scaling: - Max - [N/Arms]	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1 Factory setting - [N/Arms]
r1938	Voltage constant identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [Vrms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [Vrms]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [Vrms]
r1938	Voltage constant identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: - Min - [Vrms s/m]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [Vrms s/m]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [Vrms s/m]

r1939	Reluctance torque constant identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r1939	Reluctance force constant identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
r1947	Optimum load angle identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r1948	Magnetizing current identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r1950[0...19]	Voltage emulation error voltage values		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r1951[0...19]	Voltage emulation error current values		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]

p1952[0...n]	Voltage emulation error final value		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [V]	Max 100.000 [V]	Factory setting 0.000 [V]
p1953[0...n]	Voltage emulation error current offset		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [A]	Max 100.000 [A]	Factory setting 0.000 [A]
p1958[0...n]	Rotating measurement ramp-up/ramp-down time		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -1.00 [s]	Max 999999.00 [s]	Factory setting -1.00 [s]
p1958[0...n]	Moving measurement ramp-up/ramp-down time		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -1.00 [s]	Max 999999.00 [s]	Factory setting -1.00 [s]
p1959[0...n]	Rotating measurement configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned16 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 1110 1110 0111 bin
p1959[0...n]	Moving measurement configuration		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned16 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 1110 1110 0111 bin

p1959[0...n]	Rotating measurement configuration		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned16 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0001 1111 bin
p1960	Rotating measurement selection		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -3	Max 1	Factory setting 0
p1960	Moving measurement selection		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Integer16 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -3	Max 1	Factory setting 0
p1960	Rotating measurement selection		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting 0
p1961	Saturation characteristic speed to determine		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 26 [%]	Max 75 [%]	Factory setting 40 [%]
r1962[0...9]	Saturation characteristic magnetizing current identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r1962[0...4]	Saturation characteristic magnetizing current		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1963[0...9]	Saturation characteristic stator flux identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1963[0...4]	Saturation characteristic magnetizing inductance		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1964[0...4]	Saturation characteristic rotor flux		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p1965	Speed_ctrl_opt speed		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10 [%]	Max 75 [%]	Factory setting 40 [%]
p1967	Speed_ctrl_opt dynamic factor		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1 [%]	Max 400 [%]	Factory setting 100 [%]

r1968	Speed_ctrl_opt dynamic factor actual		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r1969	Moment of inertia identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min - [kgm ²]	Max - [kgm ²]	Factory setting - [kgm ²]
r1969	High load inertia identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min - [kg]	Max - [kg]	Factory setting - [kg]
r1969	Speed_ctrl_opt moment of inertia determined		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: 25_1 Scaling: -	Access level: 4 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min - [kgm ²]	Max - [kgm ²]	Factory setting - [kgm ²]
r1970[0...1]	Speed_ctrl_opt vibration test vibration frequency determined		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r1971[0...1]	Speed_ctrl_opt vibration test standard deviation determined		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]

r1972[0...1]	Speed_ctrl_opt vibration test number of periods determined		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1973[0...1]	Encoder, pulse number identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Integer32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1973	Rotating measurement, encoder test pulse number determined		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Integer32 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r1979.0...11	BO: Speed_ctrl_opt status		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Motor identification Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1980[0...n]	PolID technique		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 99
p1980[0...n]	PolID technique		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Motor identification Not for motor type: ASM	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 10	Factory setting 4

p1981[0...n]	PolID distance max		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0 [°]</p>	<p>Max 180 [°]</p>	<p>Factory setting 10 [°]</p>
p1982[0...n]	PolID selection		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 2</p>	<p>Factory setting 0</p>
p1982[0...n]	PolID selection		
VECTOR, VECTOR_AC	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 2</p>	<p>Factory setting 0</p>
p1983	PolID test		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: Unsigned16</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 1</p>	<p>Factory setting 0</p>
r1984	PolID angular difference		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [°]</p>	<p>Max - [°]</p>	<p>Factory setting - [°]</p>
r1985	PolID saturation curve		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min - [Arms]</p>	<p>Max - [Arms]</p>	<p>Factory setting - [Arms]</p>

r1986	PoID saturation characteristic 2		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -
r1987	PoID trigger characteristic		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min - [%]	Max - [%]	Factory setting - [%]
p1990	Encoder adjustment, determine angular commutation offset		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: Motor identification</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 1	Factory setting 0
p1990	Encoder adjustment, determine angular commutation offset		
VECTOR, VECTOR_AC	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: Motor identification</p> <p>Not for motor type: ASM</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 3	Factory setting 0
p1991[0...n]	Motor changeover, angular commutation correction		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: MDS, p0130</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -180 [°]	Max 180 [°]	Factory setting 0 [°]
r1992	PoID diagnostics		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -

r1992	PoID diagnostics		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p1993[0...n]	PoID motion-based current		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_EQU Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Arms]	Max 20000.00 [Arms]	Factory setting 0.00 [Arms]
p1994[0...n]	PoID motion-based rise time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 2500 [ms]	Factory setting 100 [ms]
p1995[0...n]	PoID motion-based gain		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: 17_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.000 [Nms/rad]	Max 999999.000 [Nms/rad]	Factory setting 0.300 [Nms/rad]
p1995[0...n]	PoID motion-based gain		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: 24_2 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.000 [Ns/m]	Max 999999.000 [Ns/m]	Factory setting 10.000 [Ns/m]
p1996[0...n]	PoID motion-based integral time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 500.0 [ms]	Factory setting 2.0 [ms]

p1997[0...n]	PoID motion-based smoothing time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 50.0 [ms]	Factory setting 0.0 [ms]
p1999[0...n]	Ang. commutation offset calibr. and PoID scaling		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10 [%]	Max 5000 [%]	Factory setting 100 [%]
p2000	Reference frequency		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [Hz]	Max 1000.00 [Hz]	Factory setting 50.00 [Hz]
p2000	Reference speed reference frequency		
ENC, ENC_840	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 6.00 [rpm]	Max 210000.00 [rpm]	Factory setting 3000.00 [rpm]
p2000	Reference velocity, reference frequency		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.60 [m/min]	Max 600.00 [m/min]	Factory setting 120.00 [m/min]
p2000	Reference speed reference frequency		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 6.00 [rpm]	Max 210000.00 [rpm]	Factory setting 3000.00 [rpm]

p2000	Reference velocity, reference frequency		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.60 [m/min]	Max 600.00 [m/min]	Factory setting 120.00 [m/min]
p2000	Reference speed reference frequency		
TM41	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 6.00 [rpm]	Max 210000.00 [rpm]	Factory setting 3000.00 [rpm]
p2000	Reference speed reference frequency		
VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 6.00 [rpm]	Max 210000.00 [rpm]	Factory setting 3000.00 [rpm]
p2001	Reference voltage		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10 [Vrms]	Max 100000 [Vrms]	Factory setting 1000 [Vrms]
p2002	Reference current		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [Arms]	Max 100000.00 [Arms]	Factory setting 100.00 [Arms]

p2003	Reference torque		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: - Units group: 7_2 Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.01 [Nm]</p>	<p>Max 20000000.00 [Nm]</p>	<p>Factory setting 1.00 [Nm]</p>
p2003	Reference force		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: - Units group: 8_2 Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.01 [N]</p>	<p>Max 20000000.00 [N]</p>	<p>Factory setting 100.00 [N]</p>
r2004	Reference power		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Communications Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: 14_10 Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1</p>
	<p>Min - [kW]</p>	<p>Max - [kW]</p>	<p>Factory setting - [kW]</p>
p2005	Reference angle		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 90.00 [°]</p>	<p>Max 180.00 [°]</p>	<p>Factory setting 90.00 [°]</p>
p2006	Reference temp		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM150, TM31, TM41, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -</p>	<p>Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	<p>Min 50.00 [°C]</p>	<p>Max 300.00 [°C]</p>	<p>Factory setting 100.00 [°C]</p>

p2007	Reference acceleration		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.01 [rev/s ²]	Max 500000.00 [rev/s ²]	Factory setting 0.01 [rev/s ²]
p2007	Reference acceleration		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 22_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.01 [m/s ²]	Max 10000.00 [m/s ²]	Factory setting 0.01 [m/s ²]
r2019[0...7]	Comm int error statistics		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2020	Field bus interface baud rate		
CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 4	Max 8	Factory setting 8
p2021	Field bus interface address		
CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 31	Factory setting 0
p2022	Field bus int USS PZD no.		
CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 2

p2023	Field bus int USS PKW no.		
CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 127	Factory setting 127
r2029[0...7]	Field bus int error statistics		
CU_S_AC_DP, CU_S120_DP	Can be changed: - Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2030	Field bus int protocol selection		
CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 3	Max 6	Factory setting 3
r2032	Master control, control word effective		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2032	Master control, control word effective		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2032	Master control, control word effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p2035	Fieldbus interface USS PIV drive object number		
CU_S_AC_DP, CU_S120_DP	Can be changed: U, T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 62	Factory setting 2
p2037	IF1 PROFIdrive STW1.10 = 0 mode		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p2038	IF1 PROFIdrive STW/ZSW interface mode		
SERVO_840	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 1	Factory setting 1
p2038	IF1 PROFIdrive STW/ZSW interface mode		
SERVO_840 (EPOS, Pos ctrl)	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 1	Factory setting 1
p2038	IF1 PROFIdrive STW/ZSW interface mode		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0

p2038	IF1 PROFIdrive STW/ZSW interface mode		
SERVO (EPOS, Pos ctrl), SERVO_AC (EPOS, Pos ctrl), VECTOR (EPOS, Pos ctrl), VECTOR_AC (EPOS, Pos ctrl)	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 0	Factory setting 0
p2039	Select debug monitor interface		
CU_I_840	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 1
p2039	Select debug monitor interface		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p2040	COMM INT monitoring time		
CU_I_840, CU_LINK, CU_NX_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1999999 [ms]	Factory setting 20 [ms]
p2040	Fieldbus interface monitoring time		
CU_S_AC_DP, CU_S120_DP	Can be changed: U, T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1999999 [ms]	Factory setting 100 [ms]

p2042	PROFIBUS Ident Number		
CU_S_AC_DP, CU_S120_DP	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r2043.0...2	BO: IF1 PROFIdrive PZD state		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2044	IF1 PROFIdrive fault delay		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min 0 [s]	Max 100 [s]	Factory setting 0 [s]
p2045	CI: PB/PN clock synchronous controller sign-of-life signal source		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2047	PROFIBUS additional monitoring time		
CU_S_AC_DP, CU_S120_DP	Can be changed: U, T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 20000 [ms]	Factory setting 0 [ms]

p2048	IF1 PROFIdrive PZD sampling time		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 16.00 [ms]	Factory setting 4.00 [ms]
r2050[0...9]	CO: IF1 PROFIdrive PZD receive word		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2050[0...19]	CO: IF1 PROFIdrive PZD receive word		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2050[0...3]	CO: IF1 PROFIdrive PZD receive word		
ENC, ENC_840	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2440, 2468 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2050[0...19]	CO: IF1 PROFIdrive PZD receive word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2440, 2468 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2050[0...4]	CO: IF1 PROFIdrive PZD receive word		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1

	Min	Max	Factory setting
r2050[0...31]	CO: IF1 PROFIdrive PZD receive word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2440, 2468 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2051[0...9]	CI: IF1 PROFIdrive PZD send word		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2051[0...24]	CI: IF1 PROFIdrive PZD send word		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2051[0...11]	CI: IF1 PROFIdrive PZD send word		
ENC, ENC_840	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2051[0...27]	CI: IF1 PROFIdrive PZD send word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2051[0...4]	CI: IF1 PROFIdrive PZD send word		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2051[0...31]	CI: IF1 PROFIdrive PZD send word		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r2053[0...9]	IF1 PROFIdrive diagnostics PZD send word		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2053[0...24]	IF1 PROFIdrive diagnostics PZD send word		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2053[0...11]	IF1 PROFIdrive diagnostics PZD send word		
ENC, ENC_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2450, 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2053[0...27]	IF1 PROFIdrive diagnostics PZD send word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2450, 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2053[0...4]	IF1 PROFIdrive diagnostics PZD send word		
TB30, TM120, TM150,TM15DI_DO, TM31	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2053[0...31]	IF1 PROFIdrive diagnostics PZD send word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2450, 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2054	COMM INT state		
CU_I_840,CU_LINK, CU_NX_840	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -
r2054	PROFIBUS status		
CU_S_AC_DP, CU_S120_DP	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting -
r2055[0...2]	PROFIBUS diagnostics standard		
CU_S_AC_DP, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2057	PROFIBUS address switch diagnostics		
CU_S_AC_DP, CU_S120_DP	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2058[0...139] COMM INT receive configuration data

CU_I_840, CU_LINK,	Can be changed: -	Calculated: -	Access level: 3
CU_NX_840	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2059[0...7] COMM INT identification data

CU_I_840, CU_LINK,	Can be changed: -	Calculated: -	Access level: 3
CU_NX_840	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2060[0...2] CO: IF1 PROFIdrive PZD receive double word

ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 2440, 2468
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: 4000H	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2060[0...18] CO: IF1 PROFIdrive PZD receive double word

SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 2440, 2468
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: 4000H	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2060[0...30] CO: IF1 PROFIdrive PZD receive double word

VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 2440, 2468
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: 4000H	Expert list: 1
	Min	Max	Factory setting
	-	-	-

p2061[0...10] CI: IF1 PROFIdrive PZD send double word

ENC, ENC_840	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Integer32	Dynamic index: -	Func. diagram: 2470
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: 4000H	Expert list: 1
	Min	Max	Factory setting
	-	-	0

p2061[0...26]	CI: IF1 PROFIdrive PZD send double word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2061[0...30]	CI: IF1 PROFIdrive PZD send double word		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r2063[0...10]	IF1 PROFIdrive diagnostics PZD send double word		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2450, 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2063[0...26]	IF1 PROFIdrive diagnostics PZD send double word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2450, 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2063[0...30]	IF1 PROFIdrive diagnostics PZD send double word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2450, 2470 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2064[0...7]	PB/PN diagnostics clock cycle synchronism		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2065	PB/PN controller sign of life diagnostics		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2067[0...1]	IF1 PZD maximum interconnected		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2074[0...9]	IF1 PROFIdrive diagnostics bus address PZD receive		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2074[0...19]	IF1 PROFIdrive diagnostics bus address PZD receive		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2074[0...3]	IF1 PROFIdrive diagnostics bus address PZD receive		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2074[0...4]	IF1 PROFIdrive diagnostics bus address PZD receive		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2074[0...31]	IF1 PROFIdrive diagnostics bus address PZD receive		
VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2075[0...9]	IF1 PROFIdrive diagnostics telegram offset PZD receive		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2075[0...19]	IF1 PROFIdrive diagnostics telegram offset PZD receive		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2075[0...3]	IF1 PROFIdrive diagnostics telegram offset PZD receive		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2075[0...4]	IF1 PROFIdrive diagnostics telegram offset PZD receive		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2075[0...31]	IF1 PROFIdrive diagnostics telegram offset PZD receive		
VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2076[0...9]	IF1 PROFIdrive diagnostics telegram offset PZD send		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2076[0...24]	IF1 PROFIdrive diagnostics telegram offset PZD send		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2076[0...11]	IF1 PROFIdrive diagnostics telegram offset PZD send		
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Communications	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2076[0...27]	IF1 PROFIdrive diagnostics telegram offset PZD send		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2076[0...4]	IF1 PROFIdrive diagnostics telegram offset PZD send		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2076[0...31]	IF1 PROFIdrive diagnostics telegram offset PZD send		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2077[0...15]	PROFIBUS diagnostics peer-to-peer data transfer addresses		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2079	IF1 PROFIdrive PZD telegram selection extended		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 370	Max 999	Factory setting 999

p2079	IF1 PROFIdrive PZD telegram selection extended		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 390	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
ENC, ENC_840	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 81	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
SERVO_840	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 136
p2079	IF1 PROFIdrive PZD telegram selection extended		
SERVO, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
SERVO (EPOS, Pos ctrl, Spin_diag), SERVO_840 (EPOS, Pos ctrl, Spin_diag), SERVO_AC (EPOS, Pos ctrl, Spin_diag), VECTOR (EPOS, n/M, Pos ctrl), VECTOR_AC (EPOS, n/M, Pos ctrl)	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 7	Max 999	Factory setting 999

p2079	IF1 PROFIdrive PZD telegram selection extended		
SERVO (Pos ctrl, Spin_diag), SERVO_840 (Pos ctrl, Spin_diag), SERVO_AC (Pos ctrl, Spin_diag), VECTOR (n/M, Pos ctrl), VECTOR_AC (n/M, Pos ctrl)	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 999	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
TM41	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 3	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 999
p2079	IF1 PROFIdrive PZD telegram selection extended		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 999	Factory setting 999

p2080[0...15]	BI: Binector-connector converter status word 1		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0
p2081[0...15]	BI: Binector-connector converter status word 2		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0
p2082[0...15]	BI: Binector-connector converter status word 3		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1

	Min	Max	Factory setting
	-	-	0
p2083[0...15]	BI: Binector-connector converter status word 4		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0
p2084[0...15]	BI: Binector-connector converter status word 5		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0

p2088[0...4]	Invert binector-connector converter status word		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 bin

r2089[0...4]	CO: Send binector-connector converter status word		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2472 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2090.0...15	BO: IF1 PROFIBUS PZD1 receive bit-serial		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

	Min	Max	Factory setting
r2091.0...15 BO: IF1 PROFIdrive PZD2 receive bit-serial			
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
r2092.0...15 BO: IF1 PROFIdrive PZD3 receive bit-serial			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
r2093.0...15 BO: IF1 PROFIdrive PZD4 receive bit-serial			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1

r2094.0...15 BO: Connector-binector converter binector output

A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	-

r2095.0...15 BO: Connector-binector converter binector output

A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	-

p2098[0...1] Inverter connector-binector converter binector output

A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
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	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 bin
p2099[0...1]	Cl: Connector-binector converter signal source		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2468 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0
p2100[0...19]	Setting the fault number for fault response		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8075 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	65535	0
p2100[0...19]	Setting the fault number for fault response		
SERVO_840	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8075 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	65535	[0] 7841 [1...19] 0

p2101[0...19] Setting the fault response

A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Integer16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8075 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0

p2101[0...19] Setting the fault response

CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Integer16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8075 Unit selection: - Expert list: 1
	Min 0	Max 0	Factory setting 0

p2101[0...19] Setting the fault response

SERVO_840	Can be changed: U, T Data type: Integer16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8075 Unit selection: - Expert list: 1
	Min 0	Max 7	Factory setting [0] 3 [1...19] 4

p2101[0...19] Setting the fault response

SERVO, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8075 Unit selection: - Expert list: 1
	Min 0	Max 7	Factory setting 0

p2102 BI: Acknowledge all faults

CU_I_840, CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2546, 8060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2090.7

p2102	Bl: Acknowledge all faults		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2546, 8060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2103[0...n]	Bl: 1. Acknowledge faults		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2441, 2442, 2443, 2447, 2475, 2546, 9220, 9677, 9678 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2103	Bl: 1. Acknowledge faults		
CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2104[0...n]	Bl: 2. Acknowledge faults		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2546, 8060 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2104 BI: 2. Acknowledge faults

CU_I_840, CU_LINK,	Can be changed: U, T	Calculated: -	Access level: 3
CU_NX_840,	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: -
CU_S_AC_DP,	P-Group: Messages	Units group: -	Unit selection: -
CU_S_AC_PN,	Not for motor type: -	Scaling: -	Expert list: 1
CU_S120_DP,			
CU_S120_PN, ENC,			
ENC_840, HUB,			
TB30, TM120, TM15,			
TM150, TM15DI_DO,			
TM17, TM31,			
TM54F_MA,			
TM54F_SL			

Min	Max	Factory setting
-	-	0

p2105[0...n] BI: 3. Acknowledge faults

A_INF, A_INF_840,	Can be changed: U, T	Calculated: -	Access level: 3
B_INF, B_INF_840,	Data type: Unsigned32 / Binary	Dynamic index: CDS, p0170	Func. diagram: 2546, 8060
S_INF, S_INF_840,	P-Group: Messages	Units group: -	Unit selection: -
SERVO,	Not for motor type: -	Scaling: -	Expert list: 1
SERVO_840,			
SERVO_AC, TM41,			
VECTOR,			
VECTOR_AC			

Min	Max	Factory setting
-	-	0

p2105 BI: 3. Acknowledge faults

CU_I_840, CU_LINK,	Can be changed: U, T	Calculated: -	Access level: 3
CU_NX_840,	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: -
CU_S_AC_DP,	P-Group: Messages	Units group: -	Unit selection: -
CU_S_AC_PN,	Not for motor type: -	Scaling: -	Expert list: 1
CU_S120_DP,			
CU_S120_PN, ENC,			
ENC_840, HUB,			
TB30, TM120, TM15,			
TM150, TM15DI_DO,			
TM17, TM31,			
TM54F_MA,			
TM54F_SL			

Min	Max	Factory setting
-	-	0

p2106[0...n] BI: External fault 1

A_INF, A_INF_840,	Can be changed: U, T	Calculated: -	Access level: 3
B_INF, B_INF_840,	Data type: Unsigned32 / Binary	Dynamic index: CDS, p0170	Func. diagram: 2546
S_INF, S_INF_840,	P-Group: Messages	Units group: -	Unit selection: -
SERVO,	Not for motor type: -	Scaling: -	Expert list: 1
SERVO_840,			
SERVO_AC, TM41,			
VECTOR,			
VECTOR_AC			

Min	Max	Factory setting
-	-	1

p2106	BI: External fault 1		
CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	1
p2107[0...n]	BI: External fault 2		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	1
p2107	BI: External fault 2		
CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	1
p2108[0...n]	BI: External fault 3		
A_INF_840, B_INF_840, S_INF_840	<p>Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0

p2108[0...n]	BI: External fault 3		
A_INF, B_INF, S_INF, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2108	BI: External fault 3		
CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
r2109[0...63]	Fault time removed in milliseconds		
All objects	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8060 Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r2110[0...63]	Alarm number		
All objects	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8065 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2111	Alarm counter		
All objects	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8065 Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0

p2112[0...n]	BI: External alarm 1		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2112	BI: External alarm 1		
CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
r2114[0...1]	System runtime total		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2116[0...n]	BI: External alarm 2		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p2116	BI: External alarm 2		
CU_I_840, CU_LINK,	Can be changed: U, T	Calculated: -	Access level: 3
CU_NX_840,	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: -
CU_S_AC_DP,	P-Group: Messages	Units group: -	Unit selection: -
CU_S_AC_PN,	Not for motor type: -	Scaling: -	Expert list: 1
CU_S120_DP,			
CU_S120_PN, ENC,			
ENC_840, HUB,			
TB30, TM120, TM15,			
TM150, TM15DI_DO,			
TM17, TM31,			
TM54F_MA,			
TM54F_SL			

Min	Max	Factory setting
-	-	1

p2117[0...n]	BI: External alarm 3		
A_INF, A_INF_840,	Can be changed: U, T	Calculated: -	Access level: 3
B_INF, B_INF_840,	Data type: Unsigned32 / Binary	Dynamic index: CDS, p0170	Func. diagram: 2546
S_INF, S_INF_840,	P-Group: Messages	Units group: -	Unit selection: -
SERVO,	Not for motor type: -	Scaling: -	Expert list: 1
SERVO_840,			
SERVO_AC, TM41,			
VECTOR,			
VECTOR_AC			

Min	Max	Factory setting
-	-	1

p2117	BI: External alarm 3		
CU_I_840, CU_LINK,	Can be changed: U, T	Calculated: -	Access level: 3
CU_NX_840,	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: -
CU_S_AC_DP,	P-Group: Messages	Units group: -	Unit selection: -
CU_S_AC_PN,	Not for motor type: -	Scaling: -	Expert list: 1
CU_S120_DP,			
CU_S120_PN, ENC,			
ENC_840, HUB,			
TB30, TM120, TM15,			
TM150, TM15DI_DO,			
TM17, TM31,			
TM54F_MA,			
TM54F_SL			

Min	Max	Factory setting
-	-	1

p2118[0...19]	Sets the message number for message type.		
All objects	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1750, 8075
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	0	65535	0

p2119[0...19]	Setting the message type		
All objects	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p> <p>Min 1</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 3</p>	<p>Access level: 3</p> <p>Func. diagram: 1750, 8075</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 1</p>
r2120	CO: Sum of fault and alarm buffer changes		
All objects	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 4</p> <p>Func. diagram: 8065</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r2121	CO: Counter, alarm buffer changes		
All objects	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 8065</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r2122[0...63]	Alarm code		
All objects	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 2</p> <p>Func. diagram: 1750, 8065</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r2123[0...63]	Alarm time received in milliseconds		
All objects	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p> <p>Min - [ms]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max - [ms]</p>	<p>Access level: 3</p> <p>Func. diagram: 1750, 8065</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting - [ms]</p>
r2124[0...63]	Alarm value		
All objects	<p>Can be changed: -</p> <p>Data type: Integer32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 1750, 8065</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>

r2125[0...63]	Alarm time removed in milliseconds		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1750, 8065
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
p2126[0...19]	Setting fault number for acknowledge mode		
All objects	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1750, 8075
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 65535	Factory setting 0
p2127[0...19]	Sets acknowledgement mode		
All objects	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: 1750, 8075
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 1	Max 3	Factory setting 1
p2128[0...15]	Selecting fault/alarm code for trigger		
All objects	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1750, 8070
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 65535	Factory setting 0
r2129.0...15	CO/BO: Trigger word for faults and alarms		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1530, 8070
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r2130[0...63]	Fault time received in days		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -

r2131	CO: Actual fault code		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2132	CO: Actual alarm code		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 8065
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2133[0...63]	Fault value for float values		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2134[0...63]	Alarm value for float values		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8065
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2135.0...15	CO/BO: Status word faults/alarms 2		
All objects	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1530, 2548
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2136[0...63]	Fault time removed in days		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 8060
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r2138.7...15	CO/BO: Control word faults/alarms		
All objects	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1530, 2546
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r2139.0...12	CO/BO: Status word faults/alarms 1		
All objects	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 1530, 2548
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p2140[0...n]	Hysteresis speed 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 3
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 8010
	P-Group: Messages	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.00 [rpm]	Max 300.00 [rpm]	Factory setting 90.00 [rpm]
p2140[0...n]	Hysteresis velocity 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 3
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 8010
	P-Group: Messages	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.00 [m/min]	Max 10.00 [m/min]	Factory setting 0.90 [m/min]
p2141[0...n]	Speed threshold 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 3
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 8010
	P-Group: Messages	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 5.00 [rpm]
p2141[0...n]	Velocity threshold value 1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T	Calculated: CALC_MOD_LIM_REF	Access level: 3
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: 8010
	P-Group: Messages	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1

		Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.05 [m/min]
p2142[0...n]	Hysteresis speed 1			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	 Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1	
	Min 0.00 [rpm]	Max 300.00 [rpm]	Factory setting 2.00 [rpm]	
p2142[0...n]	Hysteresis velocity 1			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	 Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1	
	Min 0.00 [m/min]	Max 10.00 [m/min]	Factory setting 0.02 [m/min]	
p2144[0...n]	Bl: Motor stall monitoring enable (negated)			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	 Access level: 3 Func. diagram: 8012 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
r2145[0...63]	Alarm time received in days			
All objects	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	 Access level: 3 Func. diagram: 8065 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r2146[0...63]	Alarm time removed in days			
All objects	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	 Access level: 3 Func. diagram: 8065 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	

p2147	Delete fault buffer of all drive objects		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 8060 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p2148[0...n]	BI: RFG active		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 8011 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2149[0...n]	Monitoring configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8010, 8013 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p2149[0...n]	Monitoring configuration		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8010, 8013 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0001 bin
p2150[0...n]	Hysteresis speed 3		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 300.00 [rpm]	Factory setting 2.00 [rpm]
p2150[0...n]	Hysteresis velocity 3		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1

	Min 0.00 [m/min]	Max 3.00 [m/min]	Factory setting 0.02 [m/min]
p2151[0...n]	Cl: Speed setpoint for messages/signals		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1438[0]
p2151[0...n]	Cl: Velocity setpoint for messages/signals		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1438[0]
p2151[0...n]	Cl: Speed setpoint for messages/signals		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000	Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1170[0]
p2153[0...n]	Speed actual value filter time constant		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000000 [ms]	Factory setting 0 [ms]
p2153[0...n]	Velocity actual value filter time constant		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000000 [ms]	Factory setting 0 [ms]

p2154[0...n]	Cl: Speed setpoint 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000</p>	<p>Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 0
p2154[0...n]	Cl: Velocity setpoint 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2000</p>	<p>Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 0
p2155[0...n]	Speed threshold 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1</p>
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 900.00 [rpm]
p2155[0...n]	Velocity threshold value 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1</p>
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 9.00 [m/min]
p2156[0...n]	On delay, comparison value reached		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -</p>	<p>Access level: 2 Func. diagram: 8010 Unit selection: - Expert list: 1</p>
	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 0.0 [ms]
p2161[0...n]	Speed threshold 3		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1</p>

	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 5.00 [rpm]
p2161[0...n]	Velocity threshold value 3		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 3 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.05 [m/min]
p2162[0...n]	Hysteresis speed n_act > n_max		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 60000.00 [rpm]	Factory setting 0.00 [rpm]
p2162[0...n]	Hysteresis velocity v_act > v_max		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 6.00 [m/min]
p2163[0...n]	Speed threshold 4		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 90.00 [rpm]

p2163[0...n]	Velocity threshold value 4		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 1000.00 [m/min]	Factory setting 0.90 [m/min]
p2164[0...n]	Hysteresis speed 4		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 200.00 [rpm]	Factory setting 2.00 [rpm]
p2164[0...n]	Hysteresis velocity 4		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: p0505 Expert list: 1
	Min 0.00 [m/min]	Max 10.00 [m/min]	Factory setting 0.02 [m/min]
p2166[0...n]	Off delay n_act = n_set		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 200.0 [ms]
p2166[0...n]	Off delay v_act = v_set		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 200.0 [ms]
p2167[0...n]	Switch-on delay n_act = n_set		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: - Expert list: 1

		Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 200.0 [ms]
p2167[0...n]	On delay v_act = v_set	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8010 Unit selection: - Expert list: 1
		Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 200.0 [ms]
r2169	CO: Actual speed smoothed signals	Can be changed: - Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 2 Func. diagram: 1750, 8010, 8012, 8013 Unit selection: p0505 Expert list: 1
		Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r2169	CO: Actual velocity smoothed signals	Can be changed: - Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 2 Func. diagram: 1750, 8010, 8012, 8013 Unit selection: p0505 Expert list: 1
		Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
p2174[0...n]	Torque threshold value 1	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 2 Func. diagram: 8012 Unit selection: p0505 Expert list: 1
		Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 5.13 [Nm]
p2174[0...n]	Force threshold value 1	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 2 Func. diagram: 8012 Unit selection: p0505 Expert list: 1
		Min 0.00 [N]	Max 20000000.00 [N]	Factory setting 1000.00 [N]

p2174[0...n]	Torque threshold value 1		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 7_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8012</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [Nm]</p>	<p>Max 20000000.00 [Nm]</p>	<p>Factory setting 5.13 [Nm]</p>
p2175[0...n]	Motor blocked speed threshold		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8012</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 120.00 [rpm]</p>
p2175[0...n]	Motor blocked, velocity threshold		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 4_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8012</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 1000.00 [m/min]</p>	<p>Factory setting 1.20 [m/min]</p>
p2175[0...n]	Motor blocked speed threshold		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8012</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 120.00 [rpm]</p>
p2177[0...n]	Motor blocked delay time		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8012</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.000 [s]</p>	<p>Max 65.000 [s]</p>	<p>Factory setting 1.000 [s]</p>

p2177[0...n]	Motor blocked delay time		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8012</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.000 [s]</p>	<p>Max 65.000 [s]</p>	<p>Factory setting 1.000 [s]</p>
p2178[0...n]	Motor stalled delay time		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_REG</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8012</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.000 [s]</p>	<p>Max 10.000 [s]</p>	<p>Factory setting 0.010 [s]</p>
p2181[0...n]	Load monitoring response		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8013</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 6</p>	<p>Factory setting 0</p>
p2182[0...n]	Load monitoring velocity threshold 1		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 4_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8013</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 1000.00 [m/min]</p>	<p>Factory setting 0.05 [m/min]</p>
p2182[0...n]	Load monitoring speed threshold value 1		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 8013</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 150.00 [rpm]</p>

p2183[0...n]	Load monitoring velocity threshold 2		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 1000.00 [m/min]</p>	<p>Factory setting 0.05 [m/min]</p>
p2183[0...n]	Load monitoring speed threshold value 2		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 900.00 [rpm]</p>
p2184[0...n]	Load monitoring velocity threshold 3		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 1000.00 [m/min]</p>	<p>Factory setting 0.05 [m/min]</p>
p2184[0...n]	Load monitoring speed threshold value 3		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 1500.00 [rpm]</p>
p2185[0...n]	Load monitoring force threshold 1, upper		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	<p>Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -</p>	<p>Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1</p>
	<p>Min 0.00 [N]</p>	<p>Max 100000.00 [N]</p>	<p>Factory setting 100000.00 [N]</p>

p2185[0...n]	Load monitoring torque threshold 1, upper		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 10000000.00 [Nm]
p2186[0...n]	Load monitoring force threshold 1, lower		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [N]	Max 100000.00 [N]	Factory setting 0.00 [N]
p2186[0...n]	Load monitoring torque threshold 1, lower		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 0.00 [Nm]
p2187[0...n]	Load monitoring force threshold 2, upper		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [N]	Max 100000.00 [N]	Factory setting 100000.00 [N]
p2187[0...n]	Load monitoring torque threshold 2, upper		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 10000000.00 [Nm]

p2188[0...n]	Load monitoring force threshold 2, lower		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [N]	Max 100000.00 [N]	Factory setting 0.00 [N]
p2188[0...n]	Load monitoring torque threshold 2, lower		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 0.00 [Nm]
p2189[0...n]	Load monitoring force threshold 3, upper		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [N]	Max 100000.00 [N]	Factory setting 100000.00 [N]
p2189[0...n]	Load monitoring torque threshold 3, upper		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 10000000.00 [Nm]
p2190[0...n]	Load monitoring force threshold 3, lower		
SERVO (Ext msg, Lin), SERVO_840 (Ext msg, Lin), SERVO_AC (Ext msg, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [N]	Max 100000.00 [N]	Factory setting 0.00 [N]

p2190[0...n]	Load monitoring torque threshold 3, lower		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: p0505 Expert list: 1
	Min 0.00 [Nm]	Max 20000000.00 [Nm]	Factory setting 0.00 [Nm]
p2192[0...n]	Load monitoring delay time		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 65.00 [s]	Factory setting 10.00 [s]
p2194[0...n]	Torque threshold value 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 90.00 [%]
p2194[0...n]	Force threshold value 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 90.00 [%]
p2195[0...n]	Torque utilization switch-off delay		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 8012 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 800.0 [ms]

p2195[0...n]	Force utilization switch-off delay		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 8012</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.0 [ms]</p>	<p>Max 1000.0 [ms]</p>	<p>Factory setting 800.0 [ms]</p>
p2196[0...n]	Torque utilization scaling		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(1, 3), U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Motor</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00 [%]</p>	<p>Max 1000.00 [%]</p>	<p>Factory setting 100.00 [%]</p>
r2197.1...13	CO/BO: Status word monitoring 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 1530, 2534</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>
r2197.1...13	CO/BO: Status word monitoring 1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 1530, 2534</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>
r2198.4...12	CO/BO: Status word monitoring 2		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 1530, 2536</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>
r2198.4...12	CO/BO: Status word monitoring 2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Messages</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 1530, 2536</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting -</p>

r2198.4...12	CO/BO: Status word monitoring 2		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2536 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2199.0...11	CO/BO: Status word monitoring 3		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2537 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2199.0...11	CO/BO: Status word monitoring 3		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2537 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2199.0...12	CO/BO: Status word monitoring 3		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1530, 2537, 8018 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2200[0...n]	BI: Technology controller enable		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2201[0...n]	CO: Technology controller, fixed value 1		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 10.00 [%]
p2202[0...n]	CO: Technology controller, fixed value 2		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 20.00 [%]
p2203[0...n]	CO: Technology controller, fixed value 3		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 30.00 [%]
p2204[0...n]	CO: Technology controller, fixed value 4		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 40.00 [%]

p2205[0...n]	CO: Technology controller, fixed value 5		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 50.00 [%]
p2206[0...n]	CO: Technology controller, fixed value 6		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 60.00 [%]
p2207[0...n]	CO: Technology controller, fixed value 7		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 70.00 [%]
p2208[0...n]	CO: Technology controller, fixed value 8		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 80.00 [%]

p2209[0...n]	CO: Technology controller, fixed value 9		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 90.00 [%]
p2210[0...n]	CO: Technology controller, fixed value 10		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 100.00 [%]
p2211[0...n]	CO: Technology controller, fixed value 11		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 110.00 [%]
p2212[0...n]	CO: Technology controller, fixed value 12		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 120.00 [%]

p2213[0...n]	CO: Technology controller, fixed value 13		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 130.00 [%]
p2214[0...n]	CO: Technology controller, fixed value 14		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 140.00 [%]
p2215[0...n]	CO: Technology controller, fixed value 15		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 150.00 [%]
p2216[0...n]	Technology controller fixed value selection method		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Integer16 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 2

p2220[0...n] BI: Technology controller fixed value selection bit 0

SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7950 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p2221[0...n] BI: Technology controller fixed value selection bit 1

SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7950 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p2222[0...n] BI: Technology controller fixed value selection bit 2

SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7950 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p2223[0...n] BI: Technology controller fixed value selection bit 3

SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7950 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

r2224	CO: Technology controller, fixed value effective		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7950 Unit selection: p0595 Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r2225.0	CO/BO: Technology controller fixed value selection status word		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2229	Technology controller number actual		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: Unsigned32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7950 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2230[0...n]	Technology controller motorized potentiometer configuration		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7954 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0100 bin

r2231	Technology controller motorized potentiometer setpoint memory			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: -	Access level: 2 Func. diagram: 7954 Unit selection: p0595 Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
p2235[0...n]	BI: Technology controller motorized potentiometer raise setpoint			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7954 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2236[0...n]	BI: Technology controller motorized potentiometer lower setpoint			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7954 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2237[0...n]	Technology controller motorized potentiometer maximum value			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: -	Access level: 2 Func. diagram: 7954 Unit selection: p0595 Expert list: 1	
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 100.00 [%]	

p2238[0...n]	Technology controller motorized potentiometer minimum value			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: -	Access level: 2 Func. diagram: 7954 Unit selection: p0595 Expert list: 1	
	Min -200.00 [%]	Max 200.00 [%]	Factory setting -100.00 [%]	
p2240[0...n]	Technology controller motorized potentiometer starting value			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 9_1 Scaling: -	Access level: 2 Func. diagram: 7954 Unit selection: p0595 Expert list: 1	
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 0.00 [%]	
r2245	CO: Technology controller mot. potentiometer setpoint before RFG			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7954 Unit selection: p0595 Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
p2247[0...n]	Technology controller motorized potentiometer ramp-up time			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7954 Unit selection: - Expert list: 1	
	Min 0.0 [s]	Max 1000.0 [s]	Factory setting 10.0 [s]	

p2248[0...n]	Technology controller motorized potentiometer ramp-down time			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7954 Unit selection: - Expert list: 1	
	Min 0.0 [s]	Max 1000.0 [s]	Factory setting 10.0 [s]	
r2250	CO: Technology controller motorized potentiometer setpoint after RFG			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7954 Unit selection: p0595 Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
p2252	Technology controller configuration			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0111 bin	
p2253[0...n]	CI: Technology controller setpoint 1			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	

p2254[0...n]	CI: Technology controller setpoint 2		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2255	Technology controller setpoint 1 scaling		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 100.00 [%]
p2256	Technology controller setpoint 2 scaling		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 100.00 [%]
p2257	Technology controller, ramp-up time		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 650.00 [s]	Factory setting 1.00 [s]

p2258	Technology controller ramp-down time		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 650.00 [s]	Factory setting 1.00 [s]
r2260	CO: Technology controller setpoint after ramp-function generator		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p2261	Technology controller setpoint filter time constant		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 60.000 [s]	Factory setting 0.000 [s]
r2262	CO: Technology controller setpoint after filter		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 3 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p2263	Technology controller type		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Integer16 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p2264[0...n]	CI: Technology controller actual value		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2265	Technology controller actual value filter time constant		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 60.000 [s]	Factory setting 0.000 [s]
r2266	CO: Technology controller actual value after filter		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p2267	Technology controller upper limit actual value		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 3 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min -10000.00 [%]	Max 10000.00 [%]	Factory setting 200.00 [%]
p2268	Technology controller lower limit actual value		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 3 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min -10000.00 [%]	Max 10000.00 [%]	Factory setting -200.00 [%]
p2269	Technology controller gain actual value		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 500.00 [%]	Factory setting 100.00 [%]
p2270	Technology controller actual value function		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0

p2271	Technology controller actual value inversion (sensor type)		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Integer16 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r2272	CO: Technology controller actual value scaled		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r2273	CO: Technology controller error		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: 9_1 Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: p0595 Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p2274	Technology controller differentiation, time constant		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 60.000 [s]	Factory setting 0.000 [s]

p2280	Technology controller proportional gain			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1	
	Min 0.000	Max 1000.000	Factory setting 1.000	
p2285	Technology controller integral time			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1	
	Min 0.000 [s]	Max 60.000 [s]	Factory setting 0.000 [s]	
p2286[0...n]	BI: Hold technology controller integrator			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2289[0...n]	CI: Technology controller pre-control signal			
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	

p2291	CO: Technology controller maximum limiting		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 100.00 [%]
p2292	CO: Technology controller minimum limiting		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -200.00 [%]	Max 200.00 [%]	Factory setting 0.00 [%]
p2293	Technology controller ramp-up/ramp-down time		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 100.00 [s]	Factory setting 1.00 [s]
r2294	CO: Technology controller output signal		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p2295	CO: Technology controller output scaling		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -100.00 [%]	Max 100.00 [%]	Factory setting 100.00 [%]
p2296[0...n]	CI: Technology controller output scaling		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2295[0]
p2297[0...n]	CI: Technology controller maximum limit signal source		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2291[0]
p2298[0...n]	CI: Technology controller minimum limit signal source		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2292[0]

p2299[0...n]	CI: Technology controller limit offset		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2306	Technology controller fault signal inversion		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Integer16 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r2349.0...11	CO/BO: Technology controller status word		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: Unsigned32 P-Group: Technology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7958 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2369	BI: Closed-loop cascade control, control word		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2502[0...n]	LR encoder assignment		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: C2(25) Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 1

p2503[0...n]	LR length unit LU per 10 mm		
SERVO (APC, Pos ctrl), SERVO_840 (APC, Pos ctrl), SERVO_AC (APC, Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	<p>Can be changed: C2(25)</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed loop position control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 4010</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 1 [LU]	Max 2147483647 [LU]	Factory setting 10000 [LU]
p2504[0...n]	LR motor/load motor distance		
SERVO (APC, Lin, Pos ctrl), SERVO_840 (APC, Lin, Pos ctrl), SERVO_AC (APC, Lin, Pos ctrl)	<p>Can be changed: C2(25)</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed loop position control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 4010, 4704, 4711</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 1	Max 1048576	Factory setting 1
p2504[0...n]	LR motor/load motor revolutions		
SERVO (APC, Pos ctrl), SERVO_840 (APC, Pos ctrl), SERVO_AC (APC, Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	<p>Can be changed: C2(25)</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed loop position control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 4010, 4704, 4711</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 1	Max 1048576	Factory setting 1
p2505[0...n]	LR motor/load motor revolutions		
SERVO (APC, Pos ctrl), SERVO_840 (APC, Pos ctrl), SERVO_AC (APC, Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	<p>Can be changed: C2(25)</p> <p>Data type: Integer32</p> <p>P-Group: Closed loop position control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 4010, 4704, 4711</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -1048576	Max 1048576	Factory setting 1
p2506[0...n]	LR length unit LU per load path		
SERVO (APC, Lin, Pos ctrl), SERVO_840 (APC, Lin, Pos ctrl), SERVO_AC (APC, Lin, Pos ctrl)	<p>Can be changed: C2(25)</p> <p>Data type: Unsigned32</p> <p>P-Group: Closed loop position control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 4010</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 1 [LU]	Max 2147483647 [LU]	Factory setting 10000 [LU]

p2506[0...n]	LR length unit LU per load revolution		
SERVO (APC, Pos ctrl), SERVO_840 (APC, Pos ctrl), SERVO_AC (APC, Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: C2(25) Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 1 [LU]	Max 2147483647 [LU]	Factory setting 10000 [LU]
p2507[0...n]	LR absolute encoder adjustment status		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 1
p2508[0...3]	BI: LR activate reference mark search		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2509[0...3]	BI: LR activating measuring probe evaluation		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2510[0...3]	BI: LR selecting measuring probe evaluation		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3615, 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2511[0...3]	BI: LR measuring probe evaluation edge		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3615, 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2512[0...3]	BI: LR pos. actual value preprocessing activate corr. value (edge)		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010, 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2513[0...3]	CI: LR Position actual value preprocessing, corrective value		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010, 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2514[0...3]	BI: LR activate position actual value setting		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2515[0...3]	CI: LR position actual setting, setting value		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2516[0...3]	CI: LR position offset		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2517[0...2]	LR direct measuring probe 1		
SERVO (Dig IO, Pos ctrl), SERVO_840 (Dig IO, Pos ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0	Max 51	Factory setting 0
p2517[0...2]	LR direct measuring probe 1		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0	Max 18	Factory setting 0
p2518[0...2]	LR direct measuring probe 2		
SERVO (Dig IO, Pos ctrl), SERVO_840 (Dig IO, Pos ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0	Max 51	Factory setting 0
p2518[0...2]	LR direct measuring probe 2		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0	Max 18	Factory setting 0

p2519[0...n]	LR position actual value preprocessing config. DDS changeover			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 5	Factory setting 1	
r2520[0...2]	CO: LR Position actual value preprocessing, encoder control word			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r2521[0...3]	CO: LR position actual value			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1	
	Min - [LU]	Max - [LU]	Factory setting - [LU]	
r2522[0...3]	CO: LR velocity actual value			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1	
	Min - [1000 LU/min]	Max - [1000 LU/min]	Factory setting - [1000 LU/min]	
r2523[0...3]	CO: LR measured value			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010 Unit selection: - Expert list: 1	
	Min - [LU]	Max - [LU]	Factory setting - [LU]	

r2524	CO: LR LU/mm		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630, 4010 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2524	CO: LR LU/revolution		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630, 4010 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
p2525[0...n]	CO: LR encoder adjustment, offset		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: 4010 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 4294967295 [LU]	Factory setting 0 [LU]
r2526.0...9	CO/BO: LR status word		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2527.0...2	CO/BO: LR actual value sensing status word encoder 1		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2528.0...2	CO/BO: LR actual value sensing status word encoder 2			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r2529.0...2	CO/BO: LR actual value sensing status word encoder 3			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p2530	CI: LR position setpoint			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4015, 4020 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2531	CI: LR velocity setpoint			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2532	CI: LR position actual value			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4015, 4020, 4025 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 2521[0]	

p2533[0...n]	LR position setpoint filter, time constant		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 0.00 [ms]
p2534[0...n]	LR velocity pre-control factor		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015, 4025 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 200.00 [%]	Factory setting 0.00 [%]
p2534[0...n]	LR speed pre-control factor		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015, 4025 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 200.00 [%]	Factory setting 0.00 [%]
p2535[0...n]	LR velocity pre-control balancing filter dead time		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.00	Max 2.00	Factory setting 0.00
p2535[0...n]	LR speed pre-control balancing filter dead time		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.00	Max 2.00	Factory setting 0.00

p2536[0...n]	LR velocity pre-control, balancing filter PT1		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 0.00 [ms]
p2536[0...n]	LR speed pre-control, symmetrizing filter PT1		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 0.00 [ms]
p2537	CI: LR position controller adaptation		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2538[0...n]	LR proportional gain		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.000 [1000/min]	Max 300.000 [1000/min]	Factory setting 1.000 [1000/min]
p2539[0...n]	LR integral time		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100000.00 [ms]	Factory setting 0.00 [ms]

p2540	CO: LR position controller output, velocity limit		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min 0.000 [m/min]	Max 1000.000 [m/min]	Factory setting 1000.000 [m/min]
p2540	CO: LR position controller output, speed limit		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min 0.000 [rpm]	Max 210000.000 [rpm]	Factory setting 210000.000 [rpm]
p2541	CI: LR position controller output, velocity limit signal source		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2540[0]
p2541	CI: LR position controller output, speed limit signal source		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2540[0]
p2542	LR standstill window		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4020 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147483647 [LU]	Factory setting 200 [LU]

p2543	LR standstill monitoring time		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4020 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100000.00 [ms]	Factory setting 200.00 [ms]
p2544	LR positioning window		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4020 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147483647 [LU]	Factory setting 40 [LU]
p2545	LR positioning monitoring time		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4020 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100000.00 [ms]	Factory setting 1000.00 [ms]
p2546[0...n]	LR dynamic following error monitoring tolerance		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4025 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147483647 [LU]	Factory setting 1000 [LU]
p2547	LR cam switching position 1		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4025 Unit selection: - Expert list: 1
	Min -2147483648 [LU]	Max 2147483647 [LU]	Factory setting 0 [LU]

p2548	LR cam switching position 2		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4025 Unit selection: - Expert list: 1
	Min -2147483648 [LU]	Max 2147483647 [LU]	Factory setting 0 [LU]
p2549	BI: LR enable 1		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 899.2
p2550	BI: LR enable 2		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2551	BI: LR setpoint signal present		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2552	BI: LR signal travel to fixed stop active		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4025 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2553	BI: LR signal fixed stop reached			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4025 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2554	BI: LR signal traversing command active			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4020 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2555	CI: LR LU/revolution LU/mm			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4015 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 2524[0]	
r2556	CO: LR position setpoint after setpoint smoothing			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1	
	Min - [LU]	Max - [LU]	Factory setting - [LU]	
r2557	CO: LR position controller input, system deviation			
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4015 Unit selection: - Expert list: 1	
	Min - [LU]	Max - [LU]	Factory setting - [LU]	

r2558	CO: LR position controller output, P component		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r2558	CO: LR position controller output, P component		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r2559	CO: LR position controller output, I component		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r2559	CO: LR position controller output, I component		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 3_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r2560	CO: LR velocity setpoint		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

r2560	CO: LR speed setpoint		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r2561	CO: LR velocity pre-control value		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r2561	CO: LR speed pre-control value		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r2562	CO: LR velocity setpoint, total		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r2562	CO: LR total speed setpoint		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r2563	CO: LR following error dynamic model		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer32	Dynamic index: -	Func. diagram: 4025
	P-Group: Closed loop position control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2564	CO: LR force pre-control value		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 8_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2003	Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
r2564	CO: LR torque pre-control value		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 7_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2003	Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r2565	CO: LR following error actual		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2566	LR velocity input pre-control		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 4015
	P-Group: Closed loop position control	Units group: 4_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2000	Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

r2566	LR speed input pre-control		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 1 Func. diagram: 4015 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
p2567[0...n]	LR force pre-control mass		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: 4015 Unit selection: p0100 Expert list: 1
	Min 0.000000 [kg]	Max 10000.000000 [kg]	Factory setting 1.000000 [kg]
p2567[0...n]	LR torque pre-control moment of inertia		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: 4015 Unit selection: p0100 Expert list: 1
	Min 0.000000 [kgm ²]	Max 100000.000000 [kgm ²]	Factory setting 0.159155 [kgm ²]
p2568	BI: EPOS STOP cam activation		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2569	BI: EPOS STOP cam minus		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p2570	BI: EPOS STOP cam plus		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2571	EPOS maximum velocity		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min 1 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 30000 [1000 LU/min]
p2572	EPOS maximum acceleration		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min 1 [1000 LU/s ²]	Max 2000000 [1000 LU/s ²]	Factory setting 100 [1000 LU/s ²]
p2573	EPOS maximum deceleration		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min 1 [1000 LU/s ²]	Max 2000000 [1000 LU/s ²]	Factory setting 100 [1000 LU/s ²]
p2574	EPOS jerk limiting		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min 1 [1000 LU/s ³]	Max 100000000 [1000 LU/s ³]	Factory setting 10000 [1000 LU/s ³]

p2575	BI: EPOS jerk limiting activation			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2576	EPOS modulo correction, modulo range			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1	
	Min 1 [LU]	Max 2147482647 [LU]	Factory setting 360000 [LU]	
p2577	BI: EPOS modulo correction activation			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630, 3635 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p2578	CI: EPOS software limit switch minus signal source			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 2580[0]	
p2579	CI: EPOS software limit switch plus signal source			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 2581[0]	

p2580	CO: EPOS software limit switch minus		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -2147482648 [LU]	Max 2147482647 [LU]	Factory setting -2147482648 [LU]
p2581	CO: EPOS software limit switch plus		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -2147482648 [LU]	Max 2147482647 [LU]	Factory setting 2147482647 [LU]
p2582	BI: EPOS software limit switch activation		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2583	EPOS backlash compensation		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min -200000 [LU]	Max 200000 [LU]	Factory setting 0 [LU]
p2585	EPOS jog 1 setpoint velocity		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3610 Unit selection: - Expert list: 1
	Min -40000000 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting -300 [1000 LU/min]

p2586	EPOS jog 2 setpoint velocity		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: U, T</p> <p>Data type: Integer32</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3610</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -40000000 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 300 [1000 LU/min]
p2587	EPOS jog 1 traversing distance		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3610</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 1000 [LU]
p2588	EPOS jog 2 traversing distance		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3610</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 1000 [LU]
p2589	BI: EPOS jog 1 signal source		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3610, 3625</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting 0
p2590	BI: EPOS jog 2 signal source		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3610, 3625</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting 0

p2591	BI: EPOS jogging incremental		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3610 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2593	CI: EPOS LU/revolution LU/mm		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2524[0]
p2594[0...2]	CI: EPOS Maximum velocity externally limited		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 3 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2595	BI: EPOS referencing start		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612, 3625, 3614 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2596	BI: EPOS set reference point		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2597	BI: EPOS referencing type selection		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612, 3614, 3625 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2598[0...3]	CI: EPOS reference point coordinate, signal source		
SERVO (EPOS, Pos ctrl), SERVO_840 (EPOS, Pos ctrl), SERVO_AC (EPOS, Pos ctrl), VECTOR (EPOS, Pos ctrl), VECTOR_AC (EPOS, Pos ctrl)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612, 3614 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 2599[0] [1] 0 [2] 0 [3] 0
p2599	CO: EPOS reference point coordinate value		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Integer32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -2147482648 [LU]	Max 2147482647 [LU]	Factory setting 0 [LU]
p2600	EPOS search for reference, reference point offset		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -2147482648 [LU]	Max 2147482647 [LU]	Factory setting 0 [LU]

p2601	EPOS flying referencing, inner window		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3614 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 0 [LU]
p2602	EPOS flying referencing, outer window		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3614 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 0 [LU]
p2603	EPOS flying referencing, positioning mode, relative		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p2604	BI: EPOS search for reference, start direction		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2605	EPOS search for reference, approach velocity, reference cam		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 1 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 5000 [1000 LU/min]

p2606	EPOS search for reference, reference cam, maximum distance		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 2147482647 [LU]
p2607	EPOS search for reference, reference cam present		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned8 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p2608	EPOS search for reference, approach velocity, zero mark		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 1 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 300 [1000 LU/min]
p2609	EPOS search for reference, max. distance ref. cam and zero mark		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 20000 [LU]
p2610	EPOS search for ref., tol. bandwidth for distance to zero mark		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 2147482647 [LU]

p2611	EPOS search for reference, approach velocity, reference point		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min 1 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 300 [1000 LU/min]
p2612	BI: EPOS search for reference, reference cam		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2613	BI: EPOS search for reference reversing cam minus		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2614	BI: EPOS search for reference reversing cam plus		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2615	EPOS maximum number of traversing blocks		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: C2(17) Data type: Unsigned8 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 1	Max 64	Factory setting 64

p2616[0...n]	EPOS traversing block, block number		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min -1	Max 63	Factory setting -1
p2617[0...n]	EPOS traversing block position		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min -2147482648 [LU]	Max 2147482647 [LU]	Factory setting 0 [LU]
p2618[0...n]	EPOS traversing block velocity		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 1 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 600 [1000 LU/min]
p2619[0...n]	EPOS traversing block acceleration override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 1.0 [%]	Max 100.0 [%]	Factory setting 100.0 [%]
p2620[0...n]	EPOS traversing deceleration override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 1.0 [%]	Max 100.0 [%]	Factory setting 100.0 [%]

p2621[0...n]	EPOS traversing block task		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 1	Max 9	Factory setting 1
p2622[0...n]	EPOS traversing block task parameter		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min -2147483648	Max 2147483647	Factory setting 0
p2623[0...n]	EPOS traversing block, task mode		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: p2615 Units group: - Scaling: -	Access level: 1 Func. diagram: 3515, 3616 Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p2624	EPOS traversing block, sorting		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p2625	BI: EPOS traversing block selection, bit 0		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2626	BI: EPOS traversing block selection, bit 1		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2627	BI: EPOS traversing block selection, bit 2		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2628	BI: EPOS traversing block selection, bit 3		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2629	BI: EPOS traversing block selection, bit 4		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2630	BI: EPOS traversing block selection, bit 5		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2631	BI: EPOS activate traversing task (0 -> 1)		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3625 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2632	EPOS external block change evaluation		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Integer16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3615, 3616 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p2633	BI: EPOS external block change (0 -> 1)		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3615 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2634[0...n]	EPOS fixed stop maximum following error		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 3617, 4025 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 1000 [LU]
p2635	EPOS fixed stop monitoring window		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3617, 4025 Unit selection: - Expert list: 1
	Min 0 [LU]	Max 2147482647 [LU]	Factory setting 100 [LU]

p2637	BI: EPOS fixed stop reached		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3616, 3617</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	2526.4
p2638	BI: EPOS fixed stop outside the monitoring window		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 3616, 3617</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	2526.5
p2639	BI: EPOS force limit reached		
SERVO (EPOS, Lin), SERVO_840 (EPOS, Lin), SERVO_AC (EPOS, Lin)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 3616</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	1407.7
p2639	BI: EPOS torque limit reached		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 3616</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	1407.7
p2640	BI: EPOS intermediate stop (0 signal)		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Basic positioner</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 1</p> <p>Func. diagram: 3616, 3620, 3625</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0

p2641	BI: EPOS reject traversing task (0 signal)		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616, 3620, 3625 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2642	CI: EPOS direct setpoint input/MDI position setpoint		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2690[0]
p2643	CI: EPOS direct setpoint input/MDI velocity setpoint		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2691[0]
p2644	CI: EPOS direct setpoint input/MDI acceleration override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2692[0]
p2645	CI: EPOS direct setpoint input/MDI deceleration override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2693[0]

p2646	CI: EPOS velocity override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p2647	BI: EPOS direct setpoint input/MDI selection		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620, 3625, 3640 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2648	BI: EPOS direct setpoint input/MDI positioning type		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2649	BI: EPOS direct setpoint input/MDI transfer type selection		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2650	BI: EPOS direct setpoint input/MDI setpoint acceptance edge		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p2651	BI: EPOS direct setpoint input/MDI direction selection, positive		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2652	BI: EPOS direct setpoint input/MDI direction selection, negative		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2653	BI: EPOS direct setpoint input/MDI setting-up selection		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2654	CI: EPOS direct setpoint input/MDI mode adaptation		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3620 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2655[0...1]	BI: EPOS select tracking mode		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 1 [1] 2526.7

p2656	BI: EPOS enable basic positioner		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2526.3
p2657	CI: EPOS position actual value/position setting value		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3610, 3616, 3620, 3635 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2521[0]
p2658	BI: EPOS pos. actual value valid, feedback signal		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2526.0
p2659	BI: EPOS referencing active feedback signal		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2526.1
p2660	CI: EPOS measured value referencing		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3612, 3614 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2523[0]

p2661	BI: EPOS measured value valid, feedback signal		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3612, 3614, 3615 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2526.2
p2662	BI: EPOS adjustment value valid feedback signal		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2526.9
p2663	BI: EPOS clamping active feedback signal		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 2526.8
r2665	CO: EPOS position setpoint		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2666	CO: EPOS velocity setpoint		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min - [1000 LU/min]	Max - [1000 LU/min]	Factory setting - [1000 LU/min]

r2667	CO: EPOS backlash compensation value			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1	
	Min - [LU]	Max - [LU]	Factory setting - [LU]	
r2669	CO: EPOS actual operating mode			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3625, 3630 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r2670.0...15	CO/BO: EPOS status word, active traversing block			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3615, 3625, 3650 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r2671	CO: EPOS actual position setpoint			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3610, 3616, 3620 Unit selection: - Expert list: 1	
	Min - [LU]	Max - [LU]	Factory setting - [LU]	
r2672	CO: EPOS actual velocity setpoint			
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3610, 3612, 3616, 3620 Unit selection: - Expert list: 1	
	Min - [1000 LU/min]	Max - [1000 LU/min]	Factory setting - [1000 LU/min]	

r2673	CO: EPOS actual acceleration override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3610, 3612, 3616, 3620 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r2674	CO: EPOS actual deceleration override		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3610, 3612, 3616, 3620 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r2675	CO: EPOS actual task		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min 0	Max 9	Factory setting -
r2676	CO: EPOS actual task parameter		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2677	CO: EPOS actual task mode		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Unsigned16 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3616 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2678	CO: EPOS external block change actual position		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3615, 3616, 3620 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2680	CO: EPOS clearance, reference cam and zero mark		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3612 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2681	CO: EPOS velocity override effective		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3630 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r2682	CO: EPOS residual distance to go		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2683.0...14	CO/BO: EPOS status word 1		
SERVO (Lin, Pos ctrl), SERVO_840 (Lin, Pos ctrl), SERVO_AC (Lin, Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3645 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r2683.0...14	CO/BO: EPOS status word 1		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3645 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2684.0...15	CO/BO: EPOS status word 2		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3646 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2685	CO: EPOS corrective value		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3635 Unit selection: - Expert list: 1
	Min - [LU]	Max - [LU]	Factory setting - [LU]
r2686[0...1]	CO: EPOS force limit effective		
SERVO (EPOS, Lin), SERVO_840 (EPOS, Lin), SERVO_AC (EPOS, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3616, 3617 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r2686[0...1]	CO: EPOS torque limiting effective		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3616, 3617 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r2687	CO: EPOS force setpoint	SERVO (EPOS, Lin), SERVO_840 (EPOS, Lin), SERVO_AC (EPOS, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3616, 3617 Unit selection: - Expert list: 1
			Min - [N]	Max - [N]	Factory setting - [N]
r2687	CO: EPOS torque setpoint	SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: - Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 3616, 3617 Unit selection: - Expert list: 1
			Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
p2690	CO: EPOS position fixed setpoint	SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Integer32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
			Min -2147482648 [LU]	Max 2147482647 [LU]	Factory setting 0 [LU]
p2691	CO: EPOS velocity fixed setpoint	SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: Unsigned32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
			Min 1 [1000 LU/min]	Max 40000000 [1000 LU/min]	Factory setting 600 [1000 LU/min]
p2692	CO: EPOS acceleration override, fixed setpoint	SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
			Min 0.100 [%]	Max 100.000 [%]	Factory setting 100.000 [%]

p2693	CO: EPOS deceleration override, fixed setpoint		
SERVO (EPOS), SERVO_840 (EPOS), SERVO_AC (EPOS), VECTOR (EPOS), VECTOR_AC (EPOS)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Basic positioner Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 3618 Unit selection: - Expert list: 1
	Min 0.100 [%]	Max 100.000 [%]	Factory setting 100.000 [%]
r2700	CO: Reference frequency		
A_INF, A_INF_840, B_INF, B_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2700	CO: Reference speed/reference frequency		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2700	CO: Reference velocity/reference frequency actual		
ENC (Lin_enc), ENC_840 (Lin_enc)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2700	CO: Reference frequency actual		
S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2700	CO: Reference velocity/reference frequency actual		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1

		Min	Max	Factory setting
r2701	CO: Reference voltage			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max		Factory setting
r2702	CO: Reference current			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max		Factory setting
r2703	CO: Reference torque			
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max		Factory setting
r2703	CO: Reference force actual			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min	Max		Factory setting

r2704	CO: Reference power		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2705	CO: Reference angle		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2706	CO: Reference temp		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM150, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2707	CO: Reference acceleration		
SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2720[0...n]	Load gear configuration		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin

p2721[0...n]	Load gear, rotary absolute encoder, revolutions, virtual		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4194303	Factory setting 0
p2722[0...n]	Load gear, position tracking tolerance window		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(1, 4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 4294967300.00	Factory setting 0.00
r2723[0...n]	CO: Load gear absolute value		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: 4010, 4704 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r2724[0...n]	CO: Load gear position difference		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p2730[0...3]	BI: LR pos. actual value preprocessing activate neg. corr. (edge)		
SERVO (Pos ctrl), SERVO_840 (Pos ctrl), SERVO_AC (Pos ctrl), VECTOR (Pos ctrl), VECTOR_AC (Pos ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Closed loop position control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 4010, 4015 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p2810[0...1]	BI: AND logic operation inputs		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2634 Unit selection: - Expert list: 1

	Min	Max	Factory setting	
r2811.0	CO/BO: AND logic operation result SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2634 Unit selection: - Expert list: 1
	Min	Max	Factory setting	
-	-	-	-	
p2816[0...1]	BI: OR logic operation inputs SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2634 Unit selection: - Expert list: 1
	Min	Max	Factory setting	
-	-	-	0	
r2817.0	CO/BO: OR logic operation result SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2634 Unit selection: - Expert list: 1
	Min	Max	Factory setting	
-	-	-	-	
p2900	CO: Fixed value 1 [%] A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1021 Unit selection: - Expert list: 1
	Min	Max	Factory setting	
-10000.00 [%]	10000.00 [%]	0.00 [%]	0.00 [%]	
p2900[0...n]	CO: Fixed value 1 [%] SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1021 Unit selection: - Expert list: 1
	Min	Max	Factory setting	
-10000.00 [%]	10000.00 [%]	0.00 [%]	0.00 [%]	

p2901	CO: Fixed value 2 [%]		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1021 Unit selection: - Expert list: 1
	Min -10000.00 [%]	Max 10000.00 [%]	Factory setting 0.00 [%]
p2901[0...n]	CO: Fixed value 2 [%]		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 1021 Unit selection: - Expert list: 1
	Min -10000.00 [%]	Max 10000.00 [%]	Factory setting 0.00 [%]
r2902[0...14]	CO: Fixed values [%]		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 1021 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p2930[0...n]	CO: Fixed value M [Nm]		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: 1021 Unit selection: p0505 Expert list: 1
	Min -100000.00 [Nm]	Max 100000.00 [Nm]	Factory setting 0.00 [Nm]
p2930[0...n]	CO: Fixed value F [N]		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Free function blocks Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: 1021 Unit selection: p0505 Expert list: 1
	Min -100000.00 [N]	Max 100000.00 [N]	Factory setting 0.00 [N]
p3016	MotId torque constant identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 28_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00 [Nm/A]	Max 100.00 [Nm/A]	Factory setting 0.00 [Nm/A]

p3016	MotId force constant identified			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 29_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1	
	Min 0.00 [N/Arms]	Max 1000.00 [N/Arms]	Factory setting	0.00 [N/Arms]
p3017	MotId voltage constant identified			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.0 [Vrms]	Max 10000.0 [Vrms]	Factory setting	0.0 [Vrms]
p3017	MotId voltage constant identified			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.0 [Vrms s/m]	Max 1000.0 [Vrms s/m]	Factory setting	0.0 [Vrms s/m]
p3020	MotId magnetizing current identified			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.000 [Arms]	Max 5000.000 [Arms]	Factory setting	0.000 [Arms]
p3027	MotId optimum load angle identified			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.0 [°]	Max 135.0 [°]	Factory setting	0.0 [°]
p3028	MotId reluctance torque constant identified			
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -1000.00 [mH]	Max 1000.00 [mH]	Factory setting	0.00 [mH]

p3028	MotId reluctance force constant identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1000.00 [mH]	Max 1000.00 [mH]	Factory setting 0.00 [mH]
p3030	MotId angular commutation offset identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -180.00 [°]	Max 180.00 [°]	Factory setting 0.00 [°]
p3031	MotId encoder inversion actual value identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p3031	MotId encoder inversion actual value identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: Unsigned16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p3041	MotId moment of inertia identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.000000 [kgm²]	Max 100000.000000 [kgm²]	Factory setting 0.000000 [kgm²]
p3041	MotId motor mass identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.000000 [kg]	Max 10000.000000 [kg]	Factory setting 0.000000 [kg]

p3042	MotId load moment of inertia identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 25_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00000 [kgm ²]	Max 100000.00000 [kgm ²]	Factory setting 0.00000 [kgm ²]
p3042	MotId load mass identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 27_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min 0.00000 [kg]	Max 10000.00000 [kg]	Factory setting 0.00000 [kg]
p3045	MotId force characteristic kT1 identified		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -340.28235E36 [N/Arms]	Max 340.28235E36 [N/Arms]	Factory setting 0.00 [N/Arms]
p3045	MotId torque characteristic kT1 identified		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -340.28235E36 [Nm/A]	Max 340.28235E36 [Nm/A]	Factory setting 0.00 [Nm/A]
p3046	MotId force characteristic kT3 identified		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3046	MotId torque characteristic kT3 identified		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p3047	MotId force characteristic kT5 identified		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3047	MotId torque characteristic kT5 identified		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3048	MotId force characteristic kT7 identified		
SERVO (Ext M_ctrl, Lin), SERVO_840 (Ext M_ctrl, Lin), SERVO_AC (Ext M_ctrl, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3048	MotId torque characteristic kT7 identified		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: ASM, REL, FEM	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3049[0...n]	MotId Speed at start of field weakening identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [rpm]	Max 210000.00000 [rpm]	Factory setting 0.00000 [rpm]
p3049[0...n]	MotId Speed at start of field weakening identified		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [m/min]	Max 1000.00000 [m/min]	Factory setting 0.00000 [m/min]

p3050[0...n]	MotId stator resistance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [ohm]	Max 2000.00000 [ohm]	Factory setting 0.00000 [ohm]
p3054[0...n]	MotId rotor resistance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 16_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [ohm]	Max 300.00000 [ohm]	Factory setting 0.00000 [ohm]
p3056[0...n]	MotId stator leakage inductance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]
p3058[0...n]	MotId rotor leakage inductance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 1000.00000 [mH]	Factory setting 0.00000 [mH]
p3060[0...n]	MotId magnetizing inductance identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: MDS, p0130 Units group: 15_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0349 Expert list: 1
	Min 0.00000 [mH]	Max 10000.00000 [mH]	Factory setting 0.00000 [mH]
p3070	MotId voltage emulation error final value identified		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [V]	Max 100.000 [V]	Factory setting 0.000 [V]

p3071	MotId voltage emulation error current offset identified		
SERVO (Ext M_ctrl), SERVO_840 (Ext M_ctrl), SERVO_AC (Ext M_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [A]	Max 100.000 [A]	Factory setting 0.000 [A]
p3080	MotId flux controller P gain identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [A/Vs]	Max 999999.0 [A/Vs]	Factory setting 0.0 [A/Vs]
p3081	MotId flux controller integral time identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: PEM, REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 0 [ms]
p3082	MotId current controller P gain identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: 18_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.000 [V/A]	Max 100000.000 [V/A]	Factory setting 0.000 [V/A]
p3083	MotId current controller integral time identified		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting 0.00 [ms]
p3088	MotId Motor model changeover speed operation with encoder ident.		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [rpm]	Max 210000.00000 [rpm]	Factory setting 0.00000 [rpm]

p3088	MotID Motor model changeover vel. operat. with encod. ident.		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [m/min]	Max 1000.00000 [m/min]	Factory setting 0.00000 [m/min]
p3090[0...n]	PolID elasticity-based configuration		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p3091[0...n]	PolID elasticity-based ramp time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 250.0 [ms]
p3092[0...n]	PolID elasticity-based wait time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 100.0 [ms]
p3093[0...n]	PolID elasticity-based measurement number		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 6	Max 56	Factory setting 12
p3094[0...n]	PolID elasticity-based deflection expected		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [°]	Max 90.0000 [°]	Factory setting 0.0030 [°]

p3094[0...n]	PolID elasticity-based deflection expected		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [mm]	Max 90.0000 [mm]	Factory setting 0.0030 [mm]
p3095[0...n]	PolID elasticity-based deflection permissible		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [°]	Max 90.0000 [°]	Factory setting 1.0000 [°]
p3095[0...n]	PolID elasticity-based deflection permissible		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [mm]	Max 90.0000 [mm]	Factory setting 1.0000 [mm]
p3096[0...n]	PolID elasticity-based current		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [Arms]	Max 20000.000 [Arms]	Factory setting 0.000 [Arms]
r3097.0...31	BO: PolID elasticity-based status		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3100	RTC time stamp mode		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p3101[0...1]	RTC set UTC time		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4294967295	Factory setting 0
r3102[0...1]	RTC read UTC time		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3103	RTC synchronization source		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p3104	BI: RTC real time synchronization PING		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r3107[0...3]	RTC synchronizing time		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r3108[0...1]	RTC last synchronization deviation			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-
p3109	RTC real time synchronization, tolerance window			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0 [ms]	Max 1000 [ms]	Factory setting	100 [ms]
p3110	External fault 3, power-up delay			
All objects	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1	
	Min 0 [ms]	Max 1000 [ms]	Factory setting	0 [ms]
p3111[0...n]	BI: External fault 3, enable			
A_INF_840, B_INF_840, S_INF_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	3405.2
p3111[0...n]	BI: External fault 3, enable			
A_INF, B_INF, S_INF, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	1

p3111	BI: External fault 3, enable		
CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p3112[0...n]	BI: External fault 3 enable negated		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3112	BI: External fault 3 enable negated		
CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM54F_MA, TM54F_SL	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2546 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r3113.0...15	CO/BO: NAMUR message bit bar		
All objects	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r3114.9...11	CO/BO: Messages status word global			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r3115[0...63]	Fault drive object initiating			
All objects	Can be changed: - Data type: Integer32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1750, 8060 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p3116	Bl: Acknowledgement automatically suppressed			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8060 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0	
p3117	Change safety message type			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 1	Factory setting 0	
r3120[0...63]	Component number fault			
All objects	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8060 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r3121[0...63]	Component number alarm			
All objects	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8065 Unit selection: - Expert list: 1	

	Min	Max	Factory setting
r3122[0...63]	Diagnostic attribute fault		
All objects	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8060 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r3123[0...63]	Diagnostic attribute alarm		
All objects	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8065 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r3131	CO: Actual fit value		
All objects	Can be changed: - Data type: Integer32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8060 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r3132	CO: Actual component number		
All objects	Can be changed: - Data type: Integer32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8060 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
p3135	Suppress active fault		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 8060 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 bin

p3201[0...n]	Excitation current outside the tolerance threshold value		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [%]	Max 100.0 [%]	Factory setting 10.0 [%]
p3202[0...n]	Excitation current outside the tolerance hysteresis		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [%]	Max 100.0 [%]	Factory setting 10.0 [%]
p3203[0...n]	Excitation current outside the tolerance delay time		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 10.0 [s]	Factory setting 1.0 [s]
p3204[0...n]	Flux outside the tolerance threshold value		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [%]	Max 100.0 [%]	Factory setting 10.0 [%]
p3205[0...n]	Flux outside the tolerance hysteresis		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [%]	Max 50.0 [%]	Factory setting 10.0 [%]
p3206[0...n]	Flux outside tolerance delay time		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [s]	Max 10.0 [s]	Factory setting 5.0 [s]

p3207[0...n]	Zero current signal threshold value		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 6_2 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.01 [Arms]	Max 10000.00 [Arms]	Factory setting 1.00 [Arms]
p3208[0...n]	Zero current signal hysteresis		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 6_2 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.01 [Arms]	Max 10000.00 [Arms]	Factory setting 1.00 [Arms]
p3209[0...n]	Zero current signal delay time		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: ASM, PEM, REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 10.00 [s]	Factory setting 0.02 [s]
p3233[0...n]	Torque actual value filter, time constant		
SERVO (Ext msg), SERVO_840 (Ext msg), SERVO_AC (Ext msg), VECTOR (Ext msg), VECTOR_AC (Ext msg)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 8013 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000000 [ms]	Factory setting 0 [ms]
p3235	Phase failure signal motor monitoring time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 2000 [ms]	Factory setting 320 [ms]

p3236[0...n]	Speed threshold 7		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max 3000.00 [rpm]	Access level: 3 Func. diagram: 8012 Unit selection: p0505 Expert list: 1 Factory setting 100.00 [rpm]
p3237[0...n]	Hysteresis speed 7		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: - Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max 200.00 [rpm]	Access level: 3 Func. diagram: 8012 Unit selection: p0505 Expert list: 1 Factory setting 2.00 [rpm]
p3238[0...n]	OFF delay n_act_motor model = n_act external		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Messages Not for motor type: REL Min 0.0 [s]	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.0 [s]	Access level: 3 Func. diagram: 8012 Unit selection: - Expert list: 1 Factory setting 3.0 [s]
p3290	Variable signaling function start		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1 Factory setting 0010 bin
p3291	Cl: Variable signaling function signal source		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1 Factory setting 0
p3292	Variable signaling function signal source address		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 5301 Unit selection: - Expert list: 1

	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p3293	Variable signaling function signal source data type		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 5301 Unit selection: - Expert list: 1
	Min 0	Max 7	Factory setting 0
r3294	BO: Variable signaling function output signal		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3295	Variable signaling function threshold value		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1
	Min -340.28235E36	Max 340.28235E36	Factory setting 0.000
p3296	Variable signaling function hysteresis		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1
	Min 0.000	Max 340.28235E36	Factory setting 0.000
p3297	Variable signaling function pickup delay		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 10000 [ms]	Factory setting 0 [ms]

p3298	Variable signaling function dropout delay		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: - Min 0 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10000 [ms]	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1 Factory setting 0 [ms]
p3299	Variable signaling function, sampling time		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 1.000 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 4.000 [ms]	Access level: 3 Func. diagram: 5301 Unit selection: - Expert list: 1 Factory setting 4.000 [ms]
p3320[0...n]	Fluid flow machine power point 1		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min 0.00	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.00	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 25.00
p3321[0...n]	Fluid flow machine speed point 1		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min 0.00	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.00	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.00
p3322[0...n]	Fluid flow machine power point 2		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min 0.00	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.00	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 50.00
p3323[0...n]	Fluid flow machine speed point 2		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min 0.00	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 100.00	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 25.00

p3324[0...n]	Fluid flow machine power point 3		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 77.00
p3325[0...n]	Fluid flow machine speed point 3		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 50.00
p3326[0...n]	Fluid flow machine power point 4		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 92.00
p3327[0...n]	Fluid flow machine speed point 4		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 75.00
p3328[0...n]	Fluid flow machine power point 5		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 100.00
p3329[0...n]	Fluid flow machine speed point 5		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 100.00

p3400	Infeed configuration word		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8940 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 1010 bin
r3402	Infeed internal state		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8832, 8932 Unit selection: - Expert list: 1
	Min 0	Max 12	Factory setting -
r3402	Infeed status internal BIC		
B_INF, B_INF_840	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8932 Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting -
r3405.0...7	CO/BO: Infeed status word		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8828, 8928 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3405.7	CO/BO: Infeed status word		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3405.1...8	CO/BO: Status word DC-link control		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1

		Min	Max	Factory setting
p3409	Infeed line frequency setting			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0		Max 1	Factory setting 1
p3410	Infeed identification method			
A_INF_840, S_INF_840	Can be changed: C2(1), T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0		Max 5	Factory setting 0
p3410	Infeed identification method			
A_INF, S_INF	Can be changed: C2(1), T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0		Max 5	Factory setting 5
r3411[0...1]	Infeed identified inductance			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mH]		Max - [mH]	Factory setting - [mH]
r3412[0...1]	Infeed DC link capacitance identified			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mF]		Max - [mF]	Factory setting - [mF]

r3414[0...1]	Infeed, line supply inductance identified		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min - [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [mH]	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [mH]
p3415[0...1]	Infeed excitation current L identification		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 1.00 [%]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 75.00 [%]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 20.00 [%]
p3416	Infeed excitation amplitude C identification		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.10 [%]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 20.00 [%]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 2.00 [%]
p3417	Infeed excitation frequency C identification		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 10.00 [Hz]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 200.00 [Hz]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 50.00 [Hz]
p3421	Infeed inductance		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.001 [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 2000.000 [mH]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 1.000 [mH]
p3422	Infeed DC link capacitance		
A_INF, A_INF_840, S_INF, S_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1

		Min 0.20 [mF]	Max 2000.00 [mF]	Factory setting 2.00 [mF]
p3422	DC-link capacitance, total			
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.20 [mF]	Max 2000.00 [mF]	Factory setting 2.00 [mF]	
p3424	Infeed, line supply inductance			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.001 [mH]	Max 1000.000 [mH]	Factory setting 0.001 [mH]	
p3425[0...1]	Infeed control loop parameter scaling			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 1.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]	
p3440	Smart Mode configuration			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0001 bin	
p3441[0...1]	Smart Mode Vdc ctrl Kp/Tn			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]	

p3442[0...1]	Smart Mode smoothing times		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 20.00 [ms]	Factory setting [0] 0.25 [ms] [1] 1.00 [ms]
p3443[0...1]	Smart Mode line commutation current threshold values		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting [0] 100.00 [%] [1] 200.00 [%]
p3444[0...1]	Smart Mode voltages		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 105.00 [%]	Factory setting [0] 90.00 [%] [1] 100.50 [%]
r3445[0...1]	Smart Mode voltages display		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3446[0...2]	Smart Mode currents		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_4 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r3447	Smart Mode OFF angle		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1

		Min - [°]	Max - [°]	Factory setting - [°]
p3448[0...1]	Smart Mode effective inductance/DC-link capacitance			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 10.00 [%]	Max 10000.00 [%]	Factory setting [0] 110.00 [%] [1] 100.00 [%]	
r3452	Infeed PLL status			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 7	Factory setting -	
p3458[0...1]	Infeed PLL smoothing time			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 1.0 [ms]	Max 1000.0 [ms]	Factory setting [0] 23.1 [ms] [1] 9.1 [ms]	
r3460	Infeed PLL system deviation			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [°]	Max - [°]	Factory setting - [°]	
r3461	Infeed PLL system deviation after filtering			
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [°]	Max - [°]	Factory setting - [°]	

p3462	Infeed line fault maximum time		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 10000.00 [s]	Factory setting 0.00 [s]
p3463	Infeed, line angle change, phase failure detection		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -180.0 [°]	Max 180.0 [°]	Factory setting 15.0 [°]
r3467[0...3]	CO: Infeed current alpha/beta		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r3468[0...5]	CO: Infeed voltage alpha/beta		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
p3469[0...n]	Latch delay time correction, zero crossover detection		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10000.0 [μs]	Max 10000.0 [μs]	Factory setting 0.0 [μs]
r3470	Infeed active current filter		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r3471	Infeed reactive current filter		
A_INF, A_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: 6_2	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p3472[0...4]	Line supply PLL line supply voltage smoothing time		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 1.0 [ms]	Max 30000.0 [ms]	Factory setting [0] 200.0 [ms] [1] 100.0 [ms] [2] 5000.0 [ms] [3] 8.0 [ms] [4] 8.0 [ms]
p3480	Infeed modulation depth limit		
A_INF, A_INF_840	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8940
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 50.0 [%]	Max 110.0 [%]	Factory setting 97.0 [%]
p3481	Infeed standby controller dynamic response		
A_INF, A_INF_840	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8940
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 7.5 [ms]
r3485	Infeed standby controller output		
A_INF, A_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8940
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2001	Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

p3490	Infeed delay time OFF1 command		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.0 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1000000.0 [ms]	Access level: 2 Func. diagram: 8732, 8832, 8932 Unit selection: - Expert list: 1 Factory setting 0.0 [ms]
p3491	Infeed I-offset measurement monitoring time		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: - Min 0 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 65000 [ms]	Access level: 4 Func. diagram: 8832, 8932 Unit selection: - Expert list: 1 Factory setting 2000 [ms]
p3492	Infeed, line supply undervoltage delay time		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: - Min 0 [s]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 300 [s]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0 [s]
p3508	Infeed step-up factor maximum		
A_INF, A_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: - Min 1.60	Calculated: - Dynamic index: - Units group: - Scaling: - Max 3.00	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 1.60
p3510	Infeed DC link voltage setpoint		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 100.00 [V]	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001 Max 1600.00 [V]	Access level: 2 Func. diagram: 1774, 8940 Unit selection: p0505 Expert list: 1 Factory setting 600.00 [V]
p3510	DC link voltage setpoint		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1

	Min 100.00 [V]	Max 1600.00 [V]	Factory setting 600.00 [V]
p3511	Cl: Infeed DC link voltage supplementary setpoint		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 8940 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3511	Cl: DC-link voltage supplementary setpoint		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3513	Bl: Inhibit voltage-controlled operation		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3513	Bl: Inhibit voltage-controlled operation		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1
p3514	Infeed supplementary active current steady-state		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: -	Access level: 3 Func. diagram: 8940 Unit selection: p0505 Expert list: 1
	Min -1000.00 [Arms]	Max 1000.00 [Arms]	Factory setting 0.00 [Arms]

p3515	CI: Infeed supplementary active current		
A_INF, A_INF_840	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: 8940 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3516	Infeed current distribution factor		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8940, 8942 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 100.00 [%]
r3517	CO: Infeed active current controller unlimited setpoint		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 8940 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r3517	CO: DC-link controller active current setpoint		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p3520[0...3]	CI: Infeed power pre-control		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3520[0...3]	CI: DC link pre-control power		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1

	Min -	Max -	Factory setting 0
p3521[0...3]	Infeed pre-control power scaling		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -100000.00000 [%]	Max 100000.00000 [%]	Factory setting 100.00000 [%]
p3521[0...3]	DC link pre-control power scaling		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -100000.00000 [%]	Max 100000.00000 [%]	Factory setting 100.00000 [%]
p3523[0...3]	Infeed pre-control power smoothing		
SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 0 [ms]
p3523[0...3]	DC link pre-control power smoothing		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 0 [ms]
p3528	Cl: Infeed current limit motorizing scaling		
A_INF, A_INF_840	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 8940 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p3529	Cl: Infeed current limit regenerative scaling		
A_INF, A_INF_840	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT Max -	Access level: 3 Func. diagram: 8940 Unit selection: - Expert list: 1 Factory setting 1
p3530	Infeed current limit motoring		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 1.00 [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: - Max 100000.00 [Arms]	Access level: 3 Func. diagram: 8940 Unit selection: p0505 Expert list: 1 Factory setting 10000.00 [Arms]
p3531	Infeed current limit regenerative		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min -100000.00 [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: - Max -1.00 [Arms]	Access level: 3 Func. diagram: 8940 Unit selection: p0505 Expert list: 1 Factory setting -10000.00 [Arms]
p3532	Bl: Infeed, inhibit motoring		
A_INF, A_INF_840	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 8920 Unit selection: - Expert list: 1 Factory setting 0
p3533	Bl: Infeed, inhibit generator mode		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 8820, 8920 Unit selection: - Expert list: 1 Factory setting 0
r3534	Infeed line filter maximum current		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [Arms]	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [Arms]

r3554	Infeed Vdc controller integral component		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 2 Func. diagram: 8940 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r3554	Vdc controller integral component		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p3555[0...5]	Infeed Vdc controller integral component fast intervention		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 200.00 [%]	Factory setting [0] 2.00 [%] [1] 102.00 [%] [2] 0.00 [%] [3] 5.00 [%] [4] 100.00 [%] [5] 0.00 [%]
p3560	Infeed Vdc controller proportional gain		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8940 Unit selection: - Expert list: 1
	Min 0.01 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p3560	Vdc controller proportional gain		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.01 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]

p3562	Infeed,Vdc controller integral time		
A_INF, A_INF_840, SERVO (Tech_ctrl), SERVO_840 (Tech_ctrl), SERVO_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8940 Unit selection: - Expert list: 1
	Min 0.10 [%]	Max 100000.00 [%]	Factory setting 100.00 [%]
p3562	Vdc controller integral time		
VECTOR (Tech_ctrl), VECTOR_AC (Tech_ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [%]	Max 100000.00 [%]	Factory setting 100.00 [%]
p3564	Infeed Vdc monitor, time constant		
A_INF, A_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 100.0 [ms]	Factory setting 0.2 [ms]
p3566	Infeed Vdc ramp duration		
A_INF, A_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8932 Unit selection: - Expert list: 1
	Min 40 [ms]	Max 1000 [ms]	Factory setting 100 [ms]
p3570	CI: Master/slave active current setpoint		
A_INF (Master/Slave), A_INF_840 (Master/Slave)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 3573[0]
p3571[0...3]	CI: Master/slave active current setpoint, multiplexer input		
A_INF (Master/Slave), A_INF_840 (Master/Slave)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p3572	CI: Master/slave active current setpoint, multiplexer selection		
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: T Data type: Unsigned32 / Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r3573	CO: Master/slave active current setpoint, multiplexer output		
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: 8948 Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p3574[0...3]	Master/slave DC link voltage monitoring		
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: C2(1), T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min -60 [V]	Max 60 [V]	Factory setting [0] 20 [V] [1] -20 [V] [2] 5 [V] [3] -5 [V]
r3575.0...2	BO: Master/slave DC link voltage monitoring status		
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3576[0...5]	Master/slave current distribution factor, multiplexer input		
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 100.00 [%]
p3577	CI: Master/slave current distribution factor, multiplexer selection		
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: T Data type: Unsigned32 / Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1

		Min	Max	Factory setting
r3578	CO: Master/slave current distribution factor, multiplexer output			0
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min - [%]		Max - [%]	Factory setting - [%]
p3579	CI: Master/Slave current distribution factor			
A_INF (Master/ Slave), A_INF_840 (Master/Slave)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min -		Max -	Factory setting 3578[0]
r3602	Infeed control status			
A_INF, A_INF_840	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0		Max 8	Factory setting -
p3603	Infeed current pre-control factor D component			
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 8948 Unit selection: - Expert list: 1
	Min 0.00 [%]		Max 500.00 [%]	Factory setting 100.00 [%]
r3606	Infeed active current controller system deviation			
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -		Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 2 Func. diagram: 8948 Unit selection: p0505 Expert list: 1
	Min - [Arms]		Max - [Arms]	Factory setting - [Arms]

r3608	Infeed reactive current controller system deviation		
A_INF, A_INF_840	Can be changed: -	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8946
	P-Group: Closed-loop control	Units group: 6_2	Unit selection: p0505
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p3610	Infeed reactive current fixed setpoint		
A_INF, A_INF_840	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1774, 8946
	P-Group: Closed-loop control	Units group: 6_2	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -10000.0 [Arms]	Max 10000.0 [Arms]	Factory setting 0.0 [Arms]
p3611	C1: Infeed reactive current supplementary setpoint		
A_INF, A_INF_840	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: -	Func. diagram: 8946
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min -	Max -	Factory setting 0
p3612	C1: Infeed reactive power, precontrol		
A_INF (Dyn. grid support)	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: r2004	Expert list: 1
	Min -	Max -	Factory setting 0
p3614[0...1]	Infeed current actual value filter smoothing time		
A_INF, A_INF_840	Can be changed: T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8950
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.000 [ms]	Max 2.000 [ms]	Factory setting 0.000 [ms]
p3615	Infeed current controller P gain		
A_INF, A_INF_840	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8946
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]

p3617	Infeed current controller integral time		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8946 Unit selection: - Expert list: 1
	Min 0.10 [%]	Max 100000.00 [%]	Factory setting 100.00 [%]
r3618	Infeed active current controller, integral component		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 2 Func. diagram: 8946 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r3619	Infeed reactive current controller integral component		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 2 Func. diagram: 8946 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p3620	Infeed current controller adaptation lower application threshold		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 40.00 [%]
p3622	Infeed current controller adaptation reduction factor		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.01 [%]	Max 100.00 [%]	Factory setting 85.00 [%]
p3624[0...1]	Infeed harmonics controller order		
A_INF, A_INF_840	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 5	Max 13	Factory setting [0] 5 [1] 7

r3625[0...1]	Infeed harmonics controller scaling		
A_INF, A_INF_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 300.0 [%]	Factory setting 100.0 [%]
r3626[0...1]	Infeed harmonics control output		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r3632	Infeed input voltage Vsd (active component)		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 3 Func. diagram: 1774, 8946, 8950 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r3633	Infeed input voltage Usq (reactive component)		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 3 Func. diagram: 1774, 8946, 8950 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r3635	CO: Infeed input voltage angle		
A_INF, A_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8950 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r3637[0...1]	CO: Negative phase-sequence system control current setpoint		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: - Unit selection: p0505 Expert list: 1

	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r3638[0...3]	CO: Negative phase-sequence system control current actual value		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002	Access level: 4 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p3639	Negative phase-sequence system control integral time		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 300.00 [%]	Factory setting 100.00 [%]
p3640	Negative phase-sequence system control operating mode		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p3641[0...1]	CI: Negative phase-sequence system control setpoint		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r3642[0...1]	CO: Negative phase-sequence system control manipulated variable		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

r3643	Neg phase-sequence system control DC link voltage correction		
A_INF (Dyn. grid support, Line transf), A_INF_840 (Dyn. grid support, Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
p3660	VSM input line supply voltage, voltage scaler		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100000.00 [%]	Factory setting 0.00 [%]
p3660[0...n]	VSM input line supply voltage, voltage scaler		
VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100000.00 [%]	Factory setting 0.00 [%]
r3661	CO: VSM input line supply voltage u1 - u2		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: 8850, 8950, 9880 Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3661[0...n]	CO: VSM input line supply voltage u1 - u2		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3662	CO: VSM input line supply voltage u2 - u3		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: 8850, 8950, 9880 Unit selection: p0505 Expert list: 1

	Min - [V]	Max - [V]	Factory setting - [V]
r3662[0...n]	CO: VSM input line supply voltage u2 - u3		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3664.0...1	BO: VSM temperature evaluation, status		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9886 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3664[0...n]	CO: VSM temperature evaluation, status		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 3 Func. diagram: 9886 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3665[0...n]	VSM temperature evaluation, sensor type		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: 9886 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p3665[0...n]	VSM temperature evaluation, sensor type		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 3 Func. diagram: 9886 Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0

r3666	CO: VSM temperature KTY		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: 9886 Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r3666[0...n]	CO: VSM temperature KTY		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: 9886 Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
p3667	VSM line filter overtemperature alarm threshold		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 4 Func. diagram: 9886 Unit selection: p0505 Expert list: 1
	Min 0 [°C]	Max 301 [°C]	Factory setting 150 [°C]
p3667[0...n]	VSM line filter overtemperature alarm threshold		
VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: 9886 Unit selection: p0505 Expert list: 1
	Min 0.00 [°C]	Max 301.00 [°C]	Factory setting 150.00 [°C]
p3668	VSM line filter overtemperature shutdown threshold		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 4 Func. diagram: 9886 Unit selection: p0505 Expert list: 1
	Min 0 [°C]	Max 301 [°C]	Factory setting 180 [°C]
p3668[0...n]	VSM line filter overtemperature shutdown threshold		
VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: 9886 Unit selection: p0505 Expert list: 1
	Min 0.00 [°C]	Max 301.00 [°C]	Factory setting 180.00 [°C]

p3669	VSM line filter overtemperature hysteresis		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 1.0 [K]	Calculated: - Dynamic index: - Units group: - Scaling: p2006 Max 50.0 [K]	Access level: 4 Func. diagram: 9886 Unit selection: - Expert list: 1 Factory setting 3.0 [K]
p3669[0...n]	VSM line filter overtemperature hysteresis		
VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 1.00 [K]	Calculated: - Dynamic index: p0150 Units group: 21_2 Scaling: p2006 Max 50.00 [K]	Access level: 3 Func. diagram: 9886 Unit selection: p0505 Expert list: 1 Factory setting 3.00 [K]
p3670	VSM 10 V input CT gain		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.000 [A]	Calculated: - Dynamic index: - Units group: - Scaling: p2002 Max 1000.000 [A]	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1 Factory setting 1.000 [A]
p3670[0...n]	VSM 10 V input CT gain		
VECTOR, VECTOR_AC	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.000 [A]	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2002 Max 1000.000 [A]	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1 Factory setting 1.000 [A]
r3671	CO: VSM 10 V input CT 1 actual value		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min - [A]	Calculated: - Dynamic index: - Units group: - Scaling: p2002 Max - [A]	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1 Factory setting - [A]
r3671[0...n]	CO: VSM 10 V input CT 1 actual value		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min - [A]	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2002 Max - [A]	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1 Factory setting - [A]

r3672	CO: VSM 10 V input CT 2 actual value		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r3672[0...n]	CO: VSM 10 V input CT 2 actual value		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2002	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r3673	CO: VSM 10 V input 1 actual value		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3673[0...n]	CO: VSM 10 V input 1 actual value		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2001	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3674	CO: VSM 10 V input 2 actual value		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r3674[0...n]	CO: VSM 10 V input 2 actual value		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2001	Access level: 3 Func. diagram: 9880 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

p3676	VSM line filter capacitance alarm threshold		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.00 [%]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 100.00 [%]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.00 [%]
r3677[0...2]	CO: VSM line filter capacitance		
A_INF, A_INF_840, S_INF, S_INF_840	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min - [μF]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [μF]	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [μF]
p3678[0...1]	Filter monitoring threshold values		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: - Min 0.00 [%]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10000.00 [%]	Access level: 3 Func. diagram: 7991 Unit selection: - Expert list: 1 Factory setting [0] 0.00 [%] [1] 0.00 [%]
p3679[0...1]	Transformer filter monitoring times		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: - Min 0.00 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 40.00 [ms]	Access level: 3 Func. diagram: 7991 Unit selection: - Expert list: 1 Factory setting [0] 20.00 [ms] [1] 0.50 [ms]
p3680	BI: Braking Module internal inhibit		
B_INF, B_INF_840	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p3681	BI: Activating Braking Module internal DC link fast discharge		
B_INF, B_INF_840	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1

	Min	Max	Factory setting
	-	-	0
p3682	Braking Module internal DC link fast discharge delay time		
B_INF, B_INF_840	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 500 [ms]	Max 4294967295 [ms]	Factory setting 1000 [ms]
p3683	Braking Module internal activation threshold brake chopper		
B_INF, B_INF_840	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 110.00 [V]	Max 780.00 [V]	Factory setting 760.00 [V]
r3685	BO: Digital Braking Module: Pre-alarm I2t shutdown		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3686	BO: Digital Braking Module Fault		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3687	BO: Digital Braking Module pre-alarm overtemperature		
B_INF, B_INF_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r3688	BO: Braking Module internal overtemperature shutdown		
B_INF, B_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r3689	BO: Digital Braking Module Uce fault		
B_INF, B_INF_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p3700	APC configuration		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 7012
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: REL	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 bin
p3701	APC enc sel		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: C1(4)	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Data sets	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	2	3	2
p3702[0...n]	APC load speed/motor speed weighting		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: DDS, p0180	Func. diagram: -
	P-Group: Setpoints	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	0.000	1.000	1.000
p3704[0...n]	APC filter activation		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: DDS, p0180	Func. diagram: 7012
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: REL	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 bin

p3705[0...n]	APC filter type		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p3706[0...n]	APC sub-sampling, filter 2.x		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 1	Max 64	Factory setting 1
p3707[0...n]	APC sub-sampling, filter 3.x		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 1	Max 64	Factory setting 1
p3708[0...n]	APC velocity actual value smoothing time encoder 2		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4711 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 50.00 [ms]	Factory setting 0.00 [ms]
p3708[0...n]	APC speed actual value smoothing time encoder 2		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4711 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 50.00 [ms]	Factory setting 0.00 [ms]
p3709[0...n]	APC velocity actual value smoothing time encoder 3		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4711 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 50.00 [ms]	Factory setting 0.00 [ms]

p3709[0...n]	APC speed actual value smoothing time encoder 3		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 4711 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 50.00 [ms]	Factory setting 0.00 [ms]
p3711[0...n]	APC filter 1.1 denominator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3712[0...n]	APC filter 1.1 denominator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.050	Max 10.000	Factory setting 0.700
p3713[0...n]	APC filter 1.1 numerator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3714[0...n]	APC filter 1.1 numerator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p3721[0...n]	APC filter 2.1 denominator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]

p3722[0...n]	APC filter 2.1 denominator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.050	Max 10.000	Factory setting 0.700
p3723[0...n]	APC filter 2.1 numerator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3724[0...n]	APC filter 2.1 numerator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p3726[0...n]	APC filter 2.2 denominator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3727[0...n]	APC filter 2.2 denominator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.050	Max 10.000	Factory setting 0.700
p3728[0...n]	APC filter 2.2 numerator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]

p3729[0...n]	APC filter 2.2 numerator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7029 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p3731[0...n]	APC filter 3.1 denominator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3732[0...n]	APC filter 3.1 denominator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.050	Max 10.000	Factory setting 0.700
p3733[0...n]	APC filter 3.1 numerator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3734[0...n]	APC filter 3.1 numerator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p3736[0...n]	APC filter 3.2 denominator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]

p3737[0...n]	APC filter 3.2 denominator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.050	Max 10.000	Factory setting 0.700
p3738[0...n]	APC filter 3.2 numerator natural frequency		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.5 [Hz]	Max 16000.0 [Hz]	Factory setting 2000.0 [Hz]
p3739[0...n]	APC filter 3.2 numerator damping		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.000	Max 10.000	Factory setting 0.700
p3750[0...n]	Cl: APC acceleration sensor input		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: p2007	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3751[0...n]	APC acceleration sensor high pass time constant		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 100.00 [ms]
p3760[0...n]	APC load velocity controller 1 P gain		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -100.000	Max 100.000	Factory setting 0.000

p3760[0...n]	APC load speed controller 1 P gain		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -100.000	Max 100.000	Factory setting 0.000
p3761[0...n]	APC load velocity controller 1 rate time		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -500.00 [ms]	Max 500.00 [ms]	Factory setting 0.00 [ms]
p3761[0...n]	APC load speed controller 1 rate time		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -500.00 [ms]	Max 500.00 [ms]	Factory setting 0.00 [ms]
p3765[0...n]	APC load velocity controller 2 P gain		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -100.000	Max 100.000	Factory setting 0.000
p3765[0...n]	APC load speed controller 2 P gain		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -100.000	Max 100.000	Factory setting 0.000
p3766[0...n]	APC load velocity controller 2 rate time		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -500.00 [ms]	Max 500.00 [ms]	Factory setting 0.00 [ms]

p3766[0...n]	APC load speed controller 2 rate time		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min -500.00 [ms]	Max 500.00 [ms]	Factory setting 0.00 [ms]
r3770	CO: APC load velocity		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r3770	CO: APC load speed		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r3771[0...1]	CO: APC velocity actual value		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r3771[0...1]	CO: APC speed actual value		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r3772[0...1]	APC filter branch 2 display values		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: -	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]

r3772[0...1]	APC filter branch 2 display values		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min - [rpm]	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000 Max - [rpm]	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1 Factory setting - [rpm]
r3773[0...1]	APC filter branch 3 display values		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min - [m/min]	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000 Max - [m/min]	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1 Factory setting - [m/min]
r3773[0...1]	APC filter branch 3 display values		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min - [rpm]	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000 Max - [rpm]	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1 Factory setting - [rpm]
r3777[0...1]	CO: APC filter branch 1 display values		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min - [m/min]	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000 Max - [m/min]	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1 Factory setting - [m/min]
r3777[0...1]	CO: APC filter branch 1 display values		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: - Data type: FloatingPoint32 P-Group: Setpoints Not for motor type: - Min - [rpm]	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000 Max - [rpm]	Access level: 3 Func. diagram: 7012 Unit selection: p0505 Expert list: 1 Factory setting - [rpm]
p3778[0...n]	APC velocity limit		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.00 [m/min]	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 4_1 Scaling: - Max 1000.00 [m/min]	Access level: 2 Func. diagram: 7012 Unit selection: p0505 Expert list: 1 Factory setting 1000.00 [m/min]

p3778[0...n]	APC speed limit		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: p0505 Expert list: 1
	Min 0.00 [rpm]	Max 210000.00 [rpm]	Factory setting 210000.00 [rpm]
p3779[0...n]	APC velocity limit monitoring time		
SERVO (APC, Lin), SERVO_840 (APC, Lin), SERVO_AC (APC, Lin)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000000 [ms]	Factory setting 0 [ms]
p3779[0...n]	APC speed limit monitoring time		
SERVO (APC), SERVO_840 (APC), SERVO_AC (APC)	Can be changed: U, T Data type: Unsigned32 P-Group: Closed-loop control Not for motor type: REL	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7012 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000000 [ms]	Factory setting 0 [ms]
p3784[0...n]	BI: Sync-line-drive external increase voltage		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p3785[0...n]	BI: Sync-line-drive external decrease voltage		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p3800[0...n]	Sync-line-drive activation		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p3801[0...n]	Sync-line-drive, drive object number		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned16 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min 1	Max 62	Factory setting 1
p3802[0...n]	BI: Sync-line-drive enable		
VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: CDS, p0170 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r3803.0	CO/BO: Sync-line-drive control word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3804	CO: Sync-line-drive target frequency		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 2 Func. diagram: 3030, 7020 Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r3805	CO: Sync-line-drive frequency difference		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
p3806[0...n]	Sync-line-drive frequency difference threshold value		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 1.00 [Hz]	Factory setting 0.10 [Hz]

r3808	CO: Sync-line-drive phase difference		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
p3809[0...n]	Sync-line-drive phase setpoint		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min -180.00 [°]	Max 179.90 [°]	Factory setting 0.00 [°]
p3811[0...n]	Sync-line-drive frequency limiting		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 1.00 [Hz]	Factory setting 0.20 [Hz]
r3812	CO: Sync-line-drive correction frequency		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 2 Func. diagram: 3080, 7020 Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
p3813[0...n]	Sync-line-drive phase synchronism threshold value		
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min 1.00 [°]	Max 20.00 [°]	Factory setting 2.00 [°]
r3814	CO: Sync-line-drive voltage difference		
VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]

p3815[0...n]	Sync-line-drive voltage difference threshold value			
VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Functions Not for motor type: - Min 0.00 [%]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: - Scaling: - Max 20.00 [%]	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1 Factory setting 10.00 [%]	
r3819.0...7	CO/BO: Sync-line-drive status word			
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 2 Func. diagram: 7020 Unit selection: - Expert list: 1 Factory setting -	
p3820[0...n]	Friction characteristic, value n0			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max 210000.00 [rpm]	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 15.00 [rpm]	
p3820[0...n]	Friction characteristic, value v0			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: - Max 21000.00 [m/min]	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 1.50 [m/min]	
p3821[0...n]	Friction characteristic, value n1			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: - Max 210000.00 [rpm]	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 30.00 [rpm]	

p3821[0...n]	Friction characteristic, value v1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 3.00 [m/min]
p3822[0...n]	Friction characteristic, value n2		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 60.00 [rpm]
p3822[0...n]	Friction characteristic, value v2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 6.00 [m/min]
p3823[0...n]	Friction characteristic, value n3		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 120.00 [rpm]
p3823[0...n]	Friction characteristic, value v3		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1 Factory setting 12.00 [m/min]

p3824[0...n]	Friction characteristic, value n4		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 150.00 [rpm]</p>
p3824[0...n]	Friction characteristic, value v4		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 4_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 21000.00 [m/min]</p>	<p>Factory setting 15.00 [m/min]</p>
p3825[0...n]	Friction characteristic, value n5		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 300.00 [rpm]</p>
p3825[0...n]	Friction characteristic, value v5		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 4_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 21000.00 [m/min]</p>	<p>Factory setting 30.00 [m/min]</p>
p3826[0...n]	Friction characteristic, value n6		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 600.00 [rpm]</p>

p3826[0...n]	Friction characteristic, value v6			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1	Factory setting 60.00 [m/min]
p3827[0...n]	Friction characteristic, value n7			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1	Factory setting 1200.00 [rpm]
p3827[0...n]	Friction characteristic, value v7			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1	Factory setting 120.00 [m/min]
p3828[0...n]	Friction characteristic, value n8			
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [rpm]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 3_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1	Factory setting 1500.00 [rpm]
p3828[0...n]	Friction characteristic, value v8			
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL Min 0.00 [m/min]	Calculated: CALC_MOD_LIM_REF Dynamic index: DDS, p0180 Units group: 4_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1	Factory setting 150.00 [m/min]

p3829[0...n]	Friction characteristic, value n9		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 3_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [rpm]</p>	<p>Max 210000.00 [rpm]</p>	<p>Factory setting 3000.00 [rpm]</p>
p3829[0...n]	Friction characteristic, value v9		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: CALC_MOD_LIM_REF</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 4_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min 0.00 [m/min]</p>	<p>Max 21000.00 [m/min]</p>	<p>Factory setting 300.00 [m/min]</p>
p3830[0...n]	Friction characteristic, value M0		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 7_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min -1000000.00 [Nm]</p>	<p>Max 1000000.00 [Nm]</p>	<p>Factory setting 0.00 [Nm]</p>
p3830[0...n]	Friction characteristic, value F0		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 8_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min -1000000.00 [N]</p>	<p>Max 1000000.00 [N]</p>	<p>Factory setting 0.00 [N]</p>
p3831[0...n]	Friction characteristic, value M1		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 7_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	<p>Min -1000000.00 [Nm]</p>	<p>Max 1000000.00 [Nm]</p>	<p>Factory setting 0.00 [Nm]</p>
p3831[0...n]	Friction characteristic, value F1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Functions</p> <p>Not for motor type: REL</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: 8_1</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: 7010</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>

	Min -1000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
p3832[0...n]	Friction characteristic, value M2		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]
p3832[0...n]	Friction characteristic, value F2		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
p3833[0...n]	Friction characteristic, value M3		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]
p3833[0...n]	Friction characteristic, value F3		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
p3834[0...n]	Friction characteristic, value M4		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]

p3834[0...n]	Friction characteristic, value F4		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1</p>
	<p>Min -1000000.00 [N]</p>	<p>Max 1000000.00 [N]</p>	<p>Factory setting 0.00 [N]</p>
p3835[0...n]	Friction characteristic, value M5		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1</p>
	<p>Min -1000000.00 [Nm]</p>	<p>Max 1000000.00 [Nm]</p>	<p>Factory setting 0.00 [Nm]</p>
p3835[0...n]	Friction characteristic, value F5		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1</p>
	<p>Min -1000000.00 [N]</p>	<p>Max 1000000.00 [N]</p>	<p>Factory setting 0.00 [N]</p>
p3836[0...n]	Friction characteristic, value M6		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1</p>
	<p>Min -1000000.00 [Nm]</p>	<p>Max 1000000.00 [Nm]</p>	<p>Factory setting 0.00 [Nm]</p>
p3836[0...n]	Friction characteristic, value F6		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1</p>
	<p>Min -1000000.00 [N]</p>	<p>Max 1000000.00 [N]</p>	<p>Factory setting 0.00 [N]</p>
p3837[0...n]	Friction characteristic, value M7		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	<p>Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL</p>	<p>Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -</p>	<p>Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1</p>
	<p>Min -1000000.00 [Nm]</p>	<p>Max 1000000.00 [Nm]</p>	<p>Factory setting 0.00 [Nm]</p>

p3837[0...n]	Friction characteristic, value F7		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
p3838[0...n]	Friction characteristic, value M8		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]
p3838[0...n]	Friction characteristic, value F8		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
p3839[0...n]	Friction characteristic, value M9		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 7_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [Nm]	Max 1000000.00 [Nm]	Factory setting 0.00 [Nm]
p3839[0...n]	Friction characteristic, value F9		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: 8_1 Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min -1000000.00 [N]	Max 1000000.00 [N]	Factory setting 0.00 [N]
r3840.0...8	CO/BO: Friction characteristic, status word		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r3840.0...9	CO/BO: Friction characteristic, status word		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3841	CO: Friction characteristic output		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
r3841	CO: Friction characteristic output		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 2 Func. diagram: 7010 Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
p3842	Friction characteristic activation		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: Integer16 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p3843[0...n]	Friction characteristic smoothing time frictional torque diff.		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 0.00 [ms]
p3844[0...n]	Friction characteristic number changeover point upper		
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: Unsigned8 P-Group: Closed-loop control Not for motor type: PEM, REL, FEM	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting 0

p3845	Friction characteristic record activation		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p3846[0...n]	Friction characteristic record ramp-up/ramp-down time		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 999999.000 [s]	Factory setting 10.000 [s]
p3847[0...n]	Friction characteristic record warm-up time		
SERVO, SERVO_840, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: T Data type: FloatingPoint32 P-Group: Functions Not for motor type: REL	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 2 Func. diagram: 7010 Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 3600.000 [s]	Factory setting 0.000 [s]
p3860	Number of Braking Modules connected in parallel		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: C2(2) Data type: Unsigned8 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min 1	Max 8	Factory setting 1
r3861.0...7	BO: Braking Module inhibit/acknowledgement		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p3862	Braking Module DC link fast discharge delay time		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min 500 [ms]	Max 4294967295 [ms]	Factory setting 1000 [ms]
p3863	BI: Activating Braking Module DC link fast discharge		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r3864.0...7	BO: Braking Module DC link fast discharge		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p3865[0...7]	BI: Braking Module pre-warning l*t shutdown		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p3866[0...7]	BI: Braking Module fault		
A_INF (Brk Mod ext), A_INF_840 (Brk Mod ext), B_INF (Brk Mod ext), B_INF_840 (Brk Mod ext), S_INF (Brk Mod ext), S_INF_840 (Brk Mod ext)	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9951 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p3870	Long stator configuration		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: U, T</p> <p>Data type: Unsigned16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0000 bin
p3871	Bl: Set long stator signal source commutation angle (p3872)		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p3872	Ci: Long stator signal source commutation angle		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2005</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	3878[0]
p3873	Bl: Long stator sig. source changeover to cl.-loop ctrl w/ enc.		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Functions</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p3874	Ci: Long stator signal source commutation angle oper. with encoder		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T</p> <p>Data type: Unsigned32 / FloatingPoint32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: p2005</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	3879[0]
r3875.0...1	CO/BO: Long stator status word		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-

r3875.0...1	CO/BO: Long stator status word		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p3876	BI: Unpark long stator signal source 1 encoder		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 / Binary P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p3878	CO: Long stator commutation angle 1		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min -180 [°]	Calculated: - Dynamic index: - Units group: - Scaling: p2005 Max 180 [°]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0 [°]
p3879	CO: Long stator commutation angle 2		
SERVO, SERVO_840, SERVO_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min -180 [°]	Calculated: - Dynamic index: - Units group: - Scaling: p2005 Max 180 [°]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0 [°]
p3900	Completion of quick commissioning		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: C2(1) Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 3	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p3900	Completion of quick commissioning		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2(1) Data type: Integer16 P-Group: Displays, signals Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 3	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0

p3900	Completion of quick commissioning		
VECTOR, VECTOR_AC	Can be changed: C2(1) Data type: Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p3901[0...n]	Power unit EEPROM Vdc offset calibration		
B_INF, B_INF_840, VECTOR, VECTOR_AC	Can be changed: C1, C2(1), T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -40.0 [V]	Max 40.0 [V]	Factory setting 0.0 [V]
r3925[0...n]	Identification final display		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3925[0...n]	Identification final display		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Motor Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3927[0...n]	Motor data identification induction motor data determined		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r3927[0...n]	Motor data identification control word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Motor identification Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r3928[0...n]	Motor data identification synchronous motor data determined			
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r3928[0...n]	Rotating measurement configuration			
VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: - Data type: Unsigned16 P-Group: Motor identification Not for motor type: REL	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p3950	Service parameter			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1, U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p3961	Fan operating hours counter			
CU_S_AC_DP, CU_S_AC_PN	Can be changed: T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.000 [h]	Max 340.28235E36 [h]	Factory setting 0.000 [h]	
r3974	Drive unit status word			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r3977	BICO counter, topology			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	

		Min	Max	Factory setting
r3978	BICO CounterDevice			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max		Factory setting
r3979	BICO counter, drive object			
A_INF, A_INF_840, B_INF, B_INF_840, CU_LINK, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max		Factory setting
p3981	Faults, acknowledge drive object			
All objects	Can be changed: U, T Data type: Unsigned8 P-Group: Messages Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 8060 Unit selection: - Expert list: 1
	Min	Max		Factory setting
p3985	Master control mode selection			
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Setpoints Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max		Factory setting

r3986	Parameter count		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r3988[0...1]	Boot state		
CU_I_840	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10800	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r3988[0...1]	Boot state		
CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10800	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r3996[0...1]	Parameter write inhibit status		
All objects	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r3998	First infeed commissioning		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 65535	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r3998[0...n]	First drive commissioning		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: - Max 65535	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -

r4021	Digital inputs terminal actual value		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 2201
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4021	TB30 digital inputs terminal actual value		
TB30	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9100
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4021	TM15DI/DO digital inputs, terminal actual value		
TM15DI_DO	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9400, 9401, 9402
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4021	TM31 digital inputs terminal actual value		
TM31	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1840, 9550, 9552, 9560, 9562
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4021	TM41 digital inputs terminal actual value		
TM41	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4022.0...1	CO/BO: Digital inputs status		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 2201
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1

		Min	Max	Factory setting
r4022.0...3	CO/BO: TB30 digital inputs, status			
TB30	Can be changed: -	Calculated: -		Access level: 1
	Data type: Unsigned32	Dynamic index: -		Func. diagram: 1790, 9100
	P-Group: Commands	Units group: -		Unit selection: -
	Not for motor type: -	Scaling: -		Expert list: 1
	Min	Max		Factory setting
	-	-	-	-
r4022.0...23	CO/BO: TM15DI/DO digital inputs, status			
TM15DI_DO	Can be changed: -	Calculated: -		Access level: 1
	Data type: Unsigned32	Dynamic index: -		Func. diagram: 1781, 9400, 9401, 9402
	P-Group: Commands	Units group: -		Unit selection: -
	Not for motor type: -	Scaling: -		Expert list: 1
	Min	Max		Factory setting
	-	-	-	-
r4022.0...11	CO/BO: TM31 digital inputs, status			
TM31	Can be changed: -	Calculated: -		Access level: 1
	Data type: Unsigned32	Dynamic index: -		Func. diagram: 1840, 9550, 9552, 9560, 9562
	P-Group: Commands	Units group: -		Unit selection: -
	Not for motor type: -	Scaling: -		Expert list: 1
	Min	Max		Factory setting
	-	-	-	-
r4022.0...11	CO/BO: TM41 digital inputs, status			
TM41	Can be changed: -	Calculated: -		Access level: 1
	Data type: Unsigned32	Dynamic index: -		Func. diagram: 1842, 9660, 9661, 9662
	P-Group: Commands	Units group: -		Unit selection: -
	Not for motor type: -	Scaling: -		Expert list: 1
	Min	Max		Factory setting
	-	-	-	-
r4023.0...1	BO: Digital inputs status inverted			
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: -	Calculated: -		Access level: 1
	Data type: Unsigned32	Dynamic index: -		Func. diagram: 2201
	P-Group: Commands	Units group: -		Unit selection: -
	Not for motor type: -	Scaling: -		Expert list: 1
	Min	Max		Factory setting
	-	-	-	-

r4023.0...3	BO: TB30 digital inputs, status inverted		
TB30	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1790, 9100
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4023.0...23	CO/BO: TM15DI/DO digital inputs, status inverted		
TM15DI_DO	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1781, 9400, 9401, 9402
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4023.0...11	CO/BO: TM31 digital inputs, status inverted		
TM31	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1840, 9550, 9552, 9560, 9562
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4023.0...11	BO: TM41 digital inputs, status inverted		
TM41	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1842, 9660, 9661, 9662
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4024	CO: TM15DI/DO digital inputs 16 ... 23 status		
TM15DI_DO	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9402
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4025	CO: TM15DI/DO digital inputs 16 ... 23 status inverted		
TM15DI_DO	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9402
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1

		Min	Max	Factory setting
p4028	Set input or output			
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2201 Unit selection: - Expert list: 1
	Min		Max	Factory setting 0000 bin
p4028	TM15 set input or output			
TM15	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1780 Unit selection: - Expert list: 1
	Min		Max	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p4028	TM15DI/DO set input or output			
TM15DI_DO	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1781, 9400, 9401, 9402 Unit selection: - Expert list: 1
	Min		Max	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p4028	TM17 set input or output			
TM17	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -		Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1782 Unit selection: - Expert list: 1
	Min		Max	Factory setting 0000 0000 0000 0000 bin

p4028	TM31 set input or output		
TM31	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1840, 9560, 9562 Unit selection: - Expert list: 1 Factory setting 0000 0000 0000 0000 bin
p4028	TM41 set input or output		
TM41	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1842, 9661, 9662 Unit selection: - Expert list: 1 Factory setting 0000 0000 0000 0000 bin
p4030	BI: TB30 signal source for terminal DO 0		
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1790, 9102 Unit selection: - Expert list: 1 Factory setting 0
p4030	BI: TM15DI/DO signal source for terminal DI/DO 0		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1781, 9400 Unit selection: - Expert list: 1 Factory setting 0
p4030	BI: TM31 signal source for terminal DO 0		
TM31	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 1 Func. diagram: 1840, 9556 Unit selection: - Expert list: 1 Factory setting 0
p4031	BI: TB30 signal source for terminal DO 1		
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9102 Unit selection: - Expert list: 1

		Min	Max	Factory setting
		-	-	0
p4031	BI: TM15DI/DO signal source for terminal DI/DO 1			
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1	
	Min	Max		Factory setting
	-	-		0
p4031	BI: TM31 signal source for terminal DO 1			
TM31	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1840, 9556 Unit selection: - Expert list: 1	
	Min	Max		Factory setting
	-	-		0
p4032	BI: TB30 signal source for terminal DO 2			
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9102 Unit selection: - Expert list: 1	
	Min	Max		Factory setting
	-	-		0
p4032	BI: TM15DI/DO signal source for terminal DI/DO 2			
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1	
	Min	Max		Factory setting
	-	-		0
p4033	BI: TB30 signal source for terminal DO 3			
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1790, 9102 Unit selection: - Expert list: 1	
	Min	Max		Factory setting
	-	-		0

p4033	BI: TM15DI/DO signal source for terminal DI/DO 3		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4034	BI: TM15DI/DO signal source for terminal DI/DO 4		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4035	BI: TM15DI/DO signal source for terminal DI/DO 5		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4036	BI: TM15DI/DO signal source for terminal DI/DO 6		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4037	BI: TM15DI/DO signal source for terminal DI/DO 7		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4038	BI: Signal source for terminal DI/DO 0 distributed		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 2201 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4038	BI: TM15DI/DO signal source for terminal DI/DO 8		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4038	BI: TM31 signal source for terminal DI/DO 8		
TM31	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 1840, 9560
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4038	BI: TM41 signal source for terminal DI/DO 0		
TM41	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9661
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4039	BI: Signal source for terminal DI/DO 1 distributed		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 2201
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4039	BI: TM15DI/DO signal source for terminal DI/DO 9		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4039	BI: TM31 signal source for terminal DI/DO 9		
TM31	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9560
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0

p4039	BI: TM41 signal source for terminal DI/DO 1		
TM41	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9661
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4040	BI: TM15DI/DO signal source for terminal DI/DO 10		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4040	BI: TM31 signal source for terminal DI/DO 10		
TM31	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9562
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4040	BI: TM41 signal source for terminal DI/DO 2		
TM41	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9662
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4041	BI: TM15DI/DO signal source for terminal DI/DO 11		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0
p4041	BI: TM31 signal source for terminal DI/DO 11		
TM31	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 1840, 9562
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0

p4041	BI: TM41 signal source for terminal DI/DO 3		
TM41	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9662
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p4042	BI: TM15DI/DO signal source for terminal DI/DO 12		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p4043	BI: TM15DI/DO signal source for terminal DI/DO 13		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p4044	BI: TM15DI/DO signal source for terminal DI/DO 14		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p4045	BI: TM15DI/DO signal source for terminal DI/DO 15		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9401
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p4046	TM31 digital outputs, limit current		
TM31	Can be changed: T	Calculated: -	Access level: 2
	Data type: Integer16	Dynamic index: -	Func. diagram: 9560
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 1	Factory setting 0

r4047	Digital outputs status		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 2201
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4047	TB30 digital outputs status		
TB30	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9102
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4047	TM15DI/DO digital outputs, status		
TM15DI_DO	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9400, 9401, 9402
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4047	TM31 digital outputs status		
TM31	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9556, 9560, 9562
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4047	TM41 digital outputs status		
TM41	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p4048	Invert digital outputs		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 2201
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1

	Min	Max	Factory setting 0000 bin
p4048	TB30 invert digital outputs		
TB30	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9102 Unit selection: - Expert list: 1
	Min	Max	Factory setting 0000 bin
p4048	TM15 invert digital inputs/outputs		
TM15	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p4048	TM15DI/DO invert digital outputs		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9400, 9401, 9402 Unit selection: - Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p4048	TM17 invert digital inputs/outputs		
TM17	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 bin
p4048	TM31 invert digital outputs		
TM31	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9556, 9560, 9562 Unit selection: - Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 bin

p4048	TM41 invert digital outputs		
TM41	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p4049	TM15 digital inputs/outputs, set the mode		
TM15	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p4049	TM17 digital inputs/outputs, set the mode		
TM17	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
r4052[0...1]	CO: TB30 analog inputs, actual input voltage		
TB30	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r4052[0...1]	CO: TM31 analog inputs, current input voltage/current		
TM31	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4052[0]	CO: TM41 analog inputs, actual input voltage		
TM41	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

p4053[0...1]	TB30 analog inputs, smoothing time constant		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 0.0 [ms]
p4053[0...1]	TM31 analog inputs, smoothing time constant		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 0.0 [ms]
p4053[0]	TM41 analog inputs, smoothing time constant		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 0.0 [ms]
r4055[0...1]	CO: TB30 analog inputs, actual value in percent		
TB30	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 1790, 9104 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r4055[0...1]	CO: TM31 analog inputs, actual value in percent		
TM31	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 1840, 9566, 9568 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r4055[0]	CO: TM41 analog inputs, actual value in percent		
TM41	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 1 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r4056[0...1]	TB30 analog inputs, type		
TB30	<p>Can be changed: -</p> <p>Data type: Integer16</p> <p>P-Group: Terminals</p> <p>Not for motor type: -</p> <p>Min 4</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 4</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
p4056[0...1]	TM31 analog inputs, type		
TM31	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: Terminals</p> <p>Not for motor type: -</p> <p>Min 0</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 5</p>	<p>Access level: 1</p> <p>Func. diagram: 9566, 9568</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 4</p>
r4056	TM41 analog input, type		
TM41	<p>Can be changed: -</p> <p>Data type: Integer16</p> <p>P-Group: Terminals</p> <p>Not for motor type: -</p> <p>Min 4</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 4</p>	<p>Access level: 1</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
p4057[0...1]	TB30 analog inputs, characteristic value x1		
TB30	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Terminals</p> <p>Not for motor type: -</p> <p>Min -11.000 [V]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 11.000 [V]</p>	<p>Access level: 2</p> <p>Func. diagram: 9104</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0.000 [V]</p>
p4057[0...1]	TM31 analog inputs, characteristic value x1		
TM31	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Terminals</p> <p>Not for motor type: -</p> <p>Min -20.000</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 20.000</p>	<p>Access level: 2</p> <p>Func. diagram: 9566, 9568</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0.000</p>
p4057[0]	TM41 analog input, characteristic value x1		
TM41	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Terminals</p> <p>Not for motor type: -</p> <p>Min -20.000 [V]</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 20.000 [V]</p>	<p>Access level: 2</p> <p>Func. diagram: 9663</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0.000 [V]</p>

p4058[0...1]	TB30 analog inputs, characteristic value y1		
TB30	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9104
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 0.00 [%]
p4058[0...1]	TM31 analog inputs, characteristic value y1		
TM31	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9566, 9568
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 0.00 [%]
p4058[0]	TM41 analog input, characteristic value y1		
TM41	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9663
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 0.00 [%]
p4059[0...1]	TB30 analog inputs, characteristic value x2		
TB30	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9104
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -11.000 [V]	Max 11.000 [V]	Factory setting 10.000 [V]
p4059[0...1]	TM31 analog inputs, characteristic value x2		
TM31	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9566, 9568
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -20.000	Max 20.000	Factory setting 10.000
p4059[0]	TM41 analog input, characteristic value x2		
TM41	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9663
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -20.000 [V]	Max 20.000 [V]	Factory setting 10.000 [V]

p4060[0...1]	TB30 analog inputs, characteristic value y2		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p4060[0...1]	TM31 analog inputs, characteristic value y2		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p4060[0]	TM41 analog input, characteristic value y2		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p4061[0...1]	TM31 analog inputs, wire breakage monitoring response threshold		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min 0.00 [mA]	Max 20.00 [mA]	Factory setting 2.00 [mA]
p4062[0...1]	TM31 analog inputs, wire breakage monitoring delay time		
TM31	Can be changed: U, T Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min 0 [ms]	Max 1000 [ms]	Factory setting 100 [ms]
p4063[0...1]	TB30 analog inputs offset		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min -20.000 [V]	Max 20.000 [V]	Factory setting 0.000 [V]

p4063[0...1]	TM31 analog inputs offset		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 0.000
p4063[0]	TM41 analog input, offset		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min -20.000 [V]	Max 20.000 [V]	Factory setting 0.000 [V]
p4066[0...1]	TB30 analog inputs, activate absolute value generation		
TB30	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p4066[0...1]	TM31 analog inputs, activate absolute value generation		
TM31	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p4066[0]	TM41 analog input, activate absolute value generation		
TM41	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p4067[0...1]	BI: TB30 analog inputs invert signal source		
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4067[0...1]	BI: TM31 analog inputs invert signal source		
TM31	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4067[0]	BI: TM41 analog input invert signal source		
TM41	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4068[0...1]	TB30 analog inputs, noise suppression window		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 20.00 [%]	Factory setting 0.00 [%]
p4068[0...1]	TM31 analog inputs, window to suppress noise		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 20.00 [%]	Factory setting 0.00 [%]
p4068[0]	TM41 analog input, window to suppress noise		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 20.00 [%]	Factory setting 0.00 [%]
p4069[0...1]	BI: TB30 analog inputs, signal source for enable		
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9104 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 1

p4069[0...1]	BI: TM31 analog inputs, signal source for enable		
TM31	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9566, 9568
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 1
p4069[0]	BI: TM41 analog input, signal source for enable		
TM41	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 9663
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 1
p4071[0...1]	CI: TB30 analog outputs, signal source		
TB30	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: -	Func. diagram: 1790, 9106
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: PERCENT	Expert list: 1
	Min -	Max -	Factory setting 0
p4071[0...1]	CI: TM31 analog outputs, signal source		
TM31	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: -	Func. diagram: 1840, 9572
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: PERCENT	Expert list: 1
	Min -	Max -	Factory setting 0
r4072[0...1]	TB30 analog outputs, output value currently referred		
TB30	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9106
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r4072[0...1]	TM31 analog outputs, output value currently referred		
TM31	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9572
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p4073[0...1]	TB30 analog outputs, smoothing time constant		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 0.0 [ms]
p4073[0...1]	TM31 analog outputs, smoothing time constant		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 1000.0 [ms]	Factory setting 0.0 [ms]
r4074[0...1]	TB30 analog outputs, actual output voltage		
TB30	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r4074[0...1]	TM31 analog outputs, current output voltage/current		
TM31	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 1 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4075[0...1]	TB30 analog outputs, activate absolute value generation		
TB30	Can be changed: T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p4075[0...1]	TM31 analog outputs, activate absolute value generation		
TM31	Can be changed: T Data type: Integer16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

r4076[0...1]	TB30 analog outputs, type		
TB30	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 4	Max 4	Factory setting -
p4076[0...1]	TM31 analog outputs, type		
TM31	Can be changed: U, T	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: 9572
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 4	Factory setting 4
p4077[0...1]	TB30 analog outputs, characteristic value x1		
TB30	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9106
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 0.00 [%]
p4077[0...1]	TM31 analog outputs, characteristic value x1		
TM31	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9572
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 0.00 [%]
p4078[0...1]	TB30 analog outputs, characteristic value y1		
TB30	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9106
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -11.000 [V]	Max 11.000 [V]	Factory setting 0.000 [V]
p4078[0...1]	TM31 analog outputs, characteristic value y1		
TM31	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9572
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -20.000 [V]	Max 20.000 [V]	Factory setting 0.000 [V]

p4079[0...1]	TB30 analog outputs, characteristic value x2		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p4079[0...1]	TM31 analog outputs, characteristic value x2		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min -1000.00 [%]	Max 1000.00 [%]	Factory setting 100.00 [%]
p4080[0...1]	TB30 analog outputs, characteristic value y2		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min -11.000 [V]	Max 11.000 [V]	Factory setting 10.000 [V]
p4080[0...1]	TM31 analog outputs, characteristic value y2		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min -20.000 [V]	Max 20.000 [V]	Factory setting 10.000 [V]
p4082[0...1]	BI: TB30 analog outputs invert signal source		
TB30	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4082[0...1]	BI: TM31 analog outputs invert signal source		
TM31	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4083[0...1] TB30 analog outputs, offset

TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9106 Unit selection: - Expert list: 1
	Min -10.000	Max 10.000	Factory setting 0.000

p4083[0...1] TM31 analog outputs, offset

TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9572 Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 0.000

p4086 BI: TM15DI/DO signal source for terminal DI/DO 16

TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4087 BI: TM15DI/DO signal source for terminal DI/DO 17

TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4088 BI: TM15DI/DO signal source for terminal DI/DO 18

TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4089 BI: TM15DI/DO signal source for terminal DI/DO 19

TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p4090	BI: TM15DI/DO signal source for terminal DI/DO 20		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4091	BI: TM15DI/DO signal source for terminal DI/DO 21		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4092	BI: TM15DI/DO signal source for terminal DI/DO 22		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p4093	BI: TM15DI/DO signal source for terminal DI/DO 23		
TM15DI_DO	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9402 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r4094.0...23	BO: TM15 digital inputs status inverted raw data internal		
TM15DI_DO	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4095	TB30 digital inputs, simulation mode		
TB30	Can be changed: U, T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 1790, 9100 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin

p4095	TM15DI/DO digital inputs, simulation mode		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9400, 9401, 9402
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
	-	-	
p4095	TM31 digital inputs, simulation mode		
TM31	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1840, 9550, 9552, 9560, 9562
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 bin
	-	-	
p4095	TM41 digital inputs, simulation mode		
TM41	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 bin
	-	-	
p4096	TB30 digital inputs, simulation mode setpoint		
TB30	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 1790, 9100
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 bin
	-	-	
p4096	TM15DI/DO digital inputs, simulation mode, setpoint		
TM15DI_DO	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9400, 9401, 9402
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
	-	-	

p4096	TM31 digital inputs, simulation mode setpoint		
TM31	Can be changed: U, T Data type: Unsigned32 P-Group: Terminals Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 2 Func. diagram: 1840, 9550, 9552, 9560, 9562 Unit selection: - Expert list: 1 Factory setting 0000 0000 0000 0000 bin
p4096	TM41 digital inputs, simulation mode setpoint		
TM41	Can be changed: U, T Data type: Unsigned32 P-Group: Terminals Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0000 0000 0000 0000 bin
p4097[0...1]	TB30 analog inputs simulation mode		
TB30	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 2 Func. diagram: 9104 Unit selection: - Expert list: 1 Factory setting 0
p4097[0...1]	TM31 analog inputs simulation mode		
TM31	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 2 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1 Factory setting 0
p4097[0]	TM41 analog input, simulation mode		
TM41	Can be changed: U, T Data type: Integer16 P-Group: Terminals Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 2 Func. diagram: 9663 Unit selection: - Expert list: 1 Factory setting 0
p4098[0...1]	TB30 analog inputs simulation mode setpoint		
TB30	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: - Min -11.000 [V]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 11.000 [V]	Access level: 2 Func. diagram: 9104 Unit selection: - Expert list: 1 Factory setting 0.000 [V]

p4098[0...1]	TM31 analog inputs simulation mode setpoint		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9566, 9568 Unit selection: - Expert list: 1
	Min -20.000	Max 20.000	Factory setting 0.000
p4098[0]	TM41 analog input, simulation mode setpoint		
TM41	Can be changed: U, T Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 9663 Unit selection: - Expert list: 1
	Min -20.000 [V]	Max 20.000 [V]	Factory setting 0.000 [V]
p4099	Inputs/outputs sampling time		
SERVO (Dig IO), SERVO_840 (Dig IO)	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 125.00 [μs]	Max 5000.00 [μs]	Factory setting 4000.00 [μs]
p4099[0...2]	TB30 inputs/outputs, sampling time		
TB30	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1790, 9100 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 5000.00 [μs]	Factory setting [0] 4000.00 [μs] [1] 4000.00 [μs] [2] 4000.00 [μs]
p4099	TM15 inputs/outputs, sampling time		
TM15	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1780 Unit selection: - Expert list: 1
	Min 31.25 [μs]	Max 500.00 [μs]	Factory setting 125.00 [μs]
p4099	TM15DI/DO inputs/outputs, sampling time		
TM15DI_DO	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1781, 9400 Unit selection: - Expert list: 1

	Min 0.00 [μs]	Max 5000.00 [μs]	Factory setting 4000.00 [μs]
p4099	TM17 inputs/outputs, sampling time		
TM17	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1782 Unit selection: - Expert list: 1
	Min 31.25 [μs]	Max 500.00 [μs]	Factory setting 125.00 [μs]
p4099[0...2]	TM31 inputs/outputs, sampling time		
TM31	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1840, 9550 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 5000.00 [μs]	Factory setting 4000.00 [μs]
p4099[0...3]	TM41 inputs/outputs, sampling time		
TM41	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 1842, 9660 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 5000.00 [μs]	Factory setting [0] 4000.00 [μs] [1] 4000.00 [μs] [2] 0.00 [μs] [3] 125.00 [μs]
p4100	Spindle supplementary temperature sensor type		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p4100[0...3]	TM120 temperature evaluation, sensor type		
TM120	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9605, 9606 Unit selection: - Expert list: 1
	Min 0	Max 4	Factory setting 1

p4100[0...11]	TM150 sensor type		
TM150	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 6	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting 5
p4100	TM31 sensor type		
TM31	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 2	Access level: 1 Func. diagram: 9576 Unit selection: - Expert list: 1 Factory setting 0
r4101[0...3]	TM120 sensor resistance		
TM120	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: - Min - [ohm]	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT Max - [ohm]	Access level: 3 Func. diagram: 9605, 9606 Unit selection: - Expert list: 1 Factory setting - [ohm]
r4101[0...11]	TM150 sensor resistance		
TM150	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: - Min - [ohm]	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT Max - [ohm]	Access level: 3 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting - [ohm]
r4101	TM31 sensor resistance		
TM31	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: - Min - [ohm]	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT Max - [ohm]	Access level: 3 Func. diagram: 9576 Unit selection: - Expert list: 1 Factory setting - [ohm]
p4102[0...1]	Spindle supplementary temperature fault threshold/alarm thresh.		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min -300.0 [°C]	Calculated: - Dynamic index: - Units group: 21_1 Scaling: - Max 9999.0 [°C]	Access level: 1 Func. diagram: - Unit selection: p0505 Expert list: 1 Factory setting [0] 120.0 [°C] [1] 155.0 [°C]

p4102[0...7]	TM120 fault threshold/alarm threshold		
TM120	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min -48 [°C]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 251 [°C]	Access level: 1 Func. diagram: 9605, 9606 Unit selection: - Expert list: 1 Factory setting 251 [°C]
p4102[0...23]	TM150 fault threshold/alarm threshold		
TM150	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min -99 [°C]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 251 [°C]	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting 251 [°C]
p4102[0...1]	TM31 fault threshold/alarm threshold		
TM31	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min -48 [°C]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 251 [°C]	Access level: 1 Func. diagram: 9576 Unit selection: - Expert list: 1 Factory setting [0] 100 [°C] [1] 120 [°C]
p4103	Spindle supplementary temperature delay time		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: - Min 0.000 [s]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 600.000 [s]	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.000 [s]
p4103[0...3]	TM120 temperature evaluation delay time		
TM120	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: - Min 0.000 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 600000.000 [ms]	Access level: 1 Func. diagram: 9605, 9606 Unit selection: - Expert list: 1 Factory setting 0.000 [ms]
p4103[0...11]	TM150 delay time		
TM150	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: - Min 0.0 [s]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 600.0 [s]	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting 0.0 [s]

p4103	TM31 temperature evaluation delay time		
TM31	Can be changed: U, T Data type: FloatingPoint32 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9576 Unit selection: - Expert list: 1
	Min 0.000 [ms]	Max 600000.000 [ms]	Factory setting 0.000 [ms]
r4104.0...2	BO: Spindle supplementary temperature status		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4104.0...7	BO: TM120 temperature evaluation, status		
TM120	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9605, 9606 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4104.0...23	BO: TM150 temperature evaluation, status		
TM150	Can be changed: - Data type: Unsigned32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4104.0...1	BO: TM31 temperature evaluation, status		
TM31	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 1840, 9576 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4105	CO: Spindle supplementary temperature actual value		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2006	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r4105[0...3]	CO: TM120 temperature actual value		
TM120	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 8016, 9605, 9606
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2006	Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r4105[0...11]	CO: TM150 temperature actual value		
TM150	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9626, 9627
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2006	Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r4105	CO: TM31 temperature actual value		
TM31	Can be changed: -	Calculated: -	Access level: 1
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 1840, 9576
	P-Group: Terminals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2006	Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r4107	Spindle supplementary temperature sensor use		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: -	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 6	Factory setting -
p4108[0...5]	TM150 terminal block measuring method		
TM150	Can be changed: T	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: 9625, 9626, 9627
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 3	Factory setting 1
p4109[0...11]	TM150 conductor resistance measurement		
TM150	Can be changed: T	Calculated: -	Access level: 1
	Data type: Integer16	Dynamic index: -	Func. diagram: 9626, 9627
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1

	Min	Max	Factory setting
	0	1	0
p4110[0...11]	TM150 conductor resistance value		
TM150	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1
	Min 0.00 [ohm]	Max 3000.00 [ohm]	Factory setting 0.00 [ohm]
p4111[0...2]	TM150 group channel assignment		
TM150	Can be changed: T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9625 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
r4112[0...2]	CO: TM150 group temperature actual value maximum value		
TM150	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9625 Unit selection: - Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r4113[0...2]	CO: TM150 group temperature actual value minimum value		
TM150	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9625 Unit selection: - Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r4114[0...2]	CO: TM150 group temperature average actual value		
TM150	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: 9625 Unit selection: - Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

p4117[0...2]	TM150 group sensor error effect		
TM150	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 1 Func. diagram: 9625 Unit selection: - Expert list: 1 Factory setting 0
p4118[0...11]	TM150 fault threshold/alarm threshold hysteresis		
TM150	Can be changed: T Data type: Unsigned16 P-Group: - Not for motor type: - Min 0 [K]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 50 [K]	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting 5 [K]
p4119[0...11]	TM150 activate/deactivate smoothing		
TM150	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting 0
r4120	TM150 temperature filter time constant		
TM150	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: - Min - [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [ms]	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting - [ms]
p4121	TM150 filter rated line frequency		
TM150	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1	Access level: 1 Func. diagram: 9626, 9627 Unit selection: - Expert list: 1 Factory setting 0
r4154	TM41 diagnostics speed setpoint non-filtered		
TM41	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: - Min - [rpm]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [rpm]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [rpm]

r4155	TM41 diagnostics speed setpoint		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9674
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r4201	TM15 system time for synchronization		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r4201	TM17 system time for synchronization		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r4204	TM15 control digital output 0 ... 15		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r4204	TM17 control digital output 0 ... 15		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
r4205	TM15 control digital output 16 ... 23		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -

r4211	TM15 edge mode digital input 0 ... 7		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4211	TM17 edge mode digital input 0 ... 7		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4212	TM15 edge mode digital input 8 ... 15		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4212	TM17 edge mode digital input 8 ... 15		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4213	TM15 edge mode digital input 16 ... 23		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p4220	TM17 enable DI/DO 0 ... 5		
TM17	Can be changed: T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	0000 0000 0000 0000 bin

p4221	TM17 smoothing time constant, digital input 0 ... 15		
TM17	Can be changed: U, T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 bin
	-	-	
p4222	TM17 time absolute/relative digital output 0 ... 15		
TM17	Can be changed: T	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting 0000 0000 0000 0000 bin
	-	-	
r4250	TM15 set/reset time digital output 0		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	
r4250	TM17 set/reset time digital output 0		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	
r4251	TM15 set/reset time digital output 1		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	
r4251	TM17 set/reset time digital output 1		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	

r4252	TM15 set/reset time digital output 2		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4252	TM17 set/reset time digital output 2		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4253	TM15 set/reset time digital output 3		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4253	TM17 set/reset time digital output 3		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4254	TM15 set/reset time digital output 4		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4254	TM17 set/reset time digital output 4		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4255	TM15 set/reset time digital output 5		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4255	TM17 set/reset time digital output 5		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4256	TM15 set/reset time digital output 6		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4256	TM17 set/reset time digital output 6		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4257	TM15 set/reset time digital output 7		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4257	TM17 set/reset time digital output 7		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4258	TM15 set/reset time digital output 8		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4258	TM17 set/reset time digital output 8		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4259	TM15 set/reset time digital output 9		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4259	TM17 set/reset time digital output 9		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4260	TM15 set/reset time digital output 10		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4260	TM17 set/reset time digital output 10		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4261	TM15 set/reset time digital output 11		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4261	TM17 set/reset time digital output 11		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4262	TM15 set/reset time digital output 12		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4262	TM17 set/reset time digital output 12		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4263	TM15 set/reset time digital output 13		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4263	TM17 set/reset time digital output 13		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4264	TM15 set/reset time digital output 14		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4264	TM17 set/reset time digital output 14		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4265	TM15 set/reset time digital output 15		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4265	TM17 set/reset time digital output 15		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4266	TM15 set/reset time digital output 16		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4267	TM15 set/reset time digital output 17		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4268	TM15 set/reset time digital output 18		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4269	TM15 set/reset time digital output 19		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4270	TM15 set/reset time digital output 20		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4271	TM15 set/reset time digital output 21		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4272	TM15 set/reset time digital output 22		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4273	TM15 set/reset time digital output 23		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4301	TM15 module synchronization		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4301	TM17 module synchronization		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4304	TM15 status, digital input 0 ... 15		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4304	TM17 status, digital input 0 ... 15		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4305	TM15 status, digital input 16 ... 23		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4311	TM15 edge status digital input 0 ... 7		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4311	TM17 edge status digital input 0 ... 7		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4312	TM15 edge status digital input 8 ... 15		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4312	TM17 edge status digital input 8 ... 15		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4313	TM15 edge status digital input 16 ... 23		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4350	TM15 edge times digital input 0		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4350	TM17 edge times digital input 0		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4351	TM15 edge times digital input 1		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4351	TM17 edge times digital input 1		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4352	TM15 edge times digital input 2		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4352	TM17 edge times digital input 2		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4353	TM15 edge times digital input 3		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4353	TM17 edge times digital input 3		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4354	TM15 edge times digital input 4		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4354	TM17 edge times digital input 4		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4355	TM15 edge times digital input 5		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4355	TM17 edge times digital input 5		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4356	TM15 edge times digital input 6		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4356	TM17 edge times digital input 6		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4357	TM15 edge times digital input 7		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4357	TM17 edge times digital input 7		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4358	TM15 edge times digital input 8		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4358	TM17 edge times digital input 8		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4359	TM15 edge times digital input 9		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4359	TM17 edge times digital input 9		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4360	TM15 edge times digital input 10		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4360	TM17 edge times digital input 10		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4361	TM15 edge times digital input 11		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4361	TM17 edge times digital input 11		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4362	TM15 edge times digital input 12		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4362	TM17 edge times digital input 12		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4363	TM15 edge times digital input 13		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4363	TM17 edge times digital input 13		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4364	TM15 edge times digital input 14		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4364	TM17 edge times digital input 14		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4365	TM15 edge times digital input 15		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4365	TM17 edge times digital input 15		
TM17	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4366	TM15 edge times digital input 16		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4367	TM15 edge times digital input 17		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4368	TM15 edge times digital input 18		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4369	TM15 edge times digital input 19		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4370	TM15 edge times digital input 20		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4371	TM15 edge times digital input 21		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4372	TM15 edge times digital input 22		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4373	TM15 edge times digital input 23		
TM15	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p4400	TM41 encoder emulation operating mode		
TM41	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	0	1	0
p4401	TM41 encoder emulation mode		
TM41	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	1111 0011 bin
r4402.0...2	CO/BO: TM41 encoder emulation status		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r4403	TM41 encoder emulation operating mode active		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

p4404	TM41 encoder emulation controller options		
TM41	Can be changed: C2(4)	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0001 bin
p4408	TM41 encoder emulation pulse number leading encoder		
TM41	Can be changed: C2(4)	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 16384	Factory setting 0
p4418	TM41 encoder emulation fine resolution leading encoder		
TM41	Can be changed: C2(4)	Calculated: -	Access level: 3
	Data type: Unsigned8	Dynamic index: -	Func. diagram: 9674, 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 2	Max 18	Factory setting 11
r4419	TM41 encoder emulation diagnostics position setpoint		
TM41	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer32	Dynamic index: -	Func. diagram: 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
p4420	CI: TM41 encoder emulation position setpoint		
TM41	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / Integer32	Dynamic index: -	Func. diagram: 9676
	P-Group: Setpoints	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting 0
p4421	TM41 encoder emulation deadtime compensation		
TM41	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 9676
	P-Group: Setpoints	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -10.00	Max 10.00	Factory setting 0.00

p4422	TM41 encoder emulation position setpoint inversion		
TM41	Can be changed: C2(4)	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 1	Factory setting 0
p4423	TM41 encoder emulation standstill adaptation		
TM41	Can be changed: C2(4)	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: 9676
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 2000	Factory setting 4
p4426	TM41 encoder emulation pulses for zero mark		
TM41	Can be changed: C2(4)	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 9674
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 16384	Factory setting 0
r4427	TM41 encoder emulation zero mark position		
TM41	Can be changed: -	Calculated: -	Access level: 4
	Data type: Integer32	Dynamic index: -	Func. diagram: -
	P-Group: Encoder	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
p4600[0...n]	Motor temperature sensor 1 sensor type		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T	Calculated: -	Access level: 2
	Data type: Integer16	Dynamic index: EDS, p0140	Func. diagram: 8016
	P-Group: Motor	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 32	Factory setting 0
p4601[0...n]	Motor temperature sensor 2 sensor type		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T	Calculated: -	Access level: 2
	Data type: Integer16	Dynamic index: EDS, p0140	Func. diagram: 8016
	P-Group: Motor	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 32	Factory setting 0

p4602[0...n]	Motor temperature sensor 3 sensor type		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 32	Factory setting 0
p4603[0...n]	Motor temperature sensor 4 sensor type		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 32	Factory setting 0
p4610[0...n]	Motor temperature sensor 1 sensor type MDS		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 32	Factory setting 10
p4611[0...n]	Motor temperature sensor 2 sensor type MDS		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 32	Factory setting 10
p4612[0...n]	Motor temperature sensor 3 sensor type MDS		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 32	Factory setting 10
p4613[0...n]	Motor temperature sensor 4 sensor type MDS		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(3), U, T Data type: Integer16 P-Group: Motor Not for motor type: -	Calculated: - Dynamic index: MDS, p0130 Units group: - Scaling: -	Access level: 2 Func. diagram: 8016 Unit selection: - Expert list: 1
	Min 0	Max 32	Factory setting 10

r4620[0...3]	Motor temperature measured		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r4640[0...95]	Encoder diagnostics state machine		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4650	Encoder functional reserve component number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 399	Factory setting 0
r4651[0...3]	Encoder functional reserve		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p4652	XIST1_ERW reset mode		
ENC, ENC_840	Can be changed: C1(3) Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4750 Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p4652[0...2]	XIST1_ERW reset mode		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1(3) Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 4750 Unit selection: - Expert list: 1

		Min	Max	Factory setting
r4653	CO: XIST1_ERW actual value			
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3	
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 4750	
	P-Group: Encoder	Units group: -	Unit selection: -	
	Not for motor type: -	Scaling: -	Expert list: 1	
	Min	Max	Factory setting	
-	-	-	-	-
r4653[0...2]	CO: XIST1_ERW actual value			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3	
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 4750	
	P-Group: Encoder	Units group: -	Unit selection: -	
	Not for motor type: -	Scaling: -	Expert list: 1	
	Min	Max	Factory setting	
-	-	-	-	-
r4654.0	CO/BO: XIST1_ERW status			
ENC, ENC_840	Can be changed: -	Calculated: -	Access level: 3	
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 4750	
	P-Group: Encoder	Units group: -	Unit selection: -	
	Not for motor type: -	Scaling: -	Expert list: 1	
	Min	Max	Factory setting	
-	-	-	-	-
r4654.0...16	CO/BO: XIST1_ERW status			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3	
	Data type: Unsigned32	Dynamic index: -	Func. diagram: 4750	
	P-Group: Encoder	Units group: -	Unit selection: -	
	Not for motor type: -	Scaling: -	Expert list: 1	
	Min	Max	Factory setting	
-	-	-	-	-
p4655	BI: XIST1_ERW reset signal source			
ENC, ENC_840	Can be changed: T	Calculated: -	Access level: 3	
	Data type: Unsigned32 / Binary	Dynamic index: -	Func. diagram: 4750	
	P-Group: Encoder	Units group: -	Unit selection: -	
	Not for motor type: -	Scaling: -	Expert list: 1	
	Min	Max	Factory setting	
-	-	-	0	

p4655[0...2]	BI: XIST1_ERW reset signal source		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: T Data type: Unsigned32 / Binary P-Group: Encoder Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: 4750 Unit selection: - Expert list: 1</p>
	Min -	Max -	Factory setting 0
p4660	Sensor Module filter bandwidth		
ENC, ENC_840	<p>Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0.00 [kHz]	Max 20000.00 [kHz]	Factory setting 0.00 [kHz]
p4660[0...2]	Sensor Module filter bandwidth		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0.00 [kHz]	Max 20000.00 [kHz]	Factory setting 0.00 [kHz]
r4661	Sensor Module filter bandwidth display		
ENC, ENC_840	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min - [kHz]	Max - [kHz]	Factory setting - [kHz]
r4661[0...2]	Sensor Module filter bandwidth display		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: - Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min - [kHz]	Max - [kHz]	Factory setting - [kHz]
p4662[0...n]	Encoder characteristic type		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(4) Data type: Integer16 P-Group: Encoder Not for motor type: -</p>	<p>Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -</p>	<p>Access level: 4 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0	Max 1	Factory setting 0

p4663[0...n]	Encoder characteristic K0		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4664[0...n]	Encoder characteristic K1		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4665[0...n]	Encoder characteristic K2		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4666[0...n]	Encoder characteristic K3		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p4670[0...n]	Analog sensor configuration		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin

p4671[0...n]	Analog sensor input		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer16 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p4672[0...n]	Analog sensor channel A voltage at actual value zero		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10.0000 [V]	Max 10.0000 [V]	Factory setting 0.0000 [V]
p4673[0...n]	Analog sensor channel A voltage per encoder period		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10.0000 [V]	Max 10.0000 [V]	Factory setting 6.0000 [V]
p4674[0...n]	Analog sensor channel B voltage at actual value zero		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10.0000 [V]	Max 10.0000 [V]	Factory setting 0.0000 [V]
p4675[0...n]	Analog sensor channel B voltage per encoder period		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -10.0000 [V]	Max 10.0000 [V]	Factory setting 6.0000 [V]

p4676[0...n]	Analog sensor range limit threshold			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 100.0 [%]	
p4677[0...n]	Analog sensor LVDT configuration			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting 0000 bin	
p4678[0...n]	Analog sensor LVDT ratio			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0.00 [%]	Max 200.00 [%]	Factory setting 50.00 [%]	
p4679[0...n]	Analog sensor LVDT phase			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4), T Data type: FloatingPoint32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -360.00 [°]	Max 360.00 [°]	Factory setting 0.00 [°]	
p4680[0...n]	Zero mark monitoring tolerance permissible			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 1000	Factory setting 4	

p4681[0...n]	Zero mark monitoring, tolerance window limit 1 positive		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1000	Factory setting 2
p4682[0...n]	Zero mark monitoring, tolerance window limit 1 negative		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1001	Max 0	Factory setting -1001
p4683[0...n]	Zero mark monitoring tolerance window alarm threshold positive		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 100000	Factory setting 0
p4684[0...n]	Zero mark monitoring tolerance window alarm threshold negative		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Integer32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -100001	Max 0	Factory setting -100001
p4685[0...n]	Speed actual value mean value generation		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 20	Factory setting 0

p4686[0...n]	Zero mark minimum length			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(4) Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: EDS, p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 10	Factory setting 1	
p4688	CO: Zero mark monitoring, differential pulse count			
ENC, ENC_840	Can be changed: T Data type: Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -2147483648	Max 2147483647	Factory setting 0	
p4688[0...2]	CO: Zero mark monitoring, differential pulse count			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -2147483648	Max 2147483647	Factory setting 0	
r4689	CO: Squarewave encoder, diagnostics			
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r4689[0...2]	CO: Squarewave encoder, diagnostics			
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Encoder Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
p4690	SMI spare part component number			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1	

	Min	Max	Factory setting
	0	399	0
p4691	SMI spare part save/download data		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 39	Factory setting 0
p4692	SMI spare part save data of all SMIs		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Integer16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 29	Factory setting 0
p4693[0...1]	SMI spare part data backup directory		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 399	Factory setting 0
r4694[0...19]	SMI spare part data backup motor order number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p4700[0...1]	Trace control		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 1	Factory setting 0
p4701	Measuring function, control		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 3	Factory setting 0
r4705[0...1]	Trace status		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4	Factory setting -
r4706	Measuring function, status		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 5	Factory setting -
p4707	Measurement function configuration		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

r4708[0...1]	Trace memory space required		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4709[0...1]	Trace memory space required for measuring functions		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
p4710[0...1]	Trace trigger condition		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 1	Max 7	Factory setting 2
p4711[0...5]	Trace trigger signal		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4712[0...1]	Trace trigger threshold		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -340.28235E36	Max 340.28235E36	Factory setting 0.00

p4713[0...1]	Trace tolerance band trigger threshold 1		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -340.28235E36	Max 340.28235E36	Factory setting 0.00
p4714[0...1]	Trace tolerance band trigger threshold 2		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -340.28235E36	Max 340.28235E36	Factory setting 0.00
p4715[0...1]	Trace bit mask trigger, bit mask		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4294967295	Factory setting 0
p4716[0...1]	Trace, bit mask trigger, trigger condition		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4294967295	Factory setting 0
p4717	Measuring function, number of averaging operations		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 255	Factory setting 0

p4718	Measuring function, number of stabilizing periods		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 255	Factory setting 0
r4719[0...1]	Trace trigger index		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
p4720[0...1]	Trace recording cycle		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.000 [ms]	Max 60000.000 [ms]	Factory setting 1.000 [ms]
p4721[0...1]	Trace recording time		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.000 [ms]	Max 3600000.000 [ms]	Factory setting 1000.000 [ms]
p4722[0...1]	Trace trigger delay		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -3600000.000 [ms]	Max 3600000.000 [ms]	Factory setting 0.000 [ms]

p4723[0...1]	Trace time slice cycle		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.03125 [ms]	Max 4.00000 [ms]	Factory setting 0.12500 [ms]
p4724[0...1]	Trace average in the time range		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 0001 bin	Factory setting 0000 bin
r4725[0...1]	Trace, data type 1 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4726[0...1]	Trace, data type 2 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4727[0...1]	Trace, data type 3 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4728[0...1]	Trace, data type 4 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4729[0...1]	Trace number of recorded values		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
p4730[0...5]	Trace record signal 0		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4731[0...5]	Trace record signal 1		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4732[0...5]	Trace record signal 2		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0

p4733[0...5]	Trace record signal 3		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4734[0...5]	Trace record signal 4		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4735[0...5]	Trace record signal 5		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4736[0...5]	Trace record signal 6		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0
p4737[0...5]	Trace record signal 7		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting 0

r4740[0...16383] Trace 0 trace buffer signal 0 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4741[0...16383] Trace 0 trace buffer signal 1 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4742[0...16383] Trace 0 trace buffer signal 2 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4743[0...16383] Trace 0 trace buffer signal 3 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4744[0...16383] Trace 0 trace buffer signal 4 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4745[0...16383] Trace 0 trace buffer signal 5 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
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Min	Max	Factory setting
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r4746[0...16383] Trace 0 trace buffer signal 6 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
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Min	Max	Factory setting
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r4747[0...16383] Trace 0 trace buffer signal 7 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
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Min	Max	Factory setting
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r4750[0...16383] Trace 1 trace buffer signal 0 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
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Min	Max	Factory setting
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r4751[0...16383] Trace 1 trace buffer signal 1 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
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Min	Max	Factory setting
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r4752[0...16383] Trace 1 trace buffer signal 2 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4753[0...16383] Trace 1 trace buffer signal 3 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4754[0...16383] Trace 1 trace buffer signal 4 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4755[0...16383] Trace 1 trace buffer signal 5 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4756[0...16383] Trace 1 trace buffer signal 6 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4757[0...16383] Trace 1 trace buffer signal 7 floating point

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4760[0...16383] Trace 0 trace buffer signal 0

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4761[0...16383] Trace 0 trace buffer signal 1

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4762[0...16383] Trace 0 trace buffer signal 2

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4763[0...16383] Trace 0 trace buffer signal 3

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4764[0...16383] Trace 0 trace buffer signal 4

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4765[0...16383] Trace 0 trace buffer signal 5

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4766[0...16383] Trace 0 trace buffer signal 6

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4767[0...16383] Trace 0 trace buffer signal 7

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4770[0...16383] Trace 1 trace buffer signal 0

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4771[0...16383] Trace 1 trace buffer signal 1

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4772[0...16383] Trace 1 trace buffer signal 2

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4773[0...16383] Trace 1 trace buffer signal 3

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4774[0...16383] Trace 1 trace buffer signal 4

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4775[0...16383] Trace 1 trace buffer signal 5

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4776[0...16383] Trace 1 trace buffer signal 6

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r4777[0...16383] Trace 1 trace buffer signal 7

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

p4780[0...1] Trace physical address signal 0

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin

p4781[0...1] Trace physical address signal 1

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin

p4782[0...1] Trace physical address signal 2

CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin

p4783[0...1]	Trace physical address signal 3		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin
p4784[0...1]	Trace physical address signal 4		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin
p4785[0...1]	Trace physical address signal 5		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin
p4786[0...1]	Trace physical address signal 6		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin
p4787[0...1]	Trace physical address signal 7		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 bin	Max 1111 1111 1111 1111 1111 1111 1111 1111 bin	Factory setting 0000 bin

p4789[0...1]	Trace physical address trigger signal		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r4790[0...1]	Trace, data type 5 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4791[0...1]	Trace, data type 6 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4792[0...1]	Trace, data type 7 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r4793[0...1]	Trace, data type 8 traced		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

p4795	Trace memory bank changeover			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min 0	Max 500	Factory setting 0	
r4799	Trace memory location free			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min -	Max -	Factory setting -	
p4800	Function generator control			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min 0	Max 3	Factory setting 0	
r4805	Function generator status			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min 0	Max 6	Factory setting -	
r4806.0	BO: Function generator status signal			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min -	Max -	Factory setting -	

p4810	Function generator mode		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 99	Factory setting 0
p4812	Function generator physical address		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4294967295	Factory setting 0
p4813	Function generator physical address reference value		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 1.00	Max 1000000.00	Factory setting 1.00
p4815[0...2]	Function generator drive number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 65535	Factory setting 0
p4816	Function generator output signal integer number scaling		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147483648	Max 2147483647	Factory setting 0

r4817	CO: Function generator output signal integer number			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0	
	Min -	Max -	Factory setting	-
r4818	CO: Function generator output signal			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min - [%]	Max - [%]	Factory setting	- [%]
p4819	BI: Function generator control			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min -	Max -	Factory setting	1
p4820	Function generator signal shape			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min 1	Max 5	Factory setting	1
p4821	Function generator period			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min 0.00 [ms]	Max 60000.00 [ms]	Factory setting	1000.00 [ms]

p4822	Function generator pulse width		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.00 [ms]	Max 60000.00 [ms]	Factory setting 500.00 [ms]
p4823	Function generator bandwidth		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.0025 [Hz]	Max 16000.0000 [Hz]	Factory setting 4000.0000 [Hz]
p4824	Function generator amplitude		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -1600.00 [%]	Max 1600.00 [%]	Factory setting 5.00 [%]
p4825	Function generator 2nd amplitude		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -1600.00 [%]	Max 1600.00 [%]	Factory setting 7.00 [%]
p4826	Function generator offset		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -1600.00 [%]	Max 1600.00 [%]	Factory setting 0.00 [%]

p4827	Function generator ramp-up time to offset		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.00 [ms]	Max 100000.00 [ms]	Factory setting 32.00 [ms]
p4828	Function generator lower limit		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -10000.00 [%]	Max 0.00 [%]	Factory setting -100.00 [%]
p4829	Function generator upper limit		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.00 [%]	Max 10000.00 [%]	Factory setting 100.00 [%]
p4830	Function generator time slice cycle		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.03125 [ms]	Max 2.00000 [ms]	Factory setting 0.12500 [ms]
p4831	Function generator amplitude scaling		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0.00000 [%]	Max 200.00000 [%]	Factory setting 100.00000 [%]

p4832[0...2]	Function generator amplitude scaling		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -340.28235E36 [%]	Max 340.28235E36 [%]	Factory setting 100.00000 [%]
p4833[0...2]	Function generator offset scaling		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -340.28235E36 [%]	Max 340.28235E36 [%]	Factory setting 100.00000 [%]
r4834[0...4]	CO: Function generator free measurement output signal		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Trace and function generator Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min - [%]	Max - [%]	Factory setting - [%]
p4835[0...4]	Function generator free measurement function scaling		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -200.00000 [%]	Max 200.00000 [%]	Factory setting 100.00000 [%]
r4899	Status word sequence control		
TM41	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r4950	OA application count		
All objects	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: OEM range	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 10	Factory setting -

r4951	OA application identifier, total length		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: OEM range	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0	Max 90	Factory setting -

r4951	OA application identifier, total length		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: OEM range	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 0
	Min 0	Max 90	Factory setting -

r4952	OA application GUID, total length		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 180	Factory setting -
r4952	OA application GUID, total length		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned16 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 180	Factory setting -
r4955[0...n]	OA application identifier		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4951 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r4955[0...n]	OA application identifier		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4951 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min	Max	Factory setting
	-	-	-

p4956[0...n]	OA application activation		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: C1, T Data type: Integer16 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	1	0

p4956[0...n]	OA application activation		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: C1, T Data type: Integer16 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min	Max	Factory setting
	0	1	0

r4957[0...n]	OA application version		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4294967295	Factory setting -
r4957[0...n]	OA application version		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4294967295	Factory setting -
r4958[0...n]	OA application interface version		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r4958[0...n]	OA application interface version		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min	Max	Factory setting
	-	-	-

r4959[0...n]	OA application GUID		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840,CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4952 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

r4959[0...n]	OA application GUID		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4952 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min	Max	Factory setting
	-	-	-

r4960[0...n]	OA application GUID drive object		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4952 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4960[0...n]	OA application GUID drive object		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4952 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
p4961[0...n]	OA application logbook module selection		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM120, TM15, TM150, TM17, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p4961[0...n]	OA application logbook module selection		
ENC, ENC_840, HUB, TB30, TM15DI_DO, TM31	Can be changed: T Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4950 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r4975	OA application invalid number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4976	OA application invalid identifier, total length		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4978[0...n]	OA application invalid identifier		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4976 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r4979[0...n]	OA application invalid error code		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: OEM range Not for motor type: -	Calculated: - Dynamic index: r4975 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r5000	CO: Spindle properties/status		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5001	CO: Spindle clamp state		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 11	Factory setting -
r5002	CO: Spindle analog sensor S1 measured value		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5003	CO: Spindle digital sensors status		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5005	Spindle file system status		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5007	Spindle file system selection		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin

p5009	Adapt spindle file system		
SERVO, SERVO_840, SERVO_AC	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 53	Factory setting 0
r5012	Spindle Sensor Module properties		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5016	Enable spindle commissioning		
SERVO, SERVO_840, SERVO_AC	Can be changed: C2, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p5019	Spindle password		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5020	Spindle manufacturer		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 48	Factory setting -
r5021[0...18]	Spindle order number		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r5022[0...15]	Spindle serial number		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5023	Spindle production date		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5032	Maximum spindle speed		
SERVO (Lin, Spin_diag), SERVO_840 (Lin, Spin_diag), SERVO_AC (Lin, Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r5032	Maximum spindle speed		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r5033	Spindle angular commutation offset		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r5034	Spindle current controller sampling time maximum		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [μs]	Max - [μs]	Factory setting - [μs]

p5040	Spindle voltage threshold values tolerance		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [mV]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 1000.0 [mV]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.0 [mV]
p5041[0...5]	Spindle voltage threshold values		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [mV]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 340.28235E36 [mV]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.0 [mV]
p5042[0...1]	Spindle transition times		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [μ s]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 340.28235E36 [μ s]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.0 [μ s]
p5043[0...6]	Spindle speed limits		
SERVO (Lin, Spin_diag), SERVO_840 (Lin, Spin_diag), SERVO_AC (Lin, Spin_diag)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [m/min]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 65535.0 [m/min]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.0 [m/min]
p5043[0...6]	Spindle speed limits		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min 0.0 [rpm]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 65535.0 [rpm]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0.0 [rpm]
r5044	Maximum permissible spindle velocity limit		
SERVO (Lin, Spin_diag), SERVO_840 (Lin, Spin_diag), SERVO_AC (Lin, Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1

	Min - [m/min]	Max - [m/min]	Factory setting - [m/min]
r5044	Maximum permissible spindle speed limit		
SERVO (Spin_diag), SERVO_840 (Spin_diag), SERVO_AC (Spin_diag)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r5170[0...5]	HF phase current actual values		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r5171	CO: HF damping voltage actual value		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_2 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r5172[0...3]	CO: HF temperatures		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r5173	CO: HF Damping Module I2t overload		
SERVO, SERVO_840, SERVO_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p5174	HF control word		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: T</p> <p>Data type: Unsigned16</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: CALC_MOD_REG</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0000 bin
r5175[0...1]	HF diagnostics		
SERVO, SERVO_840, SERVO_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
p5250[0...n]	Activate cogging torque compensation		
SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	<p>Can be changed: U, T</p> <p>Data type: Unsigned8</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: DDS, p0180</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0000 bin
p5251	Activate cogging torque compensation learning		
SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	<p>Can be changed: U, T</p> <p>Data type: Unsigned8</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0000 bin
p5252	Cogging torque compensation table length		
SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	<p>Can be changed: T</p> <p>Data type: Unsigned8</p> <p>P-Group: Closed-loop control</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	6	12	10

p5253	Cogging torque compensation periodicity factor		
SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000	Max 32768.00000	Factory setting 1.00000
r5254[0...3]	Cogging torque compensation diagnostics		
SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r5255[0...1]	CO: Cogging torque compensation input/output		
SERVO (Cog_M_comp, Lin), SERVO_840 (Cog_M_comp, Lin), SERVO_AC (Cog_M_comp, Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 8_1 Scaling: p2003	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [N]	Max - [N]	Factory setting - [N]
r5255[0...1]	CO: Cogging torque compensation input/output		
SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 7_1 Scaling: p2003	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Nm]	Max - [Nm]	Factory setting - [Nm]
p5260[0...4095]	Cogging torque compensation force table		
SERVO (Cog_M_comp, Lin), SERVO_840 (Cog_M_comp, Lin), SERVO_AC (Cog_M_comp, Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 8_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min -1000000.000 [N]	Max 1000000.000 [N]	Factory setting 0.000 [N]

p5260[0...4095] Cogging torque compensation torque table

SERVO (Cog_M_comp), SERVO_840 (Cog_M_comp), SERVO_AC (Cog_M_comp)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: 7_1 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min -1000000.000 [Nm]	Max 1000000.000 [Nm]	Factory setting 0.000 [Nm]

p5401 BI: Line droop control activation

A_INF (Line droop ctrl)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

r5402.0...5 CO/BO: Line droop control status word

A_INF (Line droop ctrl)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p5403[0...1] CI: Line droop control current signal source

A_INF (Line droop ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 3467[0] [1] 3467[1]

p5404[0...1] CI: Line droop control voltage signal source

A_INF (Line droop ctrl)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 3468[0] [1] 3468[1]

p5405 Line droop control frequency droop no-load frequency

A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
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	Min 30.00 [%]	Max 300.00 [%]	Factory setting 100.00 [%]
p5406[0...1]	Cl: Line droop control frequency droop supplementary setpoint		
A_INF (Line droop ctrl, Line transf), A_INF_840 (Line droop ctrl, Line transf)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0 [1] 5582[0]
p5406[0...1]	Cl: Line droop control frequency droop supplementary setpoint		
A_INF (Line droop ctrl), A_INF_840 (Line droop ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0 [1] 0
p5407	Line droop control frequency droop gradient		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 5.00 [%]
p5408	Cl: Line droop control frequency droop gradient dynamic		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p5409	Line droop control frequency droop smoothing time		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 150.00 [ms]

r5410	Line droop control frequency droop output		
A_INF (Line droop ctrl)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7982
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r5411[0...1]	Line droop control frequency droop active power		
A_INF (Line droop ctrl)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7982
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r5412	Line droop control line angle		
A_INF (Line droop ctrl)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7982
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2005	Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
p5413	Line droop control additional frequency droop gradient		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7982
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.0 [%]	Max 10000.0 [%]	Factory setting 0.0 [%]
p5414	Line droop control additional frequency droop smoothing time		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7982
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 10.0 [%]
p5415	Line droop control voltage droop no-load voltage		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7982
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: PERCENT	Expert list: 1
	Min 30.00 [%]	Max 300.00 [%]	Factory setting 100.00 [%]

p5416[0...1]	Cl: Line droop control voltage droop supplementary setpoint		
A_INF (Line droop ctrl, Line transf), A_INF_840 (Line droop ctrl, Line transf)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0 [1] 5582[1]
p5416[0...1]	Cl: Line droop control voltage droop supplementary setpoint		
A_INF (Line droop ctrl), A_INF_840 (Line droop ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0 [1] 0
p5417	Line droop control voltage droop gradient		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting 5.00 [%]
p5418	Cl: Line droop control voltage droop gradient dynamic		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p5419	Line droop control voltage droop smoothing time		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 150.00 [ms]
r5420	Line droop control voltage droop output		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1

	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r5421[0...1] A_INF (Line droop ctrl)	Line droop control voltage droop reactive current Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [A]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [A]	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1 Factory setting - [A]
r5422[0...1] A_INF (Line droop ctrl)	Line droop control voltage droop reactive power Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [kvar]	Calculated: - Dynamic index: - Units group: 14_12 Scaling: - Max - [kvar]	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1 Factory setting - [kvar]
p5423 A_INF (Line droop ctrl)	Line droop control supplementary inductance Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: - Min -10.000 [mH]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10.000 [mH]	Access level: 4 Func. diagram: 7982 Unit selection: - Expert list: 1 Factory setting 0.000 [mH]
p5424 A_INF (Line droop ctrl)	Line droop control supplementary inductance smoothing time Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.00 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 100.00 [ms]	Access level: 4 Func. diagram: 7982 Unit selection: - Expert list: 1 Factory setting 0.00 [ms]
p5425[0...1] A_INF (Line droop ctrl)	C1: Line droop control voltage control signal source Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: p2001 Max -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1 Factory setting [0] 3468[0] [1] 3468[1]

p5426	Line droop control voltage control P gain		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting 0.0 [%]
p5427	Line droop control voltage control integration time		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 500.0 [ms]
p5428[0...3]	Line droop control voltage control short circuit		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100.00 [%]	Factory setting [0] 20.00 [%] [1] 0.00 [%] [2] 90.00 [%] [3] 2.00 [%]
r5429	Line droop control voltage control output		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7982 Unit selection: - Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
p5430	Modulation depth controller setpoint		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 50.0 [%]	Max 110.0 [%]	Factory setting 94.0 [%]
p5431	Modulation depth controller dynamic response		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1

	Min 0.0 [ms]	Max 10000.0 [ms]	Factory setting 10.0 [ms]
p5432[0...1] Modulation depth controller output voltage limits			
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -200.0 [V]	Max 200.0 [V]	Factory setting [0] 100.0 [V] [1] -100.0 [V]
r5433 CO: Modulation depth controller output			
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
p5434 Direct component controller low pass limit frequency			
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [Hz]	Max 1.000 [Hz]	Factory setting 0.500 [Hz]
p5435 Direct component controller low pass damping			
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.001	Max 10.000	Factory setting 1.000
p5436 Direct component controller P gain			
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [ohm]	Max 10.000 [ohm]	Factory setting 0.020 [ohm]

p5437	Direct component controller integration time		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 100.000 [s]	Factory setting 3.500 [s]
p5440	Harmonics controller bandpass filter activation		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p5441[0...3]	Harmonics controller bandpass filter gain		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 10000.00	Factory setting 120.00
p5442[0...3]	Harmonics controller bandpass filter mid-frequency		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Hz]	Max 1000.00 [Hz]	Factory setting 300.00 [Hz]
p5443	Harmonics controller bandpass filter gain total		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00	Max 100.00	Factory setting 1.00
r5444[0...1]	Line droop control line voltage absolute value		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

r5445[0...1]	Line droop control line voltage alpha/beta component		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [V]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [V]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [V]
r5446[0...1]	Line droop control line voltage active/reactive component		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [V]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [V]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [V]
r5447	CO: Line droop control line voltage absolute value		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p002 Max - [Arms]	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1 Factory setting - [Arms]
r5448[0...1]	Line droop control line current alpha/beta component		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [A]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [A]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [A]
r5449[0...1]	Line droop control line current active/reactive component		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [A]	Calculated: - Dynamic index: - Units group: - Scaling: - Max - [A]	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting - [A]
p5451	BI: Current hysteresis controller operating mode		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0

r5452.0...3	CO/BO: Current hysteresis controller sequence control status word		
A_INF (Line droop ctrl)	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
p5453[0...5]	Current hysteresis controller overcurrent limit		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 45.0 [%]	Max 130.0 [%]	Factory setting [0...4] 85.0 [%] [5] 115.0 [%]
p5454[0...5]	Current hysteresis controller overcurrent hysteresis width		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 15.0 [%]	Max 50.0 [%]	Factory setting 20.0 [%]
p5455[0...5]	Current hysteresis controller overcurrent tolerance range		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 10.0 [%]	Max 100.0 [%]	Factory setting 20.0 [%]
p5456[0...2]	Current hysteresis controller configuration		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Modulation	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting [0] 1000 0000 0010 0000 bin [1] 1000 0000 0010 0000 bin [2] 1000 0000 0011 0000 bin
p5457[0...2]	Current hysteresis controller pulse frequency changeover		
A_INF (Line droop ctrl)	Can be changed: U, T	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1

	Min 50.0 [%]	Max 200.0 [%]	Factory setting 100.0 [%]
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p5458[0...1] A_INF (Line droop ctrl)	Current hysteresis controller minimum time operating state Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 3.000 [s]	Factory setting [0] 1.000 [s] [1] 1.000 [s]

p5459[0...3] A_INF (Line droop ctrl)	Current hysteresis controller sequence control state change Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting [0] 10.0 [%] [1] 5.0 [%] [2] 70.0 [%] [3] 75.0 [%]

p5460[0...n] A_INF (Line transf), A_INF_840 (Line transf)	VSM2 input line supply voltage, voltage scaler Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 100000.00 [%]	Factory setting 0.00 [%]

r5461[0...n] A_INF (Line transf), A_INF_840 (Line transf)	CO: VSM2 input line supply voltage u1 - u2 Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

r5462[0...n]	CO: VSM2 input line supply voltage u2 - u3		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r5464[0...n]	CO: VSM2 temperature evaluation status		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5465[0...n]	VSM2 temperature evaluation sensor type		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
r5466[0...n]	CO: VSM2 temperature KTY		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
p5467[0...n]	VSM2 overtemperature alarm threshold		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [°C]	Max 301.00 [°C]	Factory setting 150.00 [°C]
p5468[0...n]	VSM2 overtemperature shutdown threshold		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 0.00 [°C]	Max 301.00 [°C]	Factory setting 180.00 [°C]

p5469[0...n]	VSM2 overtemperature hysteresis		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: 21_2 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min 1.00 [K]	Max 50.00 [K]	Factory setting 3.00 [K]
p5470[0...n]	VSM2 10 V input CT gain		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [A]	Max 1000.000 [A]	Factory setting 1.000 [A]
r5471[0...n]	CO: VSM2 10 V input CT 1 actual value		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r5472[0...n]	CO: VSM2 10 V input CT 2 actual value		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r5473[0...n]	CO: VSM2 10 V input 1 actual value		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r5474[0...n]	CO: VSM2 10 V input 2 actual value		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0150 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

p5478[0...1]	Line droop control current limits		
A_INF (Line droop ctrl)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 50.0 [%]	Max 123.0 [%]	Factory setting [0] 90.0 [%] [1] 123.0 [%]
r5479[0...4]	Line droop control current permissible		
A_INF (Line droop ctrl)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
p5480	Transformer magnetization mode		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Integer16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7990 Unit selection: - Expert list: 1
	Min 0	Max 102	Factory setting 0
p5481[0...2]	Transformer magnetization times		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [s]	Max 100.00 [s]	Factory setting [0] 2.00 [s] [1] 1.00 [s] [2] 1.00 [s]
r5482	Line synchronization status		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: Integer16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 207	Factory setting -
p5483	BI: Line circuit breaker enable		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7990 Unit selection: - Expert list: 1

	Min	Max	Factory setting
p5484[0...2]	Magnetization transformer controller dynamics		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7993 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting [0] 50.00 [ms] [1] 50.00 [ms] [2] 100.00 [ms]
p5485[0...1]	Transf magnetization voltage thresholds		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7990, 7993 Unit selection: - Expert list: 1
	Min 0.0 [V]	Max 300.0 [V]	Factory setting [0] 35.0 [V] [1] 3.5 [V]
p5486[0...1]	Transf rated voltage primary		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: C2(1, 2) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [Vrms]	Max 63000.00 [Vrms]	Factory setting 400.00 [Vrms]
p5487[0...3]	Ci: Transf primary voltage signal source		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 5461[0] [1] 5462[0] [2] 0 [3] 0

r5488[0...5]	CO: Transf secondary voltage transformed		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7990 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r5489	Transf leakage inductance identified		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
p5490	Transf leakage inductance		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.001 [mH]	Max 1000.000 [mH]	Factory setting 0.100 [mH]
r5491	Transf magnetizing inductance identified		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mH]	Max - [mH]	Factory setting - [mH]
p5492	Transf magnetizing inductance		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: C2(1) Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [mH]	Max 10000.00 [mH]	Factory setting 250.00 [mH]
r5493.0...1	CO/BO: Line circuit breaker control signals		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7990 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p5494	Magnetization scaling values		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 90.0 [%]	Max 100.0 [%]	Factory setting 100.0 [%]
r5497[0...1]	CO: Transf secondary current		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r5498[0...2]	CO: Transf secondary voltage		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: 7990 Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r5499.0...6	CO/BO: Line synchronization status word		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5500	Dynamic grid support configuration		
A_INF (Dyn. grid support)	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 7996, 7997 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 1000 bin
p5501	BI: Dynamic grid support activation		
A_INF (Dyn. grid support)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

r5502.0...4	CO/BO: Dynamic grid support status word		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min -	Max -	Factory setting -
p5503[0...1]	Cl: Dynamic grid support current signal source		
A_INF (Dyn. grid support)	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min -	Max -	Factory setting [0] 3467[0] [1] 3467[1]
p5504[0...1]	Cl: Dynamic grid control voltage signal source		
A_INF (Dyn. grid support)	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned32 / FloatingPoint32	Dynamic index: -	Func. diagram: 7996, 7999
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2001	Expert list: 1
	Min -	Max -	Factory setting [0] 3468[0] [1] 3468[1]
p5505[0...3]	Dynamic grid support characteristic voltage values		
A_INF (Dyn. grid support)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7996
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting [0] 10.0 [%] [1] 50.0 [%] [2] 10.0 [%] [3] 50.0 [%]
p5506[0...3]	Dynamic grid support characteristic reactive current setpoint		
A_INF (Dyn. grid support)	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7996
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0.0 [%]	Max 100.0 [%]	Factory setting [0] 20.0 [%] [1] 100.0 [%] [2] 20.0 [%] [3] 100.0 [%]

p5507[0...3]	Dynamic grid support times		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.00 [ms]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 10000.00 [ms]	Access level: 3 Func. diagram: 7996, 7998, 7999 Unit selection: - Expert list: 1 Factory setting [0] 500.00 [ms] [1] 2.00 [ms] [2] 20.00 [ms] [3] 4.00 [ms]
p5508[0...1]	Dynamic grid support Vdc thresholds		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Converter Not for motor type: - Min -200 [V]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 0 [V]	Access level: 3 Func. diagram: 7997 Unit selection: - Expert list: 1 Factory setting [0] -50 [V] [1] 0 [V]
p5509[0...11]	Dynamic grid support scaling values		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: - Min 0.10 [%]	Calculated: - Dynamic index: - Units group: - Scaling: - Max 200.00 [%]	Access level: 3 Func. diagram: 7996, 7997 Unit selection: - Expert list: 1 Factory setting [0] 40.00 [%] [1] 40.00 [%] [2] 4.00 [%] [3] 1.00 [%] [4] 100.00 [%] [5] 100.00 [%] [6] 1.00 [%] [7] 100.00 [%] [8] 100.00 [%] [9] 10.00 [%] [10] 5.00 [%] [11] 100.00 [%]
r5510[0...7]	CO: Dynamic grid support output		
A_INF (Dyn. grid support)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: - Min - [Arms]	Calculated: - Dynamic index: - Units group: 6_2 Scaling: p2002 Max - [Arms]	Access level: 3 Func. diagram: 7997 Unit selection: p0505 Expert list: 1 Factory setting - [Arms]

r5511[0...1]	CO: Dynamic grid support line voltage amplitude		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7996
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2001	Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r5512[0...1]	CO: Dynamic grid support line voltage absolute value		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7996, 7999
	P-Group: -	Units group: 5_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2001	Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r5513[0...3]	CO: Dynamic grid support line voltage pos/neg phase-sequence system		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: 7996
	P-Group: -	Units group: 5_1	Unit selection: p0505
	Not for motor type: -	Scaling: p2001	Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]
r5514[0...1]	CO: Dynamic grid support current setpoint alpha/beta		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 4
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Closed-loop control	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: p2002	Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r5515[0...1]	Dynamic grid support display active power		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Displays, signals	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r5516[0...1]	Dynamic grid support display reactive power		
A_INF (Dyn. grid support)	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Displays, signals	Units group: 14_12	Unit selection: p0505
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [kvar]	Max - [kvar]	Factory setting - [kvar]

p5518	CI: Dynamic grid support line phase angle signal source		
A_INF (Dyn. grid support)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p5519	CI: Dynamic grid support line frequency signal source		
A_INF (Dyn. grid support)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2000	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r5522.0...3	CO/BO: Dynamic grid support sequence control status word		
A_INF (Dyn. grid support)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5528[0...1]	Dynamic grid support minimum time operating state		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [s]	Max 3.000 [s]	Factory setting [0] 1.000 [s] [1] 2.000 [s]
p5529[0...3]	Dynamic grid support sequence control state change		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 200.0 [%]	Factory setting [0] 10.0 [%] [1] 5.0 [%] [2] 65.0 [%] [3] 70.0 [%]

p5540	Line monitoring configuration		
A_INF (Dyn. grid support)	Can be changed: T Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0010 0000 0011 bin
p5541	BI: Line monitoring activation		
A_INF (Dyn. grid support)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7999 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r5542.0...14	CO/BO: Line monitoring status word		
A_INF (Dyn. grid support)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7999 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5543[0...3]	Line monitoring voltage threshold		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7999 Unit selection: - Expert list: 1
	Min 50.0 [%]	Max 120.0 [%]	Factory setting [0] 110.0 [%] [1] 88.0 [%] [2] 100.0 [%] [3] 100.0 [%]
p5544[0...3]	Line monitoring frequency threshold		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 7999 Unit selection: - Expert list: 1
	Min 0.0 [Hz]	Max 3.0 [Hz]	Factory setting [0] 0.5 [Hz] [1] 0.7 [Hz] [2] 0.0 [Hz] [3] 0.0 [Hz]

p5545[0...7]	Line monitoring times		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 7999 Unit selection: - Expert list: 1
Min 0.00 [ms]	Max 300000.00 [ms]	Factory setting [0] 150.00 [ms] [1] 50.00 [ms] [2] 3000.00 [ms] [3] 0.00 [ms] [4] 0.00 [ms] [5] 2000.00 [ms] [6] 100.00 [ms] [7] 60000.00 [ms]	
p5547[0]	Line monitoring frequencies		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 7999 Unit selection: - Expert list: 1
Min 0.01 [Hz]	Max 1.00 [Hz]	Factory setting 0.10 [Hz]	
p5548[0]	Line monitoring gains		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 7999 Unit selection: - Expert list: 1
Min -10.0	Max 10.0	Factory setting 0.1	
p5550[0...2]	Line monitoring line fault thresholds voltage characteristic		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
Min 0.0 [%]	Max 150.0 [%]	Factory setting [0] 120.0 [%] [1] 80.0 [%] [2] 5.0 [%]	
p5551[0...9]	Line monitoring HVRT time values		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1

Min 0.00 [s]	Max 1000.00 [s]	Factory setting [0] 0.00 [s] [1] 0.15 [s] [2] 0.70 [s] [3] 1.50 [s] [4] 3.00 [s] [5] 25.00 [s] [6] 50.00 [s] [7] 100.00 [s] [8] 200.00 [s] [9] 300.00 [s]
p5552[0...9] Line monitoring HVRT voltage values		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -
	Min 101.0 [%]	Max 150.0 [%]
		Factory setting 110.0 [%]
p5553[0...9] Line monitoring LVRT time values		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -
	Min 0.00 [s]	Max 300.00 [s]
		Factory setting [0] 0.00 [s] [1] 0.15 [s] [2] 0.70 [s] [3] 1.50 [s] [4] 3.00 [s] [5] 25.00 [s] [6] 50.00 [s] [7] 100.00 [s] [8] 200.00 [s] [9] 300.00 [s]
p5554[0...9] Line monitoring LVRT voltage values		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -
	Min 0.0 [%]	Max 99.0 [%]
		Factory setting 90.0 [%]

p5555[0...2]

Line monitoring line fault thresholds frequency characteristic			
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -20.0 [Hz]	Max 20.0 [Hz]	Factory setting [0] 0.5 [Hz] [1] -0.7 [Hz] [2] 0.2 [Hz]

p5556[0...9]

Line monitoring HFRT time values			
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 1000.00 [s]	Factory setting [0] 0.00 [s] [1] 0.15 [s] [2] 0.70 [s] [3] 1.50 [s] [4] 3.00 [s] [5] 25.00 [s] [6] 50.00 [s] [7] 100.00 [s] [8] 200.00 [s] [9] 300.00 [s]

p5557[0...9]

Line monitoring HFRT frequency values			
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [Hz]	Max 20.0 [Hz]	Factory setting 1.5 [Hz]

p5558[0...9]	Line monitoring LFRT time values		
A_INF (Dyn. grid support)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 300.00 [s]	Factory setting [0] 0.00 [s] [1] 0.15 [s] [2] 0.70 [s] [3] 1.50 [s] [4] 3.00 [s] [5] 25.00 [s] [6] 50.00 [s] [7] 100.00 [s] [8] 200.00 [s] [9] 300.00 [s]
p5559[0...9]	Line monitoring LFRT frequency values		
A_INF (Dyn. grid support)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -20.0 [Hz]	Max 0.0 [Hz]	Factory setting -2.5 [Hz]
p5571	BI: Line PLL2 activation signal source		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 5499.5
r5572.0...3	CO/BO: Line PLL2 status word		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: Unsigned16 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p5574[0...1]	CI: Line PLL2 voltage signal source		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Unsigned32 / FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 5488[3] [1] 5488[4]

p5580	Island grid black start mode		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Integer16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0

p5581[0...8]	Island grid times		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.10 [s]	Max 100.00 [s]	Factory setting [0] 2.00 [s] [1] 1.00 [s] [2] 60.00 [s] [3] 1.00 [s] [4] 0.10 [s] [5] 1.00 [s] [6] 60.00 [s] [7] 1.00 [s] [8] 0.10 [s]

r5582[0...1]	CO: Island grid synchronization setpoint control		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

p5583[0...2]	BI: Island grid synchronization signal sources		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Unsigned32 / Binary P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0 [1] 0 [2] 0

p5584[0...2]	Island grid synchronization controller dynamics		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting [0] 100.00 [ms] [1] 100.00 [ms] [2] 100.00 [ms]
p5585[0...1]	Island grid synchronization voltage thresholds		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [V]	Max 300.0 [V]	Factory setting [0] 35.0 [V] [1] 3.5 [V]
p5586[0...6]	Island grid scaling values		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1 [%]	Max 200.0 [%]	Factory setting [0] 3.0 [%] [1] 0.5 [%] [2] 1.0 [%] [3] 1.0 [%] [4] 4.0 [%] [5] 0.4 [%] [6] 2.0 [%]
r5600	Pe energy saving mode ID		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -
p5602[0...1]	Pe energy-saving mode pause time minimal		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 300000 [ms]	Max 4294967295 [ms]	Factory setting [0] 300000 [ms] [1] 480000 [ms]

p5606[0...1]	Pe energy-saving mode dwell time maximum		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 4294967295 [ms]	Factory setting 4294967295 [ms]
p5611	Pe energy-saving properties general		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p5612[0...1]	Pe energy-saving properties mode-dependent		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 0110 bin [1] 0000 bin
r5613.0...1	CO/BO: Pe energy-saving active/inactive		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r6311[0...1]	CO: Line PLL2 frequency		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Hz]	Max - [Hz]	Factory setting - [Hz]
r6313	CO: Line PLL2 smoothed voltage		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 5_1 Scaling: p2001	Access level: 2 Func. diagram: 6799, 8026 Unit selection: p0505 Expert list: 1
	Min - [Vrms]	Max - [Vrms]	Factory setting - [Vrms]

r6314	CO: Line PLL2 phase angle		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r6316	CO: Line PLL2 line supply angle measured		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2005	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
p6397	Motor module phase shift second system		
VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p6420[0...1]	Transformer phase shift		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -180.00 [°]	Max 179.90 [°]	Factory setting 0.00 [°]
p6421[0...1]	Transformer gain adaption		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 50.000 [%]	Max 200.000 [%]	Factory setting 100.000 [%]
p6422	Island grid black start orientation		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p6423	Line PLL2 dyn response		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 2.000 [%]	Max 500.000 [%]	Factory setting 20.000 [%]
p6425	Line PLL2 voltage smoothing time		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: T Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.000 [ms]	Max 5000.000 [ms]	Factory setting 100.000 [ms]
r6440	Transf phase offset identified		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r6441	Transformer gain adaption identified		
A_INF (Line transf), A_INF_840 (Line transf)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r7000	Par_circuit No. of active power units		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: Unsigned16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p7001[0...n]	Par_circuit power units enable	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: T Data type: Integer16 P-Group: Modulation Not for motor type: -	Min 0	Max 1 Factory setting 1
r7002[0...n]	Par_circuit status power units	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: Integer16 P-Group: Modulation Not for motor type: -	Min 0	Max 1 Factory setting -
p7003	Par_circuit winding system	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: C2(2) Data type: Integer16 P-Group: Converter Not for motor type: -	Min 0	Max 2 Factory setting 0
p7010	Par_circuit current dissymmetry alarm threshold	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Min 2 [%]	Max 100 [%] Factory setting 20 [%]

p7011	Par_circuit DC link voltage dissymmetry alarm threshold			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 2 [%]	Max 100 [%]	Factory setting 10 [%]	
p7015	Par_circuit holding brake power unit data set			
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: T Data type: Integer16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2701, 2814 Unit selection: - Expert list: 1	
	Min 0	Max 99	Factory setting 99	
r7020[0...n]	CO: Par_circuit deviation current in phase U			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	
r7021[0...n]	CO: Par_circuit deviation current in phase V			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	

r7022[0...n]	CO: Par_circuit deviation current in phase W		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7025	CO: Par_circuit max. deviation currents phase U		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7026	CO: Par_circuit max. deviation currents phase V		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7027	CO: Par_circuit max. deviation currents phase W		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]

r7030[0...n]	CO: Par_circuit DC link voltage deviation			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
r7031	CO: Par_circuit DC link voltage maximum deviation			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
p7035	Infeed par_circuit circulating current control operating mode			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: U, T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 1	Factory setting 1	
p7035[0...n]	Par_circuit circulating current control operating mode			
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: Integer16 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 1	Factory setting 1	

p7036	Infeed par_cct circulating current controller proportional gain		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [%]	Max 1000.00000 [%]	Factory setting 100.00000 [%]
p7036[0...n]	Par_circuit circulating current control proportional gain		
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00000 [ohm]	Max 200.00000 [ohm]	Factory setting 0.00000 [ohm]
p7037	Infeed par_cct circulating current control integral time		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0 [%]	Max 100000.0 [%]	Factory setting 100.0 [%]
p7037[0...n]	Par_circuit circulating current control integral time		
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_CON Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2.0	Max 1000.0	Factory setting 4.0
p7038	Infeed par_circuit circulating current control limit		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1 [%]	Max 100 [%]	Factory setting 100 [%]
p7038[0...n]	Par_circuit circulating current control limit		
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: CALC_MOD_ALL Dynamic index: DDS, p0180 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1 [%]	Max 100 [%]	Factory setting 50 [%]

p7040[0...n]	Par_circuit correction valve lockout time phase U			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -1000000.00 [μs]	Max 1000000.00 [μs]	Factory setting 0.00 [μs]	
p7042[0...n]	Par_circuit correction valve lockout time phase V			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -1000000.00 [μs]	Max 1000000.00 [μs]	Factory setting 0.00 [μs]	
p7044[0...n]	Par_circuit correction valve lockout time phase W			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Modulation Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -1000000.00 [μs]	Max 1000000.00 [μs]	Factory setting 0.00 [μs]	
r7050[0...n]	Par_circuit circulating current phase U			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	

r7051[0...n]	Par_circuit circulating current phase V		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: PDS, p0120</p> <p>Units group: 6_5</p> <p>Scaling: p2002</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	Min - [A]	Max - [A]	Factory setting - [A]
r7052[0...n]	Par_circuit circulating current phase W		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	<p>Can be changed: -</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: PDS, p0120</p> <p>Units group: 6_5</p> <p>Scaling: p2002</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: p0505</p> <p>Expert list: 1</p>
	Min - [A]	Max - [A]	Factory setting - [A]
r7100[0...99]	Par_circuit ring buffer fault/alarm code		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -
r7101[0...99]	Par_circuit ring buffer data set number		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Displays, signals</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -

r7102[0...99]	Par_circuit ring buffer fault/alarm received		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

r7103[0...99]	Par_circuit ring buffer fault/alarm gone		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: Unsigned32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

r7200[0...n]	Par_circuit power unit overload I2t		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: PERCENT	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	- [%]	- [%]	- [%]

r7201[0...n]	CO: Par_circuit power unit temperatures max. inverter		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7202[0...n]	Par_circuit power unit temperatures max. depletion layer		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7203[0...n]	Par_circuit power unit temperatures max. rectifier		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r7204[0...n]	Par_circuit power unit temperatures air intake			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [°C]	Max - [°C]	Factory setting - [°C]	
r7205[0...n]	Par_circuit power unit temperatures electronics			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [°C]	Max - [°C]	Factory setting - [°C]	
r7206[0...n]	Par_circuit power unit temperatures inverter 1			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [°C]	Max - [°C]	Factory setting - [°C]	

r7207[0...n]	Par_circuit power unit temperatures inverter 2		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7208[0...n]	Par_circuit power unit temperatures inverter 3		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7209[0...n]	Par_circuit power unit temperatures inverter 4		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r7210[0...n]	Par_circuit power unit temperatures inverter 5		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7211[0...n]	Par_circuit power unit temperatures inverter 6		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7212[0...n]	Par_circuit power unit temperatures inverter 1		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r7213[0...n]	Par_circuit power unit temperatures inverter 2		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7214[0...n]	Par_circuit power unit temperatures depletion layer 1		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7215[0...n]	Par_circuit power unit temperatures depletion layer 2		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r7216[0...n]	Par_circuit power unit temperatures depletion layer 3			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [°C]	Max - [°C]	Factory setting - [°C]	
r7217[0...n]	Par_circuit power unit temperatures depletion layer 4			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [°C]	Max - [°C]	Factory setting - [°C]	
r7218[0...n]	Par_circuit power unit temperatures depletion layer 5			
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [°C]	Max - [°C]	Factory setting - [°C]	

r7219[0...n]	Par_circuit power unit temperatures depletion layer 6		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]
r7220[0...n]	Infeed par_circuit absolute current value motoring permissible		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r7220[0...n]	CO: Par_circuit drive output current maximum		
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r7221[0...n]	Infeed par_circuit absolute current regenerating permissible		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r7222[0...n]	CO: Par_circuit absolute current actual value		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_2 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r7223[0...n]	CO: Par_circuit phase current actual value phase U			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	
r7224[0...n]	CO: Par_circuit phase current actual value phase V			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	
r7225[0...n]	CO: Par_circuit phase current actual value phase W			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	
r7226[0...n]	CO: Par_circuit phase current actual value phase U offset			
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [A]	Max - [A]	Factory setting - [A]	

r7227[0...n]	CO: Par_circuit phase current actual value phase V offset		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7228[0...n]	CO: Par_circuit phase current actual value phase W offset		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7229[0...n]	CO: Par_circuit phase current actual value sum U, V, W		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 6_5 Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7230[0...n]	CO: Par_circuit DC link voltage actual value		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_2 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]

r7231[0...n]	CO: Par_circuit phase voltage actual value phase U			
A_INF, A_INF_840, S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
r7231[0...n]	CO: Par_circuit phase voltage actual value phase U			
A_INF (Parallel), A_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
r7232[0...n]	CO: Par_circuit phase voltage actual value phase V			
A_INF, A_INF_840, S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
r7232[0...n]	CO: Par_circuit phase voltage actual value phase V			
A_INF (Parallel), A_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	
r7233[0...n]	CO: Par_circuit phase voltage actual value phase W			
A_INF, A_INF_840, S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1	
	Min - [V]	Max - [V]	Factory setting - [V]	

r7233[0...n]	CO: Par_circuit phase voltage actual value phase W		
A_INF (Parallel), A_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: 5_3 Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r7240[0...n]	Par_circuit gating unit status word 1		
VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: Unsigned16 P-Group: Displays, signals Not for motor type: -	Calculated: - Dynamic index: PDS, p0120 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7250[0..4]	Par_circuit power unit rated power		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: 14_6 Scaling: -	Access level: 2 Func. diagram: - Unit selection: p0100 Expert list: 1
	Min - [kW]	Max - [kW]	Factory setting - [kW]
r7251[0..4]	Par_circuit power unit rated current		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]

r7252[0...4]	Par_circuit maximum power unit current		
A_INF (Parallel), A_INF_840 (Parallel), B_INF (Parallel), B_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel), VECTOR (Parallel), VECTOR_AC (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [Arms]	Max - [Arms]	Factory setting - [Arms]
r7300[0...n]	CO: Par_circuit VSM input line voltage u1 - u2		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r7301[0...n]	CO: Par_circuit VSM input line voltage u2 - u3		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r7305[0...n]	Par_circuit VSM temperature evaluation status		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: Unsigned16 P-Group: Terminals Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7306[0...n]	CO: Par_circuit VSM temperature KTY		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: 21_1 Scaling: p2006	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [°C]	Max - [°C]	Factory setting - [°C]

r7310[0...n]	CO: Par_circuit VSM 10 V input CT1 actual value		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7311[0...n]	CO: Par_circuit VSM 10 V input CT2 actual value		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: p2002	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [A]	Max - [A]	Factory setting - [A]
r7315[0...n]	CO: Par_circuit VSM 10 V input 1 actual value		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r7316[0...n]	CO: Par_circuit VSM 10 V input 2 actual value		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: p2001	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [V]	Max - [V]	Factory setting - [V]
r7320[0...n]	Par_circuit VSM line filter capacitance phase U		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [μ F]	Max - [μ F]	Factory setting - [μ F]
r7321[0...n]	Par_circuit VSM line filter capacitance phase V		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [μ F]	Max - [μ F]	Factory setting - [μ F]

r7322[0...n]	Par_circuit VSM line filter capacitance phase W		
A_INF (Parallel), A_INF_840 (Parallel), S_INF (Parallel), S_INF_840 (Parallel)	Can be changed: - Data type: FloatingPoint32 P-Group: Closed-loop control Not for motor type: -	Calculated: - Dynamic index: p0140 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [μ F]	Max - [μ F]	Factory setting - [μ F]
r7758[0...19]	KHP Control Unit serial number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p7759[0...19]	KHP Control Unit reference serial number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7760	Write protection/know-how protection status		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p7761	Write protection		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p7762	Write protection multi-master fieldbus system access behavior		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p7763	KHP OEM exception list number of indices for p7764		
All objects	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 500	Factory setting 1
p7764[0...n]	KHP OEM exception list		
A_INF, A_INF_840, B_INF, B_INF_840, CU_LINK, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p7763 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p7764[0...n]	KHP OEM exception list		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p7763 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting [0] 7766 [1...499] 0

p7765	KHP memory card copy protection		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p7766[0...29]	KHP password input		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p7767[0...29]	KHP password new		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p7768[0...29]	KHP password confirmation		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p7769[0...20]	KHP memory card reference serial number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p7770	NVRAM action		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p7775	NVRAM data backup/import/delete		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 17	Factory setting 0
p7788	Power unit sign-of-life monitoring tolerance window		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 1000	Factory setting 10
p7789	Power unit sign-of-life monitoring fault threshold		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Converter Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1000	Factory setting 1

p7820	DRIVE-CLiQ component component number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p7821	DRIVE-CLiQ component parameter number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p7822	DRIVE-CLiQ component parameter index		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
r7823	DRIVE-CLiQ component read parameter value		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7825[0...6]	DRIVE-CLiQ component versions		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p7826	Firmware update automatic		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 1
r7827	Firmware update progress display		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p7828[0...1]	Firmware download component number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 399	Factory setting 0
p7829	Activate firmware download		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 999	Factory setting 0
p7830	Diagnostics telegram selection		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0

r7831[0...15]	Telegram diagnostics signals			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 15157	Factory setting	-
r7832[0...15]	Telegram diagnostics numerical format			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -1	Max 14	Factory setting	-
r7833[0...15]	Telegram diagnostics unsigned			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-
r7834[0...15]	Telegram diagnostics signed			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-
r7835[0...15]	Telegram diagnostics real			
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-

r7836[0...15]	Telegram diagnostics unit		
ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 147	Factory setting -
r7843[0...20]	Memory card serial number		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7844[0...2]	Memory card/device memory firmware version		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7850[0...23]	Drive object operational/not operational		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -32786	Max 32767	Factory setting -
p7852	Number of indices for r7853		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 200	Factory setting 1

r7853[0...n]	Component available/not available			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: p7852 Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0000 hex	Max FFFF hex	Factory setting	-
p7857	Sub-boot mode			
A_INF, A_INF_840, B_INF, B_INF_840, CU_LINK, ENC, ENC_840, HUB, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 1	Factory setting	1
p7859[0...199]	Component number global			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 0	
	Min -32786	Max 32767	Factory setting	0
r7867	Status/configuration changes global			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-

r7868[0...24]	Configuration changes drive object reference		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7869[0...24]	Status changes drive object reference		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7870[0...7]	Configuration changes global		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7871[0...10]	Configuration changes drive object		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r7871[0...10]	Configuration changes drive object		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r7871[0...10]	Configuration changes drive object		
CU_LINK, HUB, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r7871[0...15]	Configuration changes drive object		
ENC, ENC_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r7871[0...15]	Configuration changes drive object		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r7871[0...10]	Configuration changes drive object		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r7872[0...3]	Status changes drive object		
All objects	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p7900[0...23]	Drive objects priority		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 65535	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0

r7901[0...43]	Sampling times		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [µs]	Max - [µs]	Factory setting - [µs]
r7903	Hardware sampling times still assignable		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8500[0...7]	BI: Input signal bit-serially 0		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8500[0...7]	BI: Send data transfer bit-serially 0		
CU_LINK, CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8501[0...21]	BI: Input signal bit-serially 1		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p8501[0...21] BI: Send data transfer bit-serially 1

CU_LINK	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 722.0 [1] 722.1 [2] 722.2 [3] 722.3 [4] 722.4 [5] 722.5 [6] 722.6 [7] 722.7 [8] 722.8 [9] 722.9 [10] 722.10 [11] 722.11 [12] 722.12 [13] 722.13 [14] 722.14 [15] 722.15 [16] 722.16 [17] 722.17 [18] 0 [19] 0 [20] 722.20 [21] 722.21

p8501[0...21] BI: Send data transfer bit-serially 1

CU_NX_840	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting [0] 722.0 [1] 722.1 [2] 722.2 [3] 722.3 [4...7] 0 [8] 722.8 [9] 722.9 [10] 722.10 [11] 722.11 [12...15] 0 [16] 722.16 [17] 722.17 [18...21] 0

p8502	Cl: Input signal word-serially 0		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8502	Cl: Send data transfer wordwise 0		
CU_LINK, CU_NX_840	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8503	Cl: Input signal word-serially 1		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8503	Cl: Send data transfer wordwise 1		
CU_LINK, CU_NX_840	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8504	Cl: Input signal word-serially 2		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8504	Cl: Send data transfer wordwise 2		
CU_LINK, CU_NX_840	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p8505	Cl: Input signal word-serially 3		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8505	Cl: Send data transfer wordwise 3		
CU_LINK, CU_NX_840	Can be changed: U, T Data type: Unsigned32 / FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r8510.0...7	BO: Output signal bit-serially 0		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8510.0...7	BO: Receive data transfer bit-serially 0		
CU_LINK, CU_NX_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8511.0...21	BO: Output signal bit-serially 1		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8511.0...21	BO: Receive data transfer bit-serially 1		
CU_LINK, CU_NX_840	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r8512	CO: Output signal wordwise 0		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r8512	CO: Receive data transfer wordwise 0		
CU_LINK, CU_NX_840	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8513	CO: Output signal wordwise 1		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r8513	CO: Receive data transfer wordwise 1		
CU_LINK, CU_NX_840	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8514	CO: Output signal wordwise 2		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r8514	CO: Receive data transfer wordwise 2		
CU_LINK, CU_NX_840	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r8515	CO: Output signal wordwise 3		
CU_I_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: PERCENT	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r8515	CO: Receive data transfer wordwise 3		
CU_LINK, CU_NX_840	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8520[0...3]	Data transfer wordwise scaling		
CU_LINK, CU_NX_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2211 Unit selection: - Expert list: 1
	Min 0.00010	Max 10000.00000	Factory setting 1.00000
p8550	AOP LOCAL/REMOTE		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 1001 bin
r8570[0...39]	Macro drive object		
A_INF, B_INF, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, SERVO, SERVO_AC, TM120, TM150, TM15DI_DO, TM31, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r8571[0...39]	Macro Binector Input (BI)		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r8572[0...39]	Macro Connector Inputs (CI) for speed setpoints		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r8573[0...39]	Macro Connector Inputs (CI) for torque setpoints		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
r8585	Macro execution actual		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r8600	CAN device type		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: - Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r8601	CAN error register		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: - Data type: Unsigned8 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
p8602	CAN SYNC object		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0000 hex	FFFF FFFF hex	0080 hex
p8603	CAN COB-ID Emergency Message		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0000 hex	FFFF FFFF hex	0000 hex
p8604[0...1]	CAN node guarding		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	65535	0
p8606	CAN Producer Heartbeat Time		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0 [ms]	65535 [ms]	0 [ms]

r8607[0...3]	CAN Identity Object		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
p8608[0...1]	CAN Clear Bus Off Error		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0	1	0
p8609[0...1]	CAN Error Behavior		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0	2	1
r8610[0...1]	CAN First Server SDO		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
p8611[0...82]	CAN Pre-defined Error Field		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0000 hex	FFFF 1000 hex	0000 hex
p8620	CAN Node-ID		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: T</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	1	127	126

r8621	CAN Node-ID active		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
p8622	CAN bit rate		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0	7	6
p8623[0...7]	CAN Bit Timing selection		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: T</p> <p>Data type: Unsigned32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0000 hex	000F 7FFF hex	[0] 1405 hex [1] 1605 hex [2] 1C05 hex [3] 1C0B hex [4] 1C17 hex [5] 1C3B hex [6] 0002 1C15 hex [7] 0004 1C2B hex
p8630[0...2]	CAN virtual objects		
CU_S120_DP (CAN), CU_S120_PN (CAN)	<p>Can be changed: U, T</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0	65535	0
p8641	CAN Abort Connection Option Code		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0	3	3

r8680[0...36]	CAN Diagnosis Hardware		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8684	CAN NMT state after booting		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 4	Max 127	Factory setting 127
p8685	CAN NMT states		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: U, T Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 129	Factory setting 127
p8699	CAN: RPDO monitoring time		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [ms]	Max 65535000 [ms]	Factory setting 0 [ms]
p8700[0...1]	CAN Receive PDO 1		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex

p8701[0...1]	CAN Receive PDO 2		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex
p8702[0...1]	CAN Receive PDO 3		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex
p8703[0...1]	CAN Receive PDO 4		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex
p8704[0...1]	CAN Receive PDO 5		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex
p8705[0...1]	CAN Receive PDO 6		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex

p8706[0...1]	CAN Receive PDO 7		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex
p8707[0...1]	CAN Receive PDO 8		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max 8000 06DF hex	Factory setting [0] 8000 06DF hex [1] 00FE hex
p8710[0...3]	CAN Receive Mapping for RPDO 1		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8711[0...3]	CAN Receive Mapping for RPDO 2		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8712[0...3]	CAN Receive Mapping for RPDO 3		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p8713[0...3]	CAN Receive Mapping for RPDO 4		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204, 9206 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8714[0...3]	CAN Receive Mapping for RPDO 5		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8715[0...3]	CAN Receive Mapping for RPDO 6		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8716[0...3]	CAN Receive Mapping for RPDO 7		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8717[0...3]	CAN Receive Mapping for RPDO 8		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9204 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p8720[0...4]	CAN Transmit PDO 1		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex
p8721[0...4]	CAN Transmit PDO 2		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex
p8722[0...4]	CAN Transmit PDO 3		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex
p8723[0...4]	CAN Transmit PDO 4		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex

p8724[0...4]	CAN Transmit PDO 5		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex
p8725[0...4]	CAN Transmit PDO 6		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex
p8726[0...4]	CAN Transmit PDO 7		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex
p8727[0...4]	CAN Transmit PDO 8		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max C000 06DF hex	Factory setting [0] C000 06DF hex [1] 00FE hex [2] 0000 hex [3] 0000 hex [4] 0000 hex

p8730[0...3]	CAN Transmit Mapping for TPDO 1		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8731[0...3]	CAN Transmit Mapping for TPDO 2		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8732[0...3]	CAN Transmit Mapping for TPDO 3		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8733[0...3]	CAN Transmit Mapping for TPDO 4		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208, 9210 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8734[0...3]	CAN Transmit Mapping for TPDO 5		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8735[0...3]	CAN Transmit Mapping for TPDO 6		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p8736[0...3]	CAN Transmit Mapping for TPDO 7		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8737[0...3]	CAN Transmit Mapping for TPDO 8		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C1(3), T Data type: Unsigned32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 9208 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p8740[0...23]	CAN channel distribution		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting 0
p8741	CAN PDO configuration acknowledgement		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r8742	CAN number of free RPDO channels		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8743[0...7]	CAN assignment drive/drive ID		
CU_S120_DP (CAN), CU_S120_PN (CAN)	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r8744	CAN PDO mapping configuration		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: C2, T Data type: Integer16 P-Group: - Not for motor type: - Min 1	Calculated: - Dynamic index: - Units group: - Scaling: - Max 2	Access level: 2 Func. diagram: 9204, 9206, 9208, 9210 Unit selection: - Expert list: 1 Factory setting 2
r8750[0...15]	CAN mapped 16-bit receive objects		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8751[0...15]	CAN mapped 16-bit transmit objects		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8760[0...14]	CAN mapped 32-bit receive objects		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8761[0...14]	CAN mapped 32-bit transmit objects		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8784	CO: CAN status word		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 8010 Unit selection: - Expert list: 1 Factory setting -

p8785	BI: CAN status word bit 8		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p8786	BI: CAN status word bit 14		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p8787	BI: CAN status word bit 15		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: T</p> <p>Data type: Unsigned32 / Binary</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p8790	CAN control word - auto interconnection		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: C1(3), T</p> <p>Data type: Integer16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	0	1	0
r8795	CAN control word		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8796	CAN Target Velocity		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	<p>Can be changed: -</p> <p>Data type: Integer32</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-

r8797	CAN Target Torque		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8798[0...1]	CAN speed conversion factor		
SERVO (CAN), SERVO_AC (CAN), VECTOR (CAN), VECTOR_AC (CAN)	Can be changed: T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 4294967295	Factory setting 1
p8811	SINAMICS Link project selection		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: C1(1) Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 16	Max 64	Factory setting 64
p8812[0...1]	SINAMICS Link settings		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: C1(1) Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2000	Factory setting [0] 1 [1] 2000
p8815[0...1]	IF1/IF2 PZD functionality selection		
CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1
p8829	CBE20 remote controller number		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: C1(1) Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2	Factory setting 1

p8835	CBE20 firmware selection		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: C1(1)</p> <p>Data type: Integer16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 1	Max 99	Factory setting 1
p8836	SINAMICS Link address		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: C1(1)</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 64	Factory setting 0
p8837	IF2 STW1.10 = 0 mode		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	<p>Can be changed: T</p> <p>Data type: Integer16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 2	Factory setting 2
p8839[0...1]	PZD interface hardware assignment		
CU_S120_DP, CU_S120_PN	<p>Can be changed: C1(1)</p> <p>Data type: Integer16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 99	Factory setting 99
p8840	COMM BOARD monitoring time		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0 [ms]	Max 65535000 [ms]	Factory setting 20 [ms]

p8841[0...239]	COMM BOARD send configuration data		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
p8842	Activate COMM BOARD send configuration		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r8843.0...2	BO: IF2 PZD state		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8844	IF2 fault delay		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2410 Unit selection: - Expert list: 1
	Min 0 [s]	Max 100 [s]	Factory setting 0 [s]
p8848	IF2 PZD sampling time		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(3) Data type: FloatingPoint32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 16.00 [ms]	Factory setting 4.00 [ms]

r8849[0...139]	COMM BOARD receive configuration data		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8850[0...9]	CO: IF2 PZD receive word		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2491 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8850[0...19]	CO: IF2 PZD receive word		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2491 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8850[0...3]	CO: IF2 PZD receive word		
ENC, ENC_840	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8850[0...19]	CO: IF2 PZD receive word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r8850[0...4]	CO: IF2 PZD receive word		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2491 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8850[0...31]	CO: IF2 PZD receive word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8851[0...9]	CI: IF2 PZD send word		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2493, 9210 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8851[0...24]	CI: IF2 PZD send word		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2493, 9210 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8851[0...11]	CI: IF2 PZD send word		
ENC, ENC_840	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2487, 9208 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8851[0...27]	CI: IF2 PZD send word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2487, 9208 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p8851[0...4]	CI: IF2 PZD send word		
TB30, TM120, TM150, TM15DI_DO, TM31	<p>Can be changed: U, T</p> <p>Data type: Unsigned32 / Integer16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: 4000H</p>	<p>Access level: 3</p> <p>Func. diagram: 2493, 9210</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
p8851[0...31]	CI: IF2 PZD send word		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: Unsigned32 / Integer16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: 4000H</p>	<p>Access level: 3</p> <p>Func. diagram: 2487, 9208</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	0
r8853[0...9]	IF2 diagnostics PZD send		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 2493</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8853[0...24]	IF2 diagnostics PZD send		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 2493</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8853[0...11]	IF2 diagnostics PZD send		
ENC, ENC_840	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: 2487, 9208, 9210</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-

r8853[0...27]	IF2 diagnostics PZD send		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2487, 9208, 9210 Unit selection: - Expert list: 1 Factory setting -
r8853[0...4]	IF2 diagnostics PZD send		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2493 Unit selection: - Expert list: 1 Factory setting -
r8853[0...31]	IF2 diagnostics PZD send		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2487, 9208, 9210 Unit selection: - Expert list: 1 Factory setting -
r8854	COMM BOARD state		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	Can be changed: - Data type: Integer16 P-Group: Communications Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8858[0...39]	COMM BOARD read diagnostics channel		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -

r8859[0...7]	COMM BOARD identification Data		
CU_S120_DP (COMM BOARD, PROFINET), CU_S120_PN (COMM BOARD, PROFINET)	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8860[0...2]	CO: IF2 PZD receive double word		
ENC, ENC_840	Can be changed: - Data type: Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8860[0...18]	CO: IF2 PZD receive double word		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8860[0...30]	CO: IF2 PZD receive double word		
VECTOR, VECTOR_AC	Can be changed: - Data type: Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p8861[0...10]	CI: IF2 PZD send double word		
ENC, ENC_840	Can be changed: U, T Data type: Unsigned32 / Integer32 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: 4000H	Access level: 3 Func. diagram: 2487, 9208, 9210 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p8861[0...26]	CI: IF2 PZD send double word		
SERVO, SERVO_840, SERVO_AC, TM41	<p>Can be changed: U, T</p> <p>Data type: Unsigned32 / Integer32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: 4000H</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 2487, 9208, 9210</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0</p>
p8861[0...30]	CI: IF2 PZD send double word		
VECTOR, VECTOR_AC	<p>Can be changed: U, T</p> <p>Data type: Unsigned32 / Integer32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: 4000H</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 2487, 9208, 9210</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0</p>
r8863[0...10]	IF2 diagnostics PZD send double word		
ENC, ENC_840	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 2487</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r8863[0...26]	IF2 diagnostics PZD send double word		
SERVO, SERVO_840, SERVO_AC, TM41	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 2487</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r8863[0...30]	IF2 diagnostics PZD send double word		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned32</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: 2487</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>

r8867[0...1]	IF2 PZD maximum interconnected		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
p8870[0...15]	SINAMICS Link receive telegram word PZD		
A_INF (PROFINET), B_INF (PROFINET), CU_S120_DP (PROFINET), CU_S120_PN (PROFINET), ENC (PROFINET), ENC_840 (PROFINET), S_INF (PROFINET), SERVO (PROFINET), TB30 (PROFINET), TM120 (PROFINET), TM15 (PROFINET), TM150 (PROFINET), TM15DI_DO (PROFINET), TM17 (PROFINET), TM31 (PROFINET), TM41 (PROFINET), VECTOR (PROFINET)	Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	16	0

p8871[0...15]	SINAMICS Link send telegram word PZD		
A_INF (PROFINET), B_INF (PROFINET), CU_S120_DP (PROFINET), CU_S120_PN (PROFINET), ENC (PROFINET), ENC_840 (PROFINET), S_INF (PROFINET), SERVO (PROFINET), TB30 (PROFINET), TM120 (PROFINET), TM15 (PROFINET), TM150 (PROFINET), TM15DI_DO (PROFINET), TM17 (PROFINET), TM31 (PROFINET), TM41 (PROFINET), VECTOR (PROFINET)	<p>Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0	Max 16	Factory setting 0
p8872[0...15]	SINAMICS Link address receive PZD		
A_INF (PROFINET), B_INF (PROFINET), CU_S120_DP (PROFINET), CU_S120_PN (PROFINET), ENC (PROFINET), ENC_840 (PROFINET), S_INF (PROFINET), SERVO (PROFINET), TB30 (PROFINET), TM120 (PROFINET), TM15 (PROFINET), TM150 (PROFINET), TM15DI_DO (PROFINET), TM17 (PROFINET), TM31 (PROFINET), TM41 (PROFINET), VECTOR (PROFINET)	<p>Can be changed: T Data type: Unsigned16 P-Group: Communications Not for motor type: -</p>	<p>Calculated: - Dynamic index: - Units group: - Scaling: -</p>	<p>Access level: 3 Func. diagram: - Unit selection: - Expert list: 1</p>
	Min 0	Max 64	Factory setting 0

r8874[0...9]	IF2 diagnostics bus address PZD receive		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8874[0...19]	IF2 diagnostics bus address PZD receive		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8874[0...3]	IF2 diagnostics bus address PZD receive		
ENC, ENC_840	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8874[0...19]	IF2 diagnostics bus address PZD receive		
SERVO, SERVO_840, SERVO_AC, TM41	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8874[0...4]	IF2 diagnostics bus address PZD receive		
TB30, TM120, TM150, TM15DI_DO, TM31	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-
r8874[0...31]	IF2 diagnostics bus address PZD receive		
VECTOR, VECTOR_AC	<p>Can be changed: -</p> <p>Data type: Unsigned16</p> <p>P-Group: Communications</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min	Max	Factory setting
	-	-	-

r8875[0...9]	IF2 diagnostics telegram offset PZD receive		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8875[0...19]	IF2 diagnostics telegram offset PZD receive		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8875[0...3]	IF2 diagnostics telegram offset PZD receive		
ENC, ENC_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8875[0...19]	IF2 diagnostics telegram offset PZD receive		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8875[0...4]	IF2 diagnostics telegram offset PZD receive		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8875[0...31]	IF2 diagnostics telegram offset PZD receive		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r8876[0...9]	IF2 diagnostics telegram offset PZD send		
A_INF, A_INF_840, B_INF, B_INF_840, S_INF, S_INF_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8876[0...24]	IF2 diagnostics telegram offset PZD send		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8876[0...11]	IF2 diagnostics telegram offset PZD send		
ENC, ENC_840	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8876[0...27]	IF2 diagnostics telegram offset PZD send		
SERVO, SERVO_840, SERVO_AC, TM41	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8876[0...4]	IF2 diagnostics telegram offset PZD send		
TB30, TM120, TM150, TM15DI_DO, TM31	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8876[0...31]	IF2 diagnostics telegram offset PZD send		
VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -

p8880[0...15]	BI: IF2 binector-connector converter status word 1		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2489 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8881[0...15]	BI: IF2 binector-connector converter status word 2		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2489 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p8882[0...15]	BI: IF2 binector-connector converter status word 3		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2489 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p8883[0...15] BI: IF2 binector-connector converter status word 4

A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2489 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p8884[0...15] BI: IF2 binector-connector converter status word 5

A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Binary P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2489 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p8888[0...4] IF2 invert binector-connector converter status word

A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2489 Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0000 0000 0000 0000 bin

r8889[0...4]	CO: IF2 send binector-connector converter status word			
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r8890.0...15	BO: IF2 PZD1 receive bit-serial			
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 2491, 9204, 9206 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	
r8891.0...15	BO: IF2 PZD2 receive bit-serial			
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 2491, 9204, 9206 Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	

r8892.0...15	BO: IF2 PZD3 receive bit-serial		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r8893.0...15	BO: IF2 PZD4 receive bit-serial		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 9204, 9206 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r8894.0...15	BO: IF2 connector-binector converter binector output		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 2491 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-
r8895.0...15	BO: IF2 connector-binector converter binector output		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 2491 Unit selection: - Expert list: 1
	Min	Max	Factory setting
	-	-	-

p8898[0...1]	IF2 invert connector-binector converter binector output		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 2491 Unit selection: - Expert list: 1
Min	Max	Factory setting	
-	-	0000 0000 0000 0000 bin	
p8899[0...1]	CI: IF2 connector-binector converter signal source		
A_INF, A_INF_840, B_INF, B_INF_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 / Integer16 P-Group: Communications Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2485, 2491 Unit selection: - Expert list: 1
Min	Max	Factory setting	
-	-	0	
p8900[0...239]	IE Name of Station		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
Min	Max	Factory setting	
-	-	-	
p8901[0...3]	IE IP Address of Station		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
Min	Max	Factory setting	
0	255	0	

p8902[0...3]	IE Default Gateway of Station		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p8903[0...3]	IE Subnet Mask of Station		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p8904	IE DHCP mode		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p8905	IE Interface configuration		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p8908	Activate FTP		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r8909	PN device ID		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r8910[0...239]	IE Name of Station active		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8911[0...3]	IE IP Address of Station active		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8912[0...3]	IE Default Gateway of Station active		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8913[0...3]	IE Subnet Mask of Station active		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8914	IE DHCP mode of station active		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8915[0...5]	IE MAC Address of Station		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

p8920[0...239]	PN Name of Station		
CU_S_AC_PN, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p8921[0...3]	PN IP address of station		
CU_S_AC_PN, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p8922[0...3]	PN Default Gateway of Station		
CU_S_AC_PN, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p8923[0...3]	PN Subnet Mask of Station		
CU_S_AC_PN, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p8925	PN interface configuration		
CU_S_AC_PN, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 3	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p8929	PN remote controller number		
CU_S_AC_PN, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: Communications Not for motor type: - Min 1	Calculated: - Dynamic index: - Units group: - Scaling: - Max 2	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 1

r8930[0...239]	PN Name of Station active		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8931[0...3]	PN IP Address of Station active		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8932[0...3]	PN Default Gateway of Station active		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8933[0...3]	PN Subnet Mask of Station active		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8935[0...5]	PN MAC Address of Station		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8936[0...1]	PN state cyclic connections		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Integer16 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 13	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -

r8937[0...5]	PN diagnostics		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r8939	PN DAP ID		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p8940[0...239]	CBE20 Name of Station		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p8941[0...3]	CBE20 IP Address of Station		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p8942[0...3]	CBE20 Default Gateway of Station		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0
p8943[0...3]	CBE20 Subnet Mask of Station		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: - Min 0	Calculated: - Dynamic index: - Units group: - Scaling: - Max 255	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting 0

p8944	CBE20 DHCP Mode		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: U, T</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p> <p>Min 0</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 255</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0</p>
p8945	CBE20 interface configuration		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: -</p> <p>Not for motor type: -</p> <p>Min 0</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max 3</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting 0</p>
r8950[0...239]	CBE20 Name of Station active		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r8951[0...3]	CBE20 IP Address of Station active		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r8952[0...3]	CBE20 Default Gateway of Station active		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>
r8953[0...3]	CBE20 Subnet Mask of Station active		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p> <p>Min -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p> <p>Max -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p> <p>Factory setting -</p>

r8954	CBE20 DHCP Mode active		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8955[0...5]	CBE20 MAC Address of Station		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8959	CBE20 DAP ID		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r8960[0...2]	PN subslot controller assignment		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM150, TM15DI_DO, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting -
r8961[0...3]	PN IP Address Remote Controller 1		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -

r8962[0...3]	PN IP Address Remote Controller 2		
CU_S_AC_PN, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -
p8969	PROFIsafe wait for clock synchronization		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
r8970[0...2]	CBE20 subplot controller assignment		
A_INF (PROFINET), B_INF (PROFINET), CU_S120_DP (PROFINET), CU_S120_PN (PROFINET), ENC (PROFINET), ENC_840 (PROFINET), S_INF (PROFINET), SERVO (PROFINET), SERVO_AC (PROFINET), TB30 (PROFINET), TM120 (PROFINET), TM15 (PROFINET), TM150 (PROFINET), TM15DI_DO (PROFINET), TM17 (PROFINET), TM31 (PROFINET), TM41 (PROFINET), VECTOR (PROFINET), VECTOR_AC (PROFINET)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 8	Factory setting -
r8971[0...3]	CBE20 IP Address Remote Controller 1		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -

r8972[0...3]	CBE20 IP Address Remote Controller 2		
CU_S120_DP (PROFINET), CU_S120_PN (PROFINET)	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting -
p9206[0...2]	Topology direct access		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: T Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4294967295	Factory setting 0
r9207	Topology direct access integer value		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9208[0...50]	Topology direct access string		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9210	Flashing component number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 499	Factory setting 0

p9211	Flash function		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Integer16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 1	Factory setting -1
p9300	SI Motion monitoring clock cycle (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 500.00 [µs]	Max 25000.00 [µs]	Factory setting 12000.00 [µs]
p9301	SI Motion enable safety functions (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9302	SI Motion axis type (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p9305	SI Motion SP modulo value (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [°]	Max 737280 [°]	Factory setting 0 [°]

p9306	SI Motion function specification (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p9307	SI Motion function configuration MM		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p9309	SI Motion behavior during pulse suppression (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 1111 1111 bin
p9311	SI Motion actual value sensing clock cycle (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [μs]	Max 25000.0000 [μs]	Factory setting 0.0000 [μs]
p9312	Select SI Motion safety functions without selection (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0001 0000 bin
p9313	SI Motion non safety-relevant measuring steps POS1 (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4294967295	Factory setting 22000

p9314	SI Motion absolute encoder linear measuring steps (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0 [nm]</p>	<p>Max 4294967295 [nm]</p>	<p>Factory setting 100 [nm]</p>
p9315	SI Motion coarse position value configuration (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin</p>
p9316	SI Motion encoder configuration, safety functions (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min -</p>	<p>Max -</p>	<p>Factory setting 0000 bin</p>
p9317	SI Motion linear scale grid division (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00 [nm]</p>	<p>Max 250000000.00 [nm]</p>	<p>Factory setting 10000.00 [nm]</p>
p9318	SI Motion encoder pulses per revolution (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	<p>Max 16777215</p>	<p>Factory setting 2048</p>
p9319	SI Motion fine resolution G1_XIST1 (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 2</p>	<p>Max 18</p>	<p>Factory setting 11</p>

p9320	SI Motion spindle pitch (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1000 [mm]	Max 8388.0000 [mm]	Factory setting 10.0000 [mm]
p9321[0...7]	SI Motion gearbox encoder (motor)/load denom (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2147000000	Factory setting 1
p9322[0...7]	SI Motion gearbox encoder (motor)/load numerator (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2147000000	Factory setting 1
p9323	SI Motion red. coarse position value valid bits (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 9
p9324	SI Motion redundant coarse pos. value fine resolution bits (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -16	Max 16	Factory setting -2
p9325	SI Motion redundant coarse pos. value relevant bits (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 16

p9326	SI Motion encoder assignment (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 1	Max 3	Factory setting 1
p9328[0...11]	SI Motion Sensor Module Node Identifier (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned8</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0000 hex	Max 00FF hex	Factory setting 0000 hex
p9329	SI Motion Gx_XIST1 coarse pos safe most significant bit (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 31	Factory setting 14
p9330	SI Motion standstill tolerance (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.000 [mm]	Max 100.000 [mm]	Factory setting 1.000 [mm]
p9330	SI Motion standstill tolerance (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.000 [°]	Max 100.000 [°]	Factory setting 1.000 [°]
p9331[0...3]	SI Motion SLS limit values (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0.00 [mm/min]	Max 1000000.00 [mm/min]	Factory setting 2000.00 [mm/min]

p9331[0...3]	SI Motion SLS limit values (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000000.00 [rpm]	Factory setting 2000.00 [rpm]
p9334[0...1]	SI Motion SLP upper limit values (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting 100000.000 [mm]
p9334[0...1]	SI Motion SLP upper limit values (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting 100000.000 [°]
p9335[0...1]	SI Motion SLP lower limit values (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting -100000.000 [mm]
p9335[0...1]	SI Motion SLP lower limit values (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting -100000.000 [°]

p9341	SI Motion encoder comparison algorithm (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 255
p9342	SI Motion act val comparison tol (crosswise) (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [mm]	Max 360.0000 [mm]	Factory setting 0.1000 [mm]
p9342	SI Motion act val comparison tol (crosswise) (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [°]	Max 360.0000 [°]	Factory setting 0.1000 [°]
p9344	SI Motion actual value comparison tolerance (referencing) (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [mm]	Max 36.0000 [mm]	Factory setting 0.0100 [mm]
p9344	SI Motion actual value comparison tolerance (referencing) (MM)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [°]	Max 36.0000 [°]	Factory setting 0.0100 [°]

p9345	SI Motion SSM filter time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 100000.00 [μs]	Factory setting 0.00 [μs]
p9346	SI Motion SSM velocity limit (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 1000000.00 [mm/min]	Factory setting 20.00 [mm/min]
p9346	SI Motion SSM velocity limit (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000000.00 [rpm]	Factory setting 20.00 [rpm]
p9347	SI Motion SSM velocity hysteresis (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.0010 [mm/min]	Max 500.0000 [mm/min]	Factory setting 10.0000 [mm/min]
p9347	SI Motion SSM velocity hysteresis (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.0010 [rpm]	Max 500.0000 [rpm]	Factory setting 10.0000 [rpm]

p9348	SI Motion SAM actual velocity tolerance (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 120000.00 [mm/min]	Factory setting 300.00 [mm/min]
p9348	SI Motion SAM actual velocity tolerance (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 120000.00 [rpm]	Factory setting 300.00 [rpm]
p9349	SI Motion slip velocity tolerance (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 6.00 [mm/min]
p9349	SI Motion slip velocity tolerance (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 6000.00 [rpm]	Factory setting 6.00 [rpm]
p9351	SI Motion SLS changeover delay time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [μ s]	Max 600000000.00 [μ s]	Factory setting 100000.00 [μ s]

p9352	SI Motion transition time STOP C to SOS (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 600000000.00 [μs]	Factory setting 100000.00 [μs]
p9353	SI Motion transition time STOP D to SOS (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 600000000.00 [μs]	Factory setting 100000.00 [μs]
p9354	SI Motion transition time STOP E to SOS (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 600000000.00 [μs]	Factory setting 100000.00 [μs]
p9355	SI Motion transition time STOP F to STOP B (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 600000000.00 [μs]	Factory setting 0.00 [μs]
p9356	SI Motion pulse suppression delay time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 3600000000.00 [μs]	Factory setting 100000.00 [μs]
p9357	SI Motion pulse suppression test time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 10000000.00 [μs]	Factory setting 100000.00 [μs]

p9358	SI Motion acceptance test mode time limit (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5000000.00 [µs]	Max 100000000.00 [µs]	Factory setting 40000000.00 [µs]
p9360	SI Motion pulse suppression shutdown speed (Motor Module)		
SERVO (Lin, Safety rot), SERVO_AC (Lin, Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 6000.00 [rpm]	Factory setting 0.00 [rpm]
p9360	SI Motion pulse suppression shutdown velocity (Motor Module)		
SERVO (Lin), SERVO, SERVO_AC (Lin), SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 0.00 [mm/min]
p9362[0...1]	SI Motion SLP stop response (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 2
p9363[0...3]	SI Motion SLS stop response (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 2
p9364	SI Motion SDI tolerance (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.001 [mm]	Max 360.000 [mm]	Factory setting 12.000 [mm]

p9364	SI Motion SDI tolerance (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.001 [°]	Max 360.000 [°]	Factory setting 12.000 [°]
p9365	SI Motion SDI delay time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 600000000.00 [μs]	Factory setting 100000.00 [μs]
p9366	SI Motion SDI stop response (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 1
p9368	SI Motion SAM velocity limit (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 1000.00 [mm/min]	Factory setting 0.00 [mm/min]
p9368	SI Motion SAM velocity limit (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000.00 [rpm]	Factory setting 0.00 [rpm]

p9370	SI Motion acceptance test mode (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00AC hex	Factory setting 0000 hex
r9371	SI Motion acceptance test status (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00AC hex	Factory setting -
p9374	SI Motion safe position scaling (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 100000	Factory setting 1000
p9380	SI Motion pulse suppression delay bus failure (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 800000.00 [µs]	Factory setting 0.00 [µs]
p9381	SI Motion brake ramp reference value (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 600.0000 [mm/min]	Max 240000.0000 [mm/min]	Factory setting 1500.0000 [mm/min]
p9381	SI Motion brake ramp reference value (Motor Module)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 600.0000 [rpm]	Max 240000.0000 [rpm]	Factory setting 1500.0000 [rpm]

p9382	SI Motion brake ramp delay time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10000.00 [μs]	Max 99000000.00 [μs]	Factory setting 250000.00 [μs]
p9383	SI Motion brake ramp monitoring time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 500.00 [ms]	Max 3600000.00 [ms]	Factory setting 10000.00 [ms]
p9385	SI Motion fault tolerance actual value sensing sensorless (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 4	Factory setting -1
p9386	SI Motion delay time of the evaluation sensorless (MM)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5.00 [ms]	Max 1000.00 [ms]	Factory setting 100.00 [ms]
p9387	SI Motion act val sensing encoderless filter time (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 100000.00 [μs]	Factory setting 25000.00 [μs]
p9388	SI Motion act val sensing encoderless min current (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 10.00 [%]

p9389	SI Motion voltage tolerance acceleration (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10.00 [%]	Max 3300.00 [%]	Factory setting 100.00 [%]
r9390[0...3]	SI Motion version safety motion monitoring (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9398[0...1]	SI Motion actual checksum SI parameters (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9399[0...1]	SI Motion reference checksum SI parameters (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r9406[0...19]	PS file parameter number parameter not transferred		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9407[0...19]	PS file parameter index parameter not transferred		
All objects	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9408[0...19]	PS file fault code parameter not transferred		
All objects	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9409	Number of parameters to be saved		
All objects	Can be changed: -	Calculated: -	Access level: 4
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9450[0...29]	Reference value change parameter with unsuccessful calculation		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 2
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9451[0...29]	Units changeover adapted parameters		
A_INF, A_INF_840, B_INF, B_INF_840, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TM41, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 1
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r9481	Number of BICO interconnections		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min	Max	Factory setting
	-	-	-
r9482[0..n]	BICO interconnections BI/CI parameters		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: r9481 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min	Max	Factory setting
	-	-	-

r9483[0...n] BICO interconnections BO/CO parameters			
A_INF, A_INF_840,	Can be changed: -	Calculated: -	Access level: 3
B_INF, B_INF_840,	Data type: Unsigned32	Dynamic index: r9481	Func. diagram: -
CU_I_840, CU_LINK,	P-Group: Commands	Units group: -	Unit selection: -
CU_NX_840,	Not for motor type: -	Scaling: -	Expert list: 0
CU_S_AC_DP,			
CU_S_AC_PN,			
CU_S120_DP,			
CU_S120_PN, ENC,			
ENC_840, S_INF,			
S_INF_840, SERVO,			
SERVO_840,			
SERVO_AC, TB30,			
TM120, TM15,			
TM150, TM15DI_DO,			
TM17, TM31, TM41,			
TM54F_MA,			
TM54F_SL,			
VECTOR,			
VECTOR_AC			
Min		Max	
-		-	

p9484 BICO interconnections search signal source			
A_INF, A_INF_840,	Can be changed: U, T	Calculated: -	Access level: 3
B_INF, B_INF_840,	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
CU_I_840, CU_LINK,	P-Group: -	Units group: -	Unit selection: -
CU_NX_840,	Not for motor type: -	Scaling: -	Expert list: 0
CU_S_AC_DP,			
CU_S_AC_PN,			
CU_S120_DP,			
CU_S120_PN, ENC,			
ENC_840, S_INF,			
S_INF_840, SERVO,			
SERVO_840,			
SERVO_AC, TB30,			
TM120, TM15,			
TM150, TM15DI_DO,			
TM17, TM31, TM41,			
TM54F_MA,			
TM54F_SL,			
VECTOR,			
VECTOR_AC			
Min		Max	
0		4294967295	
Factory setting		0	

r9485	BICO interconnections signal source search count			
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min -	Max -	Factory setting -	
r9486	BICO interconnections signal source search first index			
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, TM54F_MA, TM54F_SL, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0	
	Min -	Max -	Factory setting -	
r9490	Number of BICO interconnections to other drives			
All objects	Can be changed: - Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting -	

r9491[0...9]	BI/CI of BICO interconnections to other drives		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9492[0...9]	BO/CO of BICO interconnections to other drives		
All objects	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Commands	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p9493[0...9]	Reset BICO interconnections to other drives		
All objects	Can be changed: T	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	0	15	15
p9495	BICO behavior for de-activated drive objects		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min	Max	Factory setting
	0	2	0

p9496	BICO behavior when activating drive objects		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: Integer16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p9497	BICO interconnections to de-activated drive objects number		
A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned16 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0

p9498[0...29] BICO BI/CI parameters to de-activated drive objects

A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p9499[0...29] BICO BO/CO parameters to de-activated drive objects

A_INF, A_INF_840, B_INF, B_INF_840, CU_I_840, CU_LINK, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN, ENC, ENC_840, S_INF, S_INF_840, SERVO, SERVO_840, SERVO_AC, TB30, TM120, TM15, TM150, TM15DI_DO, TM17, TM31, TM41, VECTOR, VECTOR_AC	Can be changed: T Data type: Unsigned32 P-Group: Commands Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
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Min	Max	Factory setting
-	-	0

p9500 SI Motion monitoring clock cycle (Control Unit)

SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.50 [ms]	Max 25.00 [ms]	Factory setting 12.00 [ms]

p9500	SI Motion monitoring clock cycle (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.50 [ms]	Max 25.00 [ms]	Factory setting 12.00 [ms]
p9501	SI Motion enable safety functions (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9501	SI Motion enable safety functions (Control Unit)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9501	SI Motion enable safety functions (Control Unit)		
SERVO, VECTOR	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9502	SI Motion axis type (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p9502	SI Motion axis type (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p9503	SI Motion SCA (SN) enable (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9503	SI Motion SCA (SN) enable (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9505	SI Motion SCA (SN) modulo value (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [°]	Max 737280 [°]	Factory setting 0 [°]
p9505	SI Motion SP modulo value (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [°]	Max 737280 [°]	Factory setting 0 [°]

p9506	SI Motion function specification (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0
p9507	SI Motion function specification (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p9509	SI Motion behavior during pulse suppression (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 1111 1111 bin
p9510	SI Motion clock-cycle synchronous PROFIBUS master		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p9511	SI Motion actual value sensing cycle clock (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [ms]	Max 25.0000 [ms]	Factory setting 0.0000 [ms]
p9512	Select SI Motion safety functions without selection (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0001 0000 bin

p9513	SI Motion non safety-relevant measuring steps POS1 (CU)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4294967295	Factory setting 22000
p9513	SI Motion non safety-relevant measuring steps POS1 (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 4294967295	Factory setting 22000
p9514	SI Motion absolute encoder linear measuring steps (CU)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [nm]	Max 4294967295 [nm]	Factory setting 100 [nm]
p9514	SI Motion absolute encoder linear measuring steps (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0 [nm]	Max 4294967295 [nm]	Factory setting 100 [nm]
p9515	SI Motion encoder coarse position value config (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin

p9515	SI Motion encoder coarse position value config (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 0000 0000 0000 0000 bin
p9516	SI Motion encoder configuration safety functions (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p9516	SI Motion encoder configuration safety functions (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p9517	SI Motion linear scale grid division (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [nm]	Max 250000000.00 [nm]	Factory setting 10000.00 [nm]
p9517	SI Motion linear scale grid division (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [nm]	Max 250000000.00 [nm]	Factory setting 10000.00 [nm]
p9518	SI Motion encoder pulses per revolution (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16777215	Factory setting 2048

p9518	SI Motion encoder pulses per revolution (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16777215	Factory setting 2048
p9519	SI Motion fine resolution G1_XIST1 (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2	Max 18	Factory setting 11
p9519	SI Motion fine resolution G1_XIST1 (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2	Max 18	Factory setting 11
p9520	SI Motion spindle pitch (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1000 [mm]	Max 8388.0000 [mm]	Factory setting 10.0000 [mm]
p9520	SI Motion spindle pitch (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.1000 [mm]	Max 8388.0000 [mm]	Factory setting 10.0000 [mm]
p9521[0...7]	SI Motion gearbox encoder/load denominator (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 2147000000	Factory setting 1

p9521[0...7]	SI Motion gearbox enc (motor)/load denominator (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	1	2147000000	1
p9522[0...7]	SI Motion gearbox encoder/load numerator (Control Unit)		
SERVO_840	<p>Can be changed: U, T</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	1	2147000000	1
p9522[0...7]	SI Motion gearbox encoder (motor)/load numerator (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	1	2147000000	1
p9523	SI Motion redundant coarse pos. value valid bits (Control Unit)		
SERVO_840	<p>Can be changed: U, T</p> <p>Data type: Unsigned16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0	16	9
p9523	SI Motion redundant coarse pos. value valid bits (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0	16	9
p9524	SI Motion Redundant coarse pos. value fine resolution bits (CU)		
SERVO_840	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	-16	16	-2

p9524	SI Motion Redundant coarse pos. value fine resolution bits (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -16	Max 16	Factory setting -2
p9525	SI Motion Redundant coarse pos. value relevant bits (CU)		
SERVO_840	Can be changed: U, T Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 16
p9525	SI Motion Redundant coarse pos. value relevant bits (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 16	Factory setting 16
p9526	SI Motion encoder assignment second channel		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 3	Factory setting 1
p9526	SI Motion encoder assignment second channel		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 3	Factory setting 1
p9529	SI Motion Gx_XIST1 coarse pos. safe most significant bit (CU)		
SERVO_840	Can be changed: U, T Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 31	Factory setting 14

p9529	SI Motion Gx_XIST1 coarse pos. safe most significant bit (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Unsigned16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0	31	14
p9530	SI Motion standstill tolerance (Control Unit)		
SERVO_840	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0.000 [mm]	100.000 [mm]	1.000 [mm]
p9530	SI Motion standstill tolerance (Control Unit)		
SERVO_840 (Safety rot)	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0.000 [°]	100.000 [°]	1.000 [°]
p9530	SI Motion standstill tolerance (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0.000 [mm]	100.000 [mm]	1.000 [mm]
p9530	SI Motion standstill tolerance (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0.000 [°]	100.000 [°]	1.000 [°]
p9531[0...3]	SI Motion SLS (SG) limit values (Control Unit)		
SERVO_840	<p>Can be changed: U, T</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min</p>	<p>Max</p>	Factory setting
	0.00 [mm/min]	1000000.00 [mm/min]	2000.00 [mm/min]

p9531[0...3]	SI Motion SLS (SG) limit values (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000000.00 [rpm]	Factory setting 2000.00 [rpm]
p9531[0...3]	SI Motion SLS (SG) limit values (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 1000000.00 [mm/min]	Factory setting 2000.00 [mm/min]
p9531[0...3]	SI Motion SLS (SG) limit values (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000000.00 [rpm]	Factory setting 2000.00 [rpm]
p9532[0...15]	SI Motion SLS (SG) override factor (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [%]	Max 100.000 [%]	Factory setting 100.000 [%]
p9532[0...15]	SI Motion SLS (SG) override factor (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [%]	Max 100.000 [%]	Factory setting 100.000 [%]
p9533	SI Motion SLS setpoint velocity limiting (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.000 [%]	Max 100.000 [%]	Factory setting 80.000 [%]

p9534[0...1]	SI Motion SLP (SE) upper limit values (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting 100000.000 [mm]
p9534[0...1]	SI Motion SLP (SE) upper limit values (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting 100000.000 [°]
p9534[0...1]	SI Motion SLP (SE) upper limit values (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting 100000.000 [mm]
p9534[0...1]	SI Motion SLP (SE) upper limit values (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting 100000.000 [°]
p9535[0...1]	SI Motion SLP (SE) lower limit values (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting -100000.000 [mm]
p9535[0...1]	SI Motion SLP (SE) lower limit values (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting -100000.000 [°]

p9535[0...1]	SI Motion SLP (SE) lower limit values (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting -100000.000 [mm]
p9535[0...1]	SI Motion SLP (SE) lower limit values (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting -100000.000 [°]
p9536[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting 10.000 [mm]
p9536[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting 10.000 [°]
p9536[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting 10.000 [mm]

p9536[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting 10.000 [°]
p9537[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting -10.000 [mm]
p9537[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting -10.000 [°]
p9537[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [mm]	Max 2147000.000 [mm]	Factory setting -10.000 [mm]
p9537[0...29]	SI Motion SCA (SN) plus cam position (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -2147000.000 [°]	Max 2147000.000 [°]	Factory setting -10.000 [°]

p9538[0...29] SI Motion SCA (SN) cam track assignment (Control Unit)

SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 100	Max 414	Factory setting [0] 100 [1] 101 [2] 102 [3] 103 [4] 104 [5] 105 [6] 106 [7] 107 [8] 108 [9] 109 [10] 110 [11] 111 [12] 112 [13] 113 [14] 114 [15] 200 [16] 201 [17] 202 [18] 203 [19] 204 [20] 205 [21] 206 [22] 207 [23] 208 [24] 209 [25] 210 [26] 211 [27] 212 [28] 213 [29] 214

p9538[0...29]	SI Motion SCA (SN) cam track assignment (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 100	Max 414	Factory setting [0] 100 [1] 101 [2] 102 [3] 103 [4] 104 [5] 105 [6] 106 [7] 107 [8] 108 [9] 109 [10] 110 [11] 111 [12] 112 [13] 113 [14] 114 [15] 200 [16] 201 [17] 202 [18] 203 [19] 204 [20] 205 [21] 206 [22] 207 [23] 208 [24] 209 [25] 210 [26] 211 [27] 212 [28] 213 [29] 214
p9540	SI Motion SCA (SN) tolerance (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [mm]	Max 10.0000 [mm]	Factory setting 0.1000 [mm]

p9540	SI Motion SCA (SN) tolerance (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [°]	Max 10.0000 [°]	Factory setting 0.1000 [°]
p9540	SI Motion SCA (SN) tolerance (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [mm]	Max 10.0000 [mm]	Factory setting 0.1000 [mm]
p9540	SI Motion SCA (SN) tolerance (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [°]	Max 10.0000 [°]	Factory setting 0.1000 [°]
p9541	SI Motion encoder comparison algorithm (CU)		
SERVO_840	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 255
p9541	SI Motion encoder comparison algorithm (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 255
p9542	SI Motion act val comparison tol (crosswise) (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [mm]	Max 360.0000 [mm]	Factory setting 0.1000 [mm]

p9542	SI Motion act val comparison tol (crosswise) (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [°]	Max 360.0000 [°]	Factory setting 0.1000 [°]
p9542	SI Motion act val comparison tol (crosswise) (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [mm]	Max 360.0000 [mm]	Factory setting 0.1000 [mm]
p9542	SI Motion act val comparison tol (crosswise) (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0010 [°]	Max 360.0000 [°]	Factory setting 0.1000 [°]
p9544	SI Motion actual value comparison tolerance (referencing) (CU)		
SERVO_840	Can be changed: C2(95), U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [mm]	Max 36.0000 [mm]	Factory setting 0.0100 [mm]
p9544	SI Motion actual value comparison tolerance (referencing) (CU)		
SERVO_840 (Safety rot)	Can be changed: C2(95), U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [°]	Max 36.0000 [°]	Factory setting 0.0100 [°]
p9544	SI Motion actual value comparison tolerance (referencing) (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [mm]	Max 36.0000 [mm]	Factory setting 0.0100 [mm]

p9544	SI Motion actual value comparison tolerance (referencing) (CU)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.0000 [°]	Max 36.0000 [°]	Factory setting 0.0100 [°]
p9545	SI Motion SSM (SGA n < nx) filter time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 0.00 [ms]
p9545	SI Motion SSM (SGA n < nx) filter time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 0.00 [ms]
p9546	SI Motion SSM (SGA n < nx) velocity limit (CU)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 1000000.00 [mm/min]	Factory setting 20.00 [mm/min]
p9546	SI Motion SSM (SGA n < nx) velocity limit (CU)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000000.00 [rpm]	Factory setting 20.00 [rpm]
p9546	SI Motion SSM (SGA n < nx) velocity limit (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 1000000.00 [mm/min]	Factory setting 20.00 [mm/min]

p9546	SI Motion SSM (SGA n < nx) velocity limit (CU)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000000.00 [rpm]	Factory setting 20.00 [rpm]
p9547	SI Motion SSM (SGA n < nx) velocity hysteresis (CU)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.0010 [mm/min]	Max 500.0000 [mm/min]	Factory setting 10.0000 [mm/min]
p9547	SI Motion SSM (SGA n < nx) velocity hysteresis (CU)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.0010 [rpm]	Max 500.0000 [rpm]	Factory setting 10.0000 [rpm]
p9547	SI Motion SSM (SGA n < nx) velocity hysteresis (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.0010 [mm/min]	Max 500.0000 [mm/min]	Factory setting 10.0000 [mm/min]
p9547	SI Motion SSM (SGA n < nx) velocity hysteresis (CU)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2860 Unit selection: - Expert list: 1
	Min 0.0010 [rpm]	Max 500.0000 [rpm]	Factory setting 10.0000 [rpm]

p9548	SI Motion SAM actual velocity tolerance (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 120000.00 [mm/min]	Factory setting 300.00 [mm/min]
p9548	SI Motion SAM actual velocity tolerance (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 120000.00 [rpm]	Factory setting 300.00 [rpm]
p9548	SI Motion SAM actual velocity tolerance (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 120000.00 [mm/min]	Factory setting 300.00 [mm/min]
p9548	SI Motion SAM actual velocity tolerance (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 120000.00 [rpm]	Factory setting 300.00 [rpm]
p9549	SI Motion slip velocity tolerance (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 6.00 [mm/min]
p9549	SI Motion slip velocity tolerance (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 6000.00 [rpm]	Factory setting 6.00 [rpm]

p9549	SI Motion slip velocity tolerance (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 6.00 [mm/min]
p9549	SI Motion slip velocity tolerance (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 6000.00 [rpm]	Factory setting 6.00 [rpm]
p9550	SI Motion SGE changeover tolerance time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 500.00 [ms]
p9550	SI Motion SGE changeover tolerance time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 500.00 [ms]
p9551	SI Motion SLS (SG) changeover delay time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9551	SI Motion SLS (SG) changeover delay time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]

p9552	SI Motion transition time STOP C to SOS (SBH) (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9552	SI Motion transition time STOP C to SOS (SBH) (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9553	SI Motion transition time STOP D to SOS (SBH) (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9553	SI Motion transition time STOP D to SOS (SBH) (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9554	SI Motion transition time STOP E to SOS (SBH) (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9554	SI Motion transition time STOP E to SOS (SBH) (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]

p9555	SI Motion transition time STOP F to STOP B (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 0.00 [ms]
p9555	SI Motion transition time STOP F to STOP B (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 0.00 [ms]
p9556	SI Motion pulse suppression delay time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 3600000.00 [ms]	Factory setting 100.00 [ms]
p9556	SI Motion pulse suppression delay time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2825 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 3600000.00 [ms]	Factory setting 100.00 [ms]
p9557	SI Motion pulse suppression test time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 100.00 [ms]
p9557	SI Motion pulse suppression test time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 10000.00 [ms]	Factory setting 100.00 [ms]

p9558	SI Motion acceptance test mode time limit (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5000.00 [ms]	Max 100000.00 [ms]	Factory setting 40000.00 [ms]
p9558	SI Motion acceptance test mode time limit (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5000.00 [ms]	Max 100000.00 [ms]	Factory setting 40000.00 [ms]
p9559	SI Motion forced checking procedure timer (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [h]	Max 9000.00 [h]	Factory setting 8.00 [h]
p9560	SI Motion pulse suppression shutdown velocity (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 0.00 [mm/min]
p9560	SI Motion pulse suppression shutdown speed (Control Unit)		
SERVO_840 (Lin, Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 6000.00 [rpm]	Factory setting 0.00 [rpm]
p9560	SI Motion pulse suppression shutdown velocity (Control Unit)		
SERVO_840 (Lin)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 0.00 [mm/min]

p9560	SI Motion pulse suppression shutdown velocity (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 0.00 [mm/min]
p9560	SI Motion pulse suppression shutdown speed (Control Unit)		
SERVO (Lin, Safety rot), SERVO_AC (Lin, Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 6000.00 [rpm]	Factory setting 0.00 [rpm]
p9560	SI Motion pulse suppression shutdown velocity (Control Unit)		
SERVO (Lin), SERVO_AC (Lin)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 6000.00 [mm/min]	Factory setting 0.00 [mm/min]
p9561	SI Motion SLS (SG) stop response (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 5
p9561	SI Motion SLS (SG) stop response (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 5
p9562[0...1]	SI Motion SLP (SE) stop response (Control Unit)		
SERVO_840	Can be changed: C2(95), U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2	Max 4	Factory setting 2

p9562[0...1]	SI Motion SLP (SE) stop response (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 2
p9563[0...3]	SI Motion SLS (SG)-specific stop response (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 2
p9563[0...3]	SI Motion SLS (SG)-specific stop response (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 2
p9564	SI Motion SDI tolerance (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.001 [mm]	Max 360.000 [mm]	Factory setting 12.000 [mm]
p9564	SI Motion SDI tolerance (Control Unit)		
SERVO_840 (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.001 [°]	Max 360.000 [°]	Factory setting 12.000 [°]
p9564	SI Motion SDI tolerance (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.001 [mm]	Max 360.000 [mm]	Factory setting 12.000 [mm]

p9564	SI Motion SDI tolerance (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.001 [°]	Max 360.000 [°]	Factory setting 12.000 [°]
p9565	SI Motion SDI delay time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9565	SI Motion SDI delay time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 600000.00 [ms]	Factory setting 100.00 [ms]
p9566	SI Motion SDI stop response (Control Unit)		
SERVO_840	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 1
p9566	SI Motion SDI stop response (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2861 Unit selection: - Expert list: 1
	Min 0	Max 14	Factory setting 1
p9568	SI Motion SAM velocity limit (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [mm/min]	Max 1000.00 [mm/min]	Factory setting 0.00 [mm/min]

p9568	SI Motion SAM velocity limit (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [rpm]	Max 1000.00 [rpm]	Factory setting 0.00 [rpm]
p9570	SI Motion acceptance test mode (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00AC hex	Factory setting 0000 hex
r9571	SI Motion acceptance test status (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00AC hex	Factory setting -
p9572	SI Motion reference position (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -737280.000 [mm]	Max 737280.000 [mm]	Factory setting 0.000 [mm]
p9572	SI Motion reference position (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -737280.000 [°]	Max 737280.000 [°]	Factory setting 0.000 [°]

p9573	SI Motion accept reference position (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 122	Factory setting 0
p9574	SI Motion safe position scaling (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1	Max 100000	Factory setting 1000
p9580	SI Motion pulse suppression delay bus failure (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 800.00 [ms]	Factory setting 0.00 [ms]
p9580	SI Motion pulse suppression delay bus failure (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 800.00 [ms]	Factory setting 0.00 [ms]
p9581	SI Motion brake ramp reference value (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 600.0000 [mm/min]	Max 240000.0000 [mm/min]	Factory setting 1500.0000 [mm/min]
p9581	SI Motion brake ramp reference value (Control Unit)		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 600.0000 [rpm]	Max 240000.0000 [rpm]	Factory setting 1500.0000 [rpm]

p9582	SI Motion brake ramp delay time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10.00 [ms]	Max 99000.00 [ms]	Factory setting 250.00 [ms]
p9583	SI Motion brake ramp monitoring time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.50 [s]	Max 3600.00 [s]	Factory setting 10.00 [s]
p9585	SI Motion fault tolerance actual value sensing sensorless (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -1	Max 4	Factory setting -1
p9586	SI Motion delay time of the evaluation sensorless (CU)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 5.00 [ms]	Max 1000.00 [ms]	Factory setting 100.00 [ms]
p9587	SI Motion act val sensing sensorless filter time (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 25.00 [ms]
p9587	SI Motion act val sensing sensorless filter time (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 25.00 [ms]

p9588	SI Motion act val sensing sensorless min current (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 10.00 [%]
p9588	SI Motion act val sensing sensorless min current (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [%]	Max 1000.00 [%]	Factory setting 10.00 [%]
p9589	SI Motion voltage tolerance acceleration (Control Unit)		
SERVO_840	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 10.00 [%]	Max 3300.00 [%]	Factory setting 100.00 [%]
p9589	SI Motion voltage tolerance acceleration (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 10.00 [%]	Max 3300.00 [%]	Factory setting 100.00 [%]
r9590[0...3]	SI Motion version safety motion monitoring (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9601	SI enable, functions integrated in the drive (Control Unit)		
SERVO_840	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin

p9601	SI enable, functions integrated in the drive (Control Unit)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 bin
p9601	SI enable, functions integrated in the drive (Control Unit)		
SERVO, VECTOR	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 bin
p9602	SI enable Safe Brake Control (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2814 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p9610	SI PROFIsafe address (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFE hex	Factory setting 0000 hex
p9611	SI PROFIsafe telegram selection (Control Unit)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 998	Factory setting 998
p9620[0...7]	BI: SI signal source for STO (SH)/SBC/SS1 (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 / Binary P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2810 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p9621	BI: SI Safe Brake Adapter signal source (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 / Binary P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2814 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p9622[0...1]	SI SBA relay delay times (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2814 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 1000.00 [ms]	Factory setting [0] 100.00 [ms] [1] 65.00 [ms]
p9650	SI SGE changeover tolerance time (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2810 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]
p9651	SI STO/SBC/SS1 debounce time (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 0.00 [ms]
p9652	SI Safe Stop 1 delay time (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [s]	Max 300.00 [s]	Factory setting 0.00 [s]
p9653	SI Safe Stop 1 drive-based braking response		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0

p9658	SI transition time STOP F to STOP A (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 30000.00 [ms]	Factory setting 0.00 [ms]
p9659	SI forced checking procedure timer		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2810 Unit selection: - Expert list: 1
	Min 0.00 [h]	Max 9000.00 [h]	Factory setting 8.00 [h]
r9660	SI forced checking procedure remaining time		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [h]	Max - [h]	Factory setting - [h]
p9697	SI Motion pulse suppression failsafe delay time (CU)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 800.00 [ms]	Factory setting 0.00 [ms]
p9700	SI Motion copy function		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95), U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00D0 hex	Factory setting 0000 hex
p9700	SI Motion copy function		
TM54F_MA	Can be changed: C2(95), U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 0057 hex	Factory setting 0000 hex

p9701	Acknowledge SI motion data change		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95), U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00EC hex	Factory setting 0000 hex
p9701	Acknowledge SI motion data change		
TM54F_MA, TM54F_SL	Can be changed: C2(95), U, T Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 00EC hex	Factory setting 0000 hex
p9705	Bi: SI Motion: Test stop signal source		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 / Binary P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
r9708[0...4]	SI Motion diagnostics safe position		
SERVO_840	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min - [mm]	Max - [mm]	Factory setting - [mm]
r9708[0...4]	SI Motion diagnostics safe position		
SERVO_840 (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r9708[0...4]	SI Motion diagnostics safe position		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min - [mm]	Max - [mm]	Factory setting - [mm]

r9708[0...4]	SI Motion diagnostics safe position		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC(Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2822 Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r9710[0...1]	SI Motion diagnostics result list 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9711[0...1]	SI Motion diagnostics result list 2		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9712	CO: SI Motion diagnostics position actual value motor side		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9713[0...4]	CO: SI Motion diagnostics position actual value load side		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9713[0...4]	CO: SI Motion diagnostics position actual value load side		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9714[0...2]	CO: SI motion diagnostics velocity		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mm/min]	Max - [mm/min]	Factory setting - [mm/min]
r9714[0...2]	CO: SI motion diagnostics velocity		
SERVO (Safety rot), SERVO_840 (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r9718.23	CO/BO: SI Motion control signals 1		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9718.23	CO/BO: SI Motion control signals 1		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9719.0...31	CO/BO: SI Motion control signals 2		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9719.0...31	CO/BO: SI Motion control signals 2		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9720.0...19	CO/BO: SI Motion control signals integrated in the drive		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2840, 2855 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9721.0...15	CO/BO: SI Motion status signals		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9721.0...15	CO/BO: SI Motion status signals		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9722.0...31	CO/BO: SI Motion status signals integrated in the drive		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2840, 2855 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9722.0...31	CO/BO: SI Motion status signals integrated in the drive		
SERVO (Lin), SERVO_AC (Lin)	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2840, 2855 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9723.1...17	CO/BO: SI Motion diagnostic signals integrated in the drive		
SERVO_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9723.0...17	CO/BO: SI Motion diagnostic signals integrated in the drive		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9724	SI Motion crosswise comparison clock cycle		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: FloatingPoint32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r9725[0...2]	SI Motion, diagnostics STOP F		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p9726	SI Motion, user agreement selection/de-selection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min 0000 hex	Max 00AC hex	Factory setting 0000 hex
r9727	SI Motion user agreement, inside the drive		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: 2822
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r9728[0...2]	SI Motion actual checksum, SI parameters		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting
p9729[0...2]	SI Motion reference checksum, SI parameters		
SERVO_840	Can be changed: U, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p9729[0...2]	SI Motion reference checksum, SI parameters		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r9730	SI Motion Safe maximum velocity		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mm/min]	Max - [mm/min]	Factory setting - [mm/min]
r9730	SI Motion Safe maximum velocity		
SERVO (Safety rot), SERVO_840 (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r9731	SI Motion safe position accuracy		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mm]	Max - [mm]	Factory setting - [mm]
r9731	SI Motion safe position accuracy		
SERVO (Safety rot), SERVO_840 (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r9732	SI Motion velocity resolution		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mm/min]	Max - [mm/min]	Factory setting - [mm/min]
r9732	SI Motion velocity resolution		
SERVO (Safety rot), SERVO_840 (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r9733[0...2]	CO: SI Motion setpoint speed limit effective		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: 3_1 Scaling: p2000	Access level: 3 Func. diagram: 2820, 2861, 3630 Unit selection: p0505 Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]

r9733[0...2]	CO: SI Motion setpoint speed limit effective		
SERVO (Lin), SERVO_840 (Lin), SERVO_AC (Lin)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: - Min - [m/min]	Calculated: - Dynamic index: - Units group: 4_1 Scaling: p2000 Max - [m/min]	Access level: 3 Func. diagram: 2820, 2861, 3630 Unit selection: p0505 Expert list: 1 Factory setting - [m/min]
r9734.0...15	CO/BO: SI Motion Safety Info Channel status word		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r9735[0...1]	SI Motion diagnostics result list 3		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r9736[0...1]	SI Motion diagnostics result list 4		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r9737[0...1]	SI Motion diagnostics result list 5		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r9738[0...1]	SI Motion diagnostics result list 6		
SERVO_840	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -

r9739[0...1]	SI Motion diagnostics result list 7		
SERVO_840	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p9740	SI Motion, user agreement selection/de-selection MM		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	0000 bin	1010 1100 bin	0000 bin
r9741	SI Motion user agreement, inside the drive MM		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Integer16	Dynamic index: -	Func. diagram: 2822
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9744	SI message buffer changes, counter		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9745[0...63]	SI component number		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r9747[0...63]	SI message code		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Messages	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

r9748[0...63]	SI message time received in milliseconds		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r9749[0...63]	SI message value		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Integer32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9750[0...63]	SI diagnostic attributes		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9752	SI message cases, counter		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: U, T Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
r9753[0...63]	SI message value for float values		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9754[0...63]	SI message time received in days		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9755[0...63]	SI message time removed in milliseconds		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r9756[0..63]	SI message time removed in days		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Messages Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9761	SI password input		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C1, T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p9762	SI password new		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p9763	SI password acknowledgement		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r9765	SI Motion forced check procedure remaining time (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [h]	Max - [h]	Factory setting - [h]

r9768[0...7]	SI PROFIsafe receive control words (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9769[0...7]	SI PROFIsafe send status words (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9770[0...3]	SI version drive-integrated safety function (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9771	SI common functions (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2804 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9772.0...23	CO/BO: SI status (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2804 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9773.0...31	CO/BO: SI status (Control Unit + Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2804 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9774.0...31	CO/BO: SI status (group STO)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2804 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9776	SI diagnostics		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9780	SI monitoring clock cycle (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r9781[0...1]	SI checksum to check changes (Control Unit)		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9782[0...1]	SI time stamps to check changes (Control Unit)		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [h]	Max - [h]	Factory setting - [h]

p9783	SI motion synchr. motor current injection sensorless		
SERVO, SERVO_AC, VECTOR (n/M), VECTOR_AC (n/M)	Can be changed: U, T Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -50.00 [%]	Max 0.00 [%]	Factory setting -20.00 [%]
r9784[0...1]	SI Motion diagnostics acceleration encoderless		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mm/s ²]	Max - [mm/s ²]	Factory setting - [mm/s ²]
r9784[0...1]	SI Motion diagnostics acceleration encoderless		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rev/s ²]	Max - [rev/s ²]	Factory setting - [rev/s ²]
r9785[0...1]	SI Motion diagnostics absolute current value encoderless		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: 6_3 Scaling: -	Access level: 3 Func. diagram: - Unit selection: p0505 Expert list: 1
	Min - [mA]	Max - [mA]	Factory setting - [mA]
r9786[0...2]	SI Motion diagnostics plausibility angle value encoderless		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [°]	Max - [°]	Factory setting - [°]
r9787	SI Motion possible error tolerance sensorless		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [mm/min]	Max - [mm/min]	Factory setting - [mm/min]

r9787	SI Motion possible error tolerance sensorless		
SERVO (Safety rot), SERVO_AC (Safety rot), VECTOR (Safety rot), VECTOR_AC (Safety rot)	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [rpm]	Max - [rpm]	Factory setting - [rpm]
r9794[0...19]	SI crosswise comparison list (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9795	SI diagnostics STOP F (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9798	SI actual checksum SI parameters (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9799	SI reference checksum SI parameters (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p9801	SI enable, functions integrated in the drive (Motor Module)		
SERVO_840	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin

p9801	SI enable, functions integrated in the drive (Motor Module)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 bin
p9801	SI enable, functions integrated in the drive (Motor Module)		
SERVO, VECTOR	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 bin
p9802	SI enable Safe Brake Control (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Integer32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2814 Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 0
p9810	SI PROFIsafe address (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFE hex	Factory setting 0000 hex
p9811	SI PROFIsafe telegram selection (Motor Module)		
SERVO, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 998	Factory setting 998
p9821	BI: SI Safe Brake Adapter signal source (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 / Binary P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2814 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0

p9822[0...1]	SI SBA relay delay times (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2814 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 1000000.00 [μs]	Factory setting [0] 100000.00 [μs] [1] 65000.00 [μs]
p9850	SI SGE changeover tolerance time (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2810 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 2000000.00 [μs]	Factory setting 500000.00 [μs]
p9851	SI STO/SBC/SS1 debounce time (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 100000.00 [μs]	Factory setting 0.00 [μs]
p9852	SI Safe Stop 1 delay time (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 300000.00 [ms]	Factory setting 0.00 [ms]
p9858	SI transition time STOP F to STOP A (Control Unit)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min 0.00 [μs]	Max 30000000.00 [μs]	Factory setting 0.00 [μs]
r9870[0...3]	SI version drive-integrated safety function (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9871	SI common functions (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2804 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9872.0...24	CO/BO: SI status list (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2804 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9880	SI monitoring clock cycle (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min - [ms]	Max - [ms]	Factory setting - [ms]
r9881[0...11]	SI Motion Sensor Module Node Identifier second channel		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned8 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9890[0...2]	SI version (Sensor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9894[0...19]	SI crosswise comparison list (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9895	SI diagnostics STOP F (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: 2802 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9897	SI Motion pulse suppression failsafe delay time (MM)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [µs]	Max 800000.00 [µs]	Factory setting 0.00 [µs]
r9898	SI actual checksum SI parameters (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p9899	SI reference checksum SI parameters (Motor Module)		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2800 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r9900	Actual topology number of indices		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -

r9901[0...n]	Actual topology		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: r9900 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min -	Max -	Factory setting -
p9902	Target topology number of indices		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 1	Max 65535	Factory setting 1
p9903[0...n]	Target topology		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: p9902 Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0000 hex	Max FFFF hex	Factory setting 0000 hex
p9904	Topology comparison, acknowledge differences		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p9905	Device specialization		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0

p9906	Topology comparison, comparison stage of all components		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 0
p9907	Topology comparison, comparison stage of the component number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned8 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 199	Factory setting 0
p9908	Topology comparison, comparison stage of a component		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 99	Factory setting 0
p9909	Topology comparison, component replacement		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned8 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p9910	Transfer additional components into the target topology		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Integer16 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 1 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 6	Factory setting 0

p9911[0...3]	Insert drive object		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 4294967295	Factory setting 0
p9912[0...1]	Delete drive object		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(3) Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 62	Factory setting 0
p9913[0...2]	Change drive object number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(4) Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 62	Factory setting 0
p9914[0...2]	Change component number		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1 Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 199	Factory setting 0
p9915	DRIVE-CLiQ data transfer error shutdown threshold master		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max 0007 07FF hex	Factory setting 0007 02FF hex

p9916	DRIVE-CLiQ data transfer error shutdown threshold slave		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: C1(1)</p> <p>Data type: Unsigned32</p> <p>P-Group: Topology</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 4</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0000 hex	Max 0007 07FF hex	Factory setting 0007 02FF hex
p9917[0...1]	Delete component		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: C1(30)</p> <p>Data type: Unsigned16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 0</p>
	Min 0	Max 199	Factory setting 0
p9920[0...99]	Licensing, enter license key		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: U, T</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -
p9921	Licensing, activate license key		
CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: U, T</p> <p>Data type: Integer16</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min 0	Max 1	Factory setting 0
r9925[0...99]	Firmware file incorrect		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	<p>Can be changed: -</p> <p>Data type: Unsigned8</p> <p>P-Group: -</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 2</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	Min -	Max -	Factory setting -

r9926	Firmware check status			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 2 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-
p9930[0...8]	System logbook activation			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 255	Factory setting	0
p9931[0...129]	System logbook module selection			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0000 hex	Max FFFF FFFF hex	Factory setting	0000 hex
p9932	Save system logbook EEPROM			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min 0	Max 255	Factory setting	0
r9935.0	BO: POWER ON delay signal			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned8 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min -	Max -	Factory setting	-

p9941	Target topology feature delete all components		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: C1(1) Data type: Unsigned32 P-Group: Topology Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 0
	Min 0	Max 1	Factory setting 0
r9975[0...7]	System utilization measured		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r9976[0...7]	System utilization		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r9979	Sampling time with largest total utilization		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [μs]	Max - [μs]	Factory setting - [μs]
r9980[0...101]	Sampling times utilization calculated		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]

r9981[0...101]	Sampling times utilization measured			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
r9982[0...4]	Data memory utilization			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
r9983[0...4]	Measured data memory utilization (actual load)			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
r9984[0...4]	Data memory utilization OA			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	
r9986[0...7]	DRIVE-CLiQ system load			
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1	
	Min - [%]	Max - [%]	Factory setting - [%]	

r9987[0...7]	DRIVE-CLiQ bandwidth load		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
r9988[0...7]	DRIVE-CLiQ DPRAM load		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: FloatingPoint32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min - [%]	Max - [%]	Factory setting - [%]
p9990	DO memory usage actual value determination selection		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: U, T Data type: Unsigned16 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 65535	Factory setting 0
r9991[0...4]	Memory usage drive object actual value		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9992[0...4]	Memory usage drive object reference value		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r9993[0...4]	Memory usage OA application		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r9999[0...99]	Software error internal supplementary diagnostics		
CU_I_840, CU_NX_840, CU_S_AC_DP, CU_S_AC_PN, CU_S120_DP, CU_S120_PN	Can be changed: - Data type: Unsigned32 P-Group: - Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p10000	SI sampling time		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 25.00 [ms]	Factory setting 12.00 [ms]
p10001	SI delay time for test stop at DO		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 4.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]
p10001	SI delay time for test stop at DO 0 ... DO 3		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 2.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]

p10002	SI discrepancy monitoring time		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]
p10002	SI discrepancy monitoring time		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2850, 2851 Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]
p10003	SI forced checking procedure timer		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [h]	Max 8760.00 [h]	Factory setting 8.00 [h]
p10003	SI forced checking procedure timer		
TM54F_MA	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min 0.00 [h]	Max 8760.00 [h]	Factory setting 8.00 [h]
r10004[0...1]	SI actual checksum TM54F parameters		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2847 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p10005[0...1]	SI reference checksum TM54F parameters		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2847 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p10006	SI acknowledgement internal event F-DI (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10006	SI acknowledgement internal event input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10007	BI: SI forced checking procedure F-DO signal source		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 / Binary P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p10007	BI: SI forced checking procedure F-DI/F-DO signal source		
TM54F_MA	Can be changed: C2(95) Data type: Unsigned32 / Binary P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0
p10008	SI operating mode TM54F		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 1	Factory setting 1
p10009	SI SLP retract F-DI		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 0

p10009	SI SLP retract F-DI		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 10	Factory setting 0
p10010[0...5]	SI drive object assignment		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2847, 2848 Unit selection: - Expert list: 1
	Min 0	Max 62	Factory setting 0
p10011[0...5]	SI drive group assignment		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min 1	Max 4	Factory setting 1
p10012[0...5]	SI Motor Module Node Identifier Word 1		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p10013[0...5]	SI Motor Module Node Identifier Word 2		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p10014[0...5]	SI Motor Module Node Identifier Word 3		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex

p10017	SI digital inputs debounce time (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0.00 [ms]	Max 100.00 [ms]	Factory setting 1.00 [ms]
p10017	SI digital inputs debounce time		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 100.00 [ms]	Factory setting 1.00 [ms]
p10020[0...3]	SI special operating mode selection		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 3	Factory setting 1
p10021[0...3]	SI Emergency Stop stop response		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 2	Factory setting 0
p10022	SI STO input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10022[0...3]	SI STO input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10023	SI SS1 input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10023[0...3]	SI SS1 input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10024	SI SS2 input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10024[0...3]	SI SS2 input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10025	SI SOS input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10025[0...3]	SI SOS input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10026	SI SLS input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10026[0...3]	SI SLS input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10027	SI SLS limit bit 0 input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10027[0...3]	SI SLS limit bit 0 input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10028	SI SLS limit bit 1 input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10028[0...3]	SI SLS limit bit 1 input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10030	SI SDI positive input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10030[0...3]	SI SDI positive input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10031	SI SDI negative input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10031[0...3]	SI SDI negative input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10032	SI SLP select input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10032[0...3]	SI SLP input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10033	SI SLP select input terminal (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10033[0...3]	SI SLP select input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10036[0...3]	SI special operating mode input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10037[0...3]	SI agreement input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10038[0...3]	SI Emergency Stop input terminal		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 4 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10039	SI Safe State signal selection		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2856 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0001 bin

p10039[0...3]	SI Safe State signal selection		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2856 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0001 bin
p10040	SI F-DI input mode		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p10040	SI F-DI input mode		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p10041	SI F-DI enable for test		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0000 0000 0000 bin
p10042[0...5]	SI F-DO 0 signal sources		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2857 Unit selection: - Expert list: 1
	Min 0	Max 15	Factory setting 0
p10042[0...5]	SI F-DO 0 signal sources		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2857 Unit selection: - Expert list: 1
	Min 0	Max 783	Factory setting 0

p10043[0...5]	SI F-DO 1 signal sources		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2857 Unit selection: - Expert list: 1
	Min 0	Max 783	Factory setting 0
p10044[0...5]	SI F-DO 2 signal sources		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2857 Unit selection: - Expert list: 1
	Min 0	Max 783	Factory setting 0
p10045[0...5]	SI F-DO 3 signal sources		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2857 Unit selection: - Expert list: 1
	Min 0	Max 783	Factory setting 0
p10046	SI F-DO feedback signal input activation		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p10046	SI F-DO feedback signal input activation		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p10047	SI F-DO test stop mode		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0001 bin	Max 0011 bin	Factory setting 0010 bin

p10047[0...3]	SI F-DO test stop mode		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0001 bin	Max 0011 bin	Factory setting 0010 bin
r10049	SI F-DI monitoring status (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p10050	SI PROFIsafe F-DI transfer (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
r10051.0...2	CO/BO: SI digital inputs status (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r10051.0...9	CO/BO: SI digital inputs status		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2850, 2851 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
r10052.0	CO/BO: SI digital outputs status (processor 1)		
SERVO_AC, VECTOR_AC	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -

r10052.0...3	CO/BO: SI digital outputs status		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r10053.0...3	CO/BO: SI digital inputs 20 ... 23 status		
TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1 Factory setting -
r10054	SI TM54F failsafe events active		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
r10055	SI TM54F communication status drive-specific		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: 2846 Unit selection: - Expert list: 1 Factory setting -
r10056.0	CO/BO: SI Status		
TM54F_MA	Can be changed: - Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min -	Calculated: - Dynamic index: - Units group: - Scaling: - Max -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1 Factory setting -
p10061	SI password input TM54F		
TM54F_MA, TM54F_SL	Can be changed: T Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: - Min 0000 hex	Calculated: - Dynamic index: - Units group: - Scaling: - Max FFFF FFFF hex	Access level: 3 Func. diagram: 2847 Unit selection: - Expert list: 1 Factory setting 0000 hex

p10062	SI password new TM54F		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2847 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
p10063	SI password acknowledgement TM54F		
TM54F_MA, TM54F_SL	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2847 Unit selection: - Expert list: 1
	Min 0000 hex	Max FFFF FFFF hex	Factory setting 0000 hex
r10090[0...3]	SI TM54F version		
TM54F_MA, TM54F_SL	Can be changed: - Data type: Unsigned16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting -
p10101	SI delay time for test stop at DO		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 4.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]
p10102	SI discrepancy monitoring time (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: FloatingPoint32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2850, 2851 Unit selection: - Expert list: 1
	Min 1.00 [ms]	Max 2000.00 [ms]	Factory setting 500.00 [ms]
p10106	SI acknowledgement internal event F-DI (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10109	SI SLP retract F-DI		
SERVO_AC, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Integer16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	Max 3	Factory setting 0
p10117	SI digital inputs debounce time (processor 2)		
SERVO_AC, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: FloatingPoint32</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0.00 [ms]</p>	Max 100.00 [ms]	Factory setting 1.00 [ms]
p10122	SI STO input terminal (processor 2)		
SERVO_AC, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Integer16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	Max 255	Factory setting 0
p10123	SI SS1 input terminal (processor 2)		
SERVO_AC, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Integer16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	Max 255	Factory setting 0
p10124	SI SS2 input terminal (processor 2)		
SERVO_AC, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Integer16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	Max 255	Factory setting 0
p10125	SI SOS input terminal (processor 2)		
SERVO_AC, VECTOR_AC	<p>Can be changed: C2(95)</p> <p>Data type: Integer16</p> <p>P-Group: Safety Integrated</p> <p>Not for motor type: -</p>	<p>Calculated: -</p> <p>Dynamic index: -</p> <p>Units group: -</p> <p>Scaling: -</p>	<p>Access level: 3</p> <p>Func. diagram: -</p> <p>Unit selection: -</p> <p>Expert list: 1</p>
	<p>Min 0</p>	Max 255	Factory setting 0

p10126	SI SLS input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10127	SI SLS limit bit 0 input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10128	SI SLS limit bit 1 input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10130	SI SDI positive input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10131	SI SDI negative input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10132	SI SLP input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0

p10133	SI SLP position range select input terminal (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0	Max 255	Factory setting 0
p10139	SI Safe State signal selection (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2856 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 0001 bin
p10140	SI F-DI input mode (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p10142[0...5]	SI F-DO 0 signal sources (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2857 Unit selection: - Expert list: 1
	Min 0	Max 15	Factory setting 0
p10146	SI test sensor feedback signal		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Unsigned32 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: 2848 Unit selection: - Expert list: 1
	Min -	Max -	Factory setting 0000 bin
p10147	SI F-DO test stop mode		
SERVO_AC, VECTOR_AC	Can be changed: C2(95) Data type: Integer16 P-Group: Safety Integrated Not for motor type: -	Calculated: - Dynamic index: - Units group: - Scaling: -	Access level: 3 Func. diagram: - Unit selection: - Expert list: 1
	Min 0001 bin	Max 0011 bin	Factory setting 0010 bin

r10149	SI F-DI monitoring status (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r10151.0...2	CO/BO: SI digital inputs status (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r10152.0	CO/BO: SI digital outputs status (processor 2)		
SERVO_AC, VECTOR_AC	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned32	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
p60022	PROFIsafe telegram selection		
SERVO, SERVO_840, SERVO_AC, VECTOR, VECTOR_AC	Can be changed: T	Calculated: -	Access level: 3
	Data type: Unsigned16	Dynamic index: -	Func. diagram: -
	P-Group: Safety Integrated	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	0	902	0
r61000[0...239]	PROFINET Name of Station		
CU_S_AC_PN, CU_S120_DP (PROFINET), CU_S120_PN	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned8	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-
r61001[0...3]	PROFINET IP of Station		
CU_S_AC_PN, CU_S120_DP (PROFINET), CU_S120_PN	Can be changed: -	Calculated: -	Access level: 3
	Data type: Unsigned8	Dynamic index: -	Func. diagram: -
	P-Group: -	Units group: -	Unit selection: -
	Not for motor type: -	Scaling: -	Expert list: 1
	Min	Max	Factory setting
	-	-	-

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Appendix A

A.1 List of abbreviations

Abbreviation	Source of abbreviation	Meaning
ADI4	Analog Drive Interface for 4 axes	
AC	Adaptive Control	
ALM	Active Line Module	Infeed module for drives
AS	Automation System	
ASCII	American Standard Code for Information Interchange	American coding standard for the exchange of information
ASIC	Application Specific Integrated Circuit	User switching circuit
ASUB	Asynchronous subprogram	
AUTO		Operating mode "Automatic"
AUXFU	Auxiliary Function:	Auxiliary functions
STL	Statement List	
BA	Operating mode	
Mode group	Mode group	
BERO	Proximity limit switch with feedback oscillator	
BI	Binector Input	
HHU	Handheld unit	
BICO	Binector Connector	Interconnection technology for the drive
BIN	Binary files	Binary files
BIOS	Basic Input Output System	
BCS	Basic Coordinate System	
BO	Binector Output	
OPI	Operator Panel Interface	
CAD	Computer Aided Design	
CAM	Computer-Aided Manufacturing	
CC	Compile Cycle	Compile cycles
CI	Connector Input	
CF Card	Compact Flash Card	
CNC	Computerized Numerical Control	Computer-Supported Numerical Control
CO	Connector Output	
COM board	Communication Board	
CP	Communications Processor	
CPU	Central Processing Unit	Central processing unit
CR	Carriage Return	
CRC	Cyclic Redundancy Check	Checksum test
CRT	Cathode Ray Tube	picture tube

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A.1 List of abbreviations

Abbreviation	Source of abbreviation	Meaning
CSB	Central Service Board	PLC module
CTS	Clear To Send	Signal from serial data interfaces
CUTCOM	Cutter radius compensation	Tool radius compensation
DB	Data block	Data block in the PLC
DBB	Data-block byte	Data block byte in the PLC
DBW	Data-block word	Data block byte in the PLC
DBX	Data-block bit	Data block bit in the PLC
DDE	Dynamic Data Exchange	Dynamic Data Exchange
DDS		Drive data set
DIN	Deutsche Industrie Norm (German Industry Standard)	
DIR	Directory	Directory
DLL	Dynamic Link Library	
DO	Drive Object	Drive object
DPM	Dual-Port Memory	
DRAM	Dynamic Random Access Memory	Dynamic memory block
DRF	Differential Resolver Function	Differential resolver function (handwheel)
DRIVE-CLiQ	Drive Component Link with IQ	
DRY	DRY run	DRY run feedrate
DSB	Decoding Single Block	Decoding single block
DSC	Dynamic Servo Control / Dynamic Stiffness Control	
DSR	Data Send Ready	Signals that data is ready to be sent from the serial data interfaces
DW	Data word	
DWORD	Double Word (currently 32 bits)	
E	Input	
I/O	Input/Output	
ENC	Encoder	Actual value encoder
EPROM	Erasable Programmable Read Only Memory	Erasable, electronically programmable read-only memory
ePS Network Services		Services for Internet-based remote machine maintenance
EQN		Designation for an absolute encoder with 2048 sine signals per revolution
ESR	Extended stop and retract	
ETC	ETC key	Expansion of the softkey bar in the same menu
FB	Function block	
FBS	Slimline screen	
FC	Function call	Function block in the PLC
FEPROM	Flash EPROM	Read and write memory
FIFO	First In - First Out	Method of storing and retrieving data in a memory

Abbreviation	Source of abbreviation	Meaning
FIPO	Fine InterPOlator	
FM	Function Module	
FM-NC	Function Module Numerical Control	Numerical Control
FPU	Floating-point unit	Floating Point Unit
FRA	Frame block	
FRAME	Data set	Coordinate conversion with the components work offset, rotation, scaling, mirroring
CRC	Cutter radius compensation	
FST	Feed Stop	Feed stop
CSF	Function plan (PLC programming method)	
FW	Firmware	
GC	Global control	PROFIBUS: Broadcast telegram
GD	Global data	
GEO	Geometry, e.g. geometry axis	
BP	Basic program	
GS	Gear stage	
GUD	Global User Data	Global user data
HD	Hard Disk	Hard disk
HEX	Abbreviation for hexadecimal number	
AuxF	Auxiliary function	
HMI	Human Machine Interface	SINUMERIK user interface
MSD	Main Spindle Drive	
HT	Handheld Terminal	Handheld unit
HW	Hardware	
IBN	Startup	
IF	Drive module pulse enable	
IK (GD)	Implicit communication (global data)	
IKA	Interpolative Compensation	Interpolatory compensation
IM	Interface module	Interconnection module
INC	Increment	Increment
INI	Initializing Data	Initializing data
IGBT	Insulated Gate Bipolar Transistor	
IPO	Interpolator	
ISO	International Standardization Organization	International Standards Organization
JOG	"Jogging" operating mode	
COR	Coordinate rotation	
KDV	Crosswise data comparison	Crosswise data comparison between the NCK and PLC
K _V	Servo-gain factor	Gain factor of control loop
LAD	Ladder diagram	PLC programming method
LCD	Liquid Crystal Display	Liquid crystal display

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A.1 List of abbreviations

Abbreviation	Source of abbreviation	Meaning
LED	Light Emitting Diode	Light Emitting Diode
LF	Line Feed	
PMS		
LSB	Least Significant Bit	Least significant bit
LUD	Local User Data	User data
MAC	Media Access Control	
MAIN	Main program	Main program (OB1, PLC)
MB	Megabyte	
MCI	Motion Control Interface	
MCIS	Motion Control Information System	
MCP	Machine control panel	Machine control panel
MD	Machine data	
MDI	"Manual Data Automatic" operating mode	Manual input
MCS	Machine coordinate system	
MLFB	Machine-readable product code	
MMC	Man Machine Communication	Synonym for HMI
MPF	Main Program File	Main program (NC part program)
MPI	Multi-Point Interface	Multiport Interface
MCP	Machine control panel	
NC	Numerical Control	Numerical Control
NCK	Numerical Control Kernel	Numerical control kernel
NCU	Numerical Control Unit	Hardware unit of the NCK
IS	Interfaces	Interface signal
WO	Zero offset	
NX	Numerical Extension	Axis expansion board
OB	Organization block in the PLC	
OEM	Original Equipment Manufacturer	
OP	Operator panel	Operator panel
OPI	Operator Panel Interface	Interface for connection to the operator panel
OSI	Open Systems Interconnection	Standard for computer communications
OPT	Options	Options
PIQ	Process Image Output	
PII	Process Image Input	
P bus	Peripheral Bus	
PC	Personal Computer	
PCMCIA	Personal Computer Memory Card International Association	Standard for plug-in memory cards
PCU	Programmable Control Unit	
PI	Program Instance	
PG	Programming device	
PLC	Programmable logic controller	Programmable Logic Controller

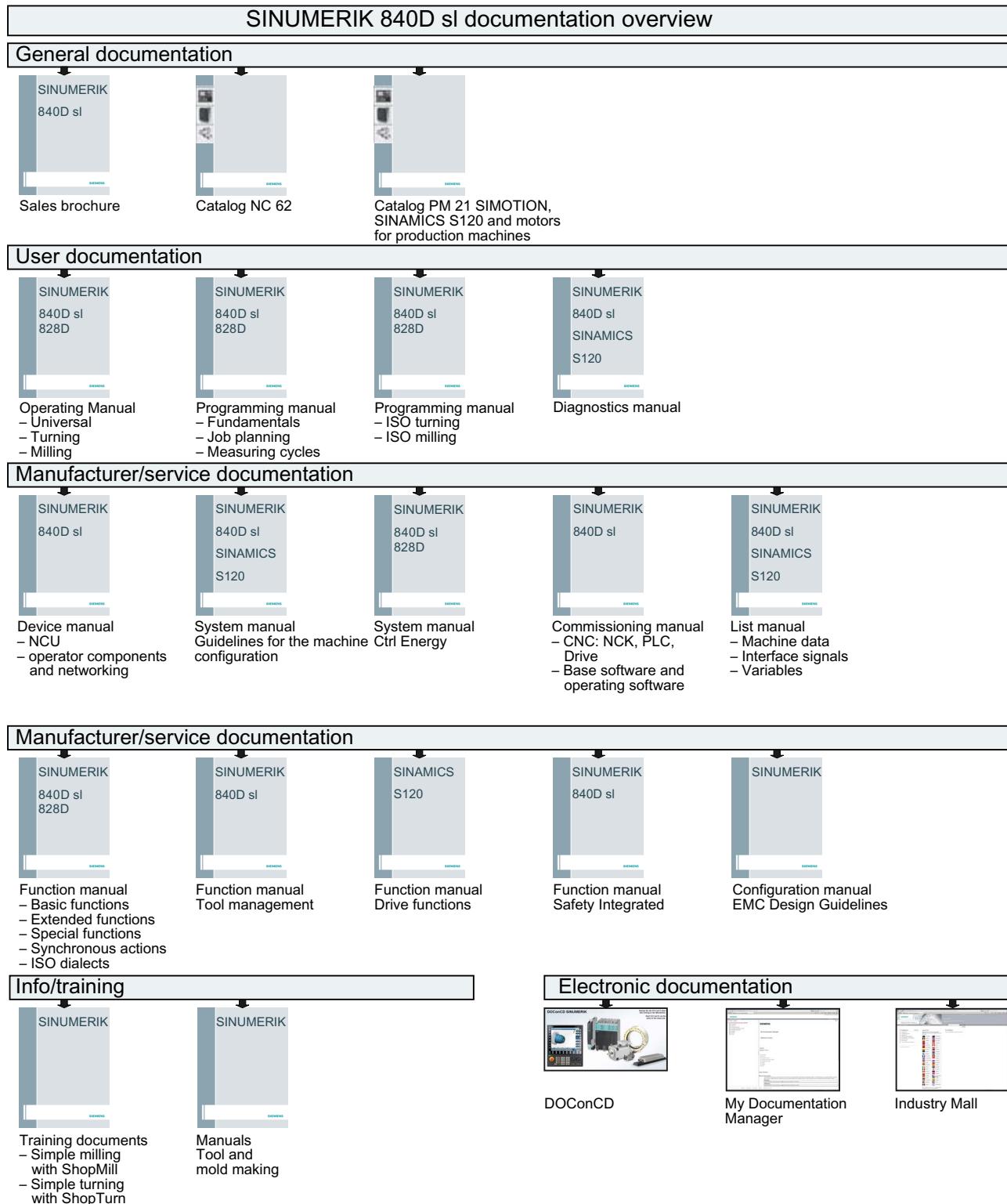
Abbreviation	Source of abbreviation	Meaning
PN	PROFINET	
PO	POWER ON	
POU	Program Organization Unit	Unit in the PLC user program
PPU	Panel Processing Unit	Panel-based control
PTP	Point-to-point	Point-to-Point
PZD	Process data for drives	
QEC	Quadrant Error Compensation	Quadrant error compensation
QEC	Quadrant error compensation	
RAM	Random Access Memory	Program memory that can be read and written to
REF POINT		Function "Reference point approach" in JOG mode
REPOS		Function "Repositioning" in JOG mode
RPA	R parameter Active	Memory area on the NCK for R parameter numbers
RPY	Roll Pitch Yaw	Rotation type of a coordinate system
RTC	Real Time Clock	Real-time clock
RTS	Request To Send	RTS, control signal of serial data interfaces
SBL	Single Block	Single block
SBR	Subroutine	Subroutine (PLC)
SD	Setting Data	
SDB	System Data Block	
SEA	Setting Data Active	Identifier (file type) for setting data
SERUPRO	SEArch RUn by PROgram test	Search run by program test
SFC	System Function Call	
SGE	Safety-related input	
SGA	Safety-related output	
SH	Safe standstill	
SK	Softkey	
SKP	Skip	Skip block
SLM	Smart Line Module	
SM	Stepper Motor	
SPF	Subprogram file	Subprogram (NC)
SPL	Safe programmable logic	
PLC	Programmable Logic Controller	
SRAM	Static Random Access Memory	Static memory block
TNRC	Tool Nose Radius Compensation	
LEC	Leadscrew error compensation	
SSI	Serial Synchronous Interface	Synchronous serial interface
STW	Control word	
GWPS	Grinding Wheel Peripheral Speed	
SW	Software	
SYF	System Files	System files

Appendix A

A.1 List of abbreviations

Abbreviation	Source of abbreviation	Meaning
SYNACT	SYNACT synchronized action	Synchronized Action
TB	Terminal Board (SINAMICS)	
TEA	Testing Data Active	Identifier for machine data
TCP	Tool Center Point	Tool tip
TCU	Thin Client Unit	
TEA	Testing Data Active	Identifier for machine data
TM	Terminal Module (SINAMICS)	
TO	Tool offset	Tool offset
TOA	Tool Offset Active	Identifier (file type) for tool offsets
TRANSMIT	Transform Milling Into Turning	Coordinate conversion on turning machine for milling operations
TTL	Transistor-transistor logic	Interface type
UFR	User frame	Zero offset
SR	Subroutine	
USB	Universal Serial Bus	
UPS	Uninterruptible Power Supply	
VDI		Internal communication interface between NCK and PLC
FDD	Feed Drive	
VPM	Voltage Protection Module	
VSM	Voltage Sensing Module	
WAB		Function "Smooth Approach and Retraction"
Work	Workpiece coordinate system	
T	Tool	
TLC	Tool length compensation	
WPD	Workpiece Directory	Workpiece directory
T	Tool	
TM	Tool management	
TC	Tool change	
ZOA	Work Offset Active	Identifier (file type) for zero offset data
SW	Status word (of drive)	

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