eskon

Sensor Technology

EPA100 CANopen

PROCESS CONTROL DEVICE

CANOPEN USER MANUAL

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1. INDEX

2. CONFIGURATION

2.1. Configuration with Layer Setting Service (LSS)

Use the following tables to set the Node ID and bit rate using the LSS protocol.

* For the configuration with LSS, the bit rate settings of Master device and Slave device must be the same.
* For configuration with LSS, only Master and Slave devices should be in the network.
* The default bit rate for your EPA100 device is 250 kbps and the Node ID is 1.
** To change any value with LSS, the device must be in Configuration Mode.
*** Please reboot your device for changes to take effect.

LSS-Master Request → COB-ID for LSS-Slave operations: **0x7E5**
LSS-Slave Response → COB-ID for LSS-Master operations:**0x7E4**

To switch to the Configuration mode required to make Node ID or Baud Rate changes; If you do not want all devices to use the Switch Mode Global command; Use Switch Mode Selective commands only if it is a device on your network. For Selective mode, you need to know one of the vendor ID, Product Code, Revision Number, Serial Number or Node ID of your device. If you do not know, you can use the Inquire commands by connecting your Master device and the Slave device you want to learn.

COB-ID	DATA (Hex)	COMMAND	EXPLANATION
0x7E5	04 00 00 00 00 00 00 00	Switch Mode Global - Operation Mode	Command to import all connected devices into Operational Mode
0x7E5	04 01 00 00 00 00 00 00	Switch Mode Global - Configuration Mode	Command to import all connected devices into Configuration Mode
0x7E5	5A 00 00 00 00 00 00 00	Inquire - Vendor ID	Vendor ID request command from sensor
0x7E4	5A ZZ 00 00 00 00 00 00	Vendor ID : 0xZZ	The answer from the sensor contains the Vendor ID information.
0x7E5	5B 00 00 00 00 00 00 00	Inquire - Product Code	Command to request product code from sensor
0x7E4	5B YY ZZ 00 00 00 00 00	Product Code : 0xZZYY	The answer from the sensor contains Product Code information
0x7E5	5C 00 00 00 00 00 00 00	Inquire - Revision Number	Request Revision Number from Sensor
0x7E4	5C XX YY ZZ 00 00 00 00	Revision Number : 0xZZYYXX	The response from the sensor contains Revision Number information
0x7E5	5D 00 00 00 00 00 00 00	Inquire - Serial Number	Command to request Serial Number from sensor
0x7E4	5D TT XX YY ZZ 00 00 00	Serial Number : 0xZZYYXXTT	The response from the sensor contains Serial Number information.
0x7E5	5E 00 00 00 00 00 00 00	Inquire - Node ID	Command to request Node ID from sensor
0x7E4	5E ZY 00 00 00 00 00 00	Node ID – NID : 0xZY	The answer from the sensor contains Node ID information.
0x7E5	40 ZZ 00 00 00 00 00 00	Switch Mode Selective – Vendor ID : 0xZZ	Command to import the device with 0xZZ vendor ID in Configuration Mode
0x7E5	41 YY ZZ 00 00 00 00 00	Switch Mode Selective – Product Code : 0xZZYY	Command to import the device with 0xZZYY Product Code in Configuration Mode

0x7E5	42 XX YY ZZ 00 00 00 00	Switch Mode Selective-Revision Number: 0xZZYYXX	Command to import the device with 0xZZYYXX Revision Number in Configuration Mode
0x7E5	43 TT XX YY ZZ 00 00 00	Switch Mode Selective – Serial Nr. : 0xZZYYXXTT	Command to import the device with 0xZZYYXXTT Serial Number in Configuration Mode
0x7E4	44 YY 00 00 00 00 00 00	Switch Mode Selective Response	Response from sensor to switch to Configuration Mode: 'YY' = 00 = Successful 'YY' = 01 = Failed

*** Please restart your device for changes to take effect.

You can use the following commands to make Node ID and Bitrate changes in your slave device that you have received in Configuration mode. After the changes you have made, you must use the store configuration command to save changes from the temporary memory to the permanent memory.

COB-ID	DATA (Hex)	COMMAND	EXPLANATION
0x7E5	13 XX 00 00 00 00 00 00	Configure Bit Rate	Sensor command for bit rate change values for [XX]: '00'=10 kbps, '01'=20 kbps, '02'=50 kbps, '03'=100 kbps, '04'=125 kbps, '05'=250 kbps, '06'=500 kbps, '07'= 800 kbps, '08'= 1000 kpbs
0x7E4	13 YY 00 00 00 00 00 00	Configure Bit Rate Response	Response from sensor for bit rate change: 'YY' = 00 = Successful 'YY' = 01 = Failed
0x7E5	11 XX 00 00 00 00 00 00	Configure Node ID	Sensor command for Node ID exchange: For [XX]: Value between 1 and 127
0x7E4	11 YY 00 00 00 00 00 00	Configure Node ID Response	Response from Sensor for Node ID change: 'YY' = 00 = Successful 'YY' = 01 = Failed
0x7E5	17 00 00 00 00 00 00 00	Store Configuration	Command to save made changes
0x7E4	17 YY 00 00 00 00 00 00	Store Configuration Response	Command to save changes made: 'YY' = 00 = Successful 'YY' = 01 = Failed

*** Please restart your device for changes to take effect.

2.2. Configuration with Service Data Objects (SDO)

Use the following tables to set any parameters with the SDO protocol.

* For the configuration with SDO, the bit rate settings of Master device and Slave device should be same.
* Node IDs of all CANopen devices in the network should be different from each other.
* The default bit rate for your EPA100 device is 250 kbps and the Node ID is 1.
** To change any value with SDO, the device must be in Configuration Mode.
*** Please restart your device for changes to take effect.

COB-ID	DATA (Hex)	COMMAND	EXPLANATION
0x600+Node ID	22 ZZ YY XX TT SS RR PP	Download request	Write command Index: 0xYYZZ Subindex: 0xXX Data: 0xPPRRSSTT
0x580+Node ID	60 ZZ YY XX 00 00 00 00	Download response	Confirmation that the parameter successfully registered
0x600+Node ID	11 ZZ YY XX 00 00 00 00	Upload request	Read command Index: 0xYYZZ Subindex: 0xXX
0x580+Node ID	11 ZZ YY XX TT SS RR PP	Upload response	Includes information of the read data. Index: 0xYYZZ Subindex: 0xXX Data: 0xPPRRSSTT
0x580+Node ID	80 ZZ YY XX TT SS RR PP	Abort message response	If a command fails, it contains information about what the error means. Index: 0xYYZZ Subindex: 0xXX Error code: [0xPPRRSSTT]
Error code: [0xPPRRSSTT] list	**0x06090011: Subindex is incorrect** **0x06090030: Max value exceeded** **0x06020000: Index is incorrect** **0x06010001: Parameter write-only**		0x06010002: Parameter read-only 0x08000020: Data transfer error 0x08000000: General error 0x08000022: Incorrect state

*** Please restart your device for changes to take effect.

Example to make Node ID 2 of device with Node ID 1:

(Node ID): index = 0x3001, subindex = 0x00

COB-ID	DATA (Hex)	COMMAND	EXPLANATION
0x601	22 01 30 00 02 00 00 00	Download request	Write command Data: 0x00000002
0x581	60 01 30 00 00 00 00 00	Download response	NodeID changed successfully

Node ID'si 2, Bit Rate'i 250 kbps olan cihazın Bit rate'ini 125 kbps yapmak için örnek:

(baudrate): index=0x3000, subindex=0x00

COB-ID	DATA (Hex)	COMMAND	EXPLANATION
0x602	22 00 30 00 04 00 00 00	Download request	Write command / Data: 0x00000004 Options for the last two digits: '00'=10 kbps, '01'=20 kbps, '02'=50 kbps, '03'=100 kbps, '04'=125 kbps, '05'=250 kbps, '06'=500 kbps, '07'= 800 kbps, '08'= 1000 kpbs
0x582	60 00 30 00 00 00 00 00	Download response	Confirmation that the parameter successfully registered

3. OBJECT DICTIONARY

- All Index and Subindex values are in hexadecimal (0xZZZZ).

EPA100 CAN NETWORK SETTINGS

Index/ Subindex	Parameter name	Data Type	Read/ Write	Explanation
3000	BaudRate	Unsigned 8	Read/ Write	CAN bit rate value, '0'=10 kbps, '1'=20 kbps '2'=50 kbps, '3'=100 kbps, '4'=125 kbps, '5'=250 kbps '6'=500 kbps, '7'= 800 kbps '8'= 1000 kpbs
3001	NodeID	Unsigned 8	Read/ Write	NodeID value, between 1 and 127
3010/1	Unique_ID 1	Unsigned 32	Read-Only	Device-specific Unique ID
3010/2	Unique_ID 2			
3010/3	Unique_ID 3			
3010/4	Unique_ID 4			

OPERATING MODE GENERAL FUNCTIONS

Index/ Subindex	Parameter name	Data Type	Read/ Write	Explanation
2000/1	ProcessVal/Raw16	Unsigned 16	Read-Only	Unprocessed raw value from sensor
2000/2	ProcessVal/Val16	Integer 16		Display value
2000/3	ProcessVal /Val24	Integer 24		
2000/4	ProcessVal /Val32	Integer 32		
2000/5	ProcessVal /Real32	Real 32		
2001/1	Valley/Val16	Integer 16	Read-Only	The lowest value since the device was turned on
2001/2	Valley/Val24	Integer 24		
2001/3	Valley/Val32	Integer 32		
2001/4	Valley/ValReal32	Real 32		
2001/5	Valley/Reset	Unsigned 8	Write-Only	Enter '1' to reset the lowest value information.
2002/1	Peak/Val16	Integer 16	Read-Only	The highest value that has appeared since device was turned on
2002/2	Peak/Val24	Integer 24		
2002/3	Peak/Val32	Integer 32		
2002/4	Peak/ValReal32	Real 32		
2002/5	Peak/Reset	Unsigned 8	Write-Only	The highest value since the device was turned on
2003/1	TareFunc/ SignalStatus	Unsigned 8	Read-Only	Status of External Tare Module '0' = Disabled '1' = Active
2003/2	TareFunc/ TareStatus			Status of Internal Traverse function
2003/3	TareFunc/ Apply		Write-Only	Enter the '1' value to activate the internal relay function.

OPERATING MODE GENERAL FUNCTIONS

Index/ Subindex	Parameter name	Data Type	Read/ Write	Explanation
2004/1	OutputFunc/ AnalogOutputStatus	Real 32	Read-Only	Percentage proportional if analog output module is present
2004/2	OutputFunc/ RelayOutputStatus	Unsigned 8	Read-Only	Status of Relay Outputs '0' = Both relays are disabled '1' = 1st relay active, 2nd relay disabled '2' = relay 1 disabled, relay 2 active '3' = both relays active
2004/3	OutputFunc/ AnalogOutputSet	Real 32	Write-Only	Enter '1' to activate the analog output module if it is present.
2004/4	OutputFunc/ RelayOutputSet	Unsigned 8	Write-Only	Values for activating Relay Outputs: '0' = Both relays are disabled '1' = 1st relay active, 2nd relay disabled '2' = relay 1 disabled, relay 2 active '3' = both relays active
2005/1	BuzzerFunc/ Play100ms	Unsigned 8	Write-Only	When the '1' value is written, beep sounding buzzer 100 ms beat
2005/2	BuzzerFunc/Play	Unsigned 16		When the '1' value is written, beep sounding buzzer 1 ms beat
2006/1	KeypadFunc/ KeypadStatus	Unsigned 8	Read-Only	The state of the Up key
2006/2	KeypadFunc/ PressKeyN		Write-Only	When '1' is written, the Up key is pressed and at the same time the Tare function is activated.
2007	DioStatus	Unsigned 8	Write-Only	For the first [3: 0] bit relay outputs, [4] bits indicate the status for the external power module. 0 = Inactive, 1 = Active

OUTPUT MENÜSÜ

Index/ Subindex	Parameter name	Data Type	Read/ Write	Explanation
2101/1	Out1 / Set 1A	Real 64	Read/ Write	Set 1A value for Relay 1
2101/2	Out1 / Set 1B	Real 64		Set 1B value according to type of function for Relay 1
2101/3	Out1 / Mode	Unsigned 8		Function type for relay 1: '0'=OFF, '1'=Stand, '2'=Band, '3'=Catch, '4'=Dual, '5'=Periodic
2101/4	Out1 / Delay	Real 64		Delay value for relay 1
2101/5	Out1 / HysUp	Real 64		Hysteresis UP value for Relay 1
2101/6	Out1 / HysDown	Real 64		Hysteresis DOWN value for relay 1
2101/7	Out1 / Offset	Real 64		Offset (start) value for the relay 1
2101/8	Out1 / Condition	Unsigned 8		Normal state of the relay 1: '0' = NC (Normally closed) '1' = NO (Normally open)
2102/1	Out2 / Set 2A	Real 64	Read/ Write	Set 2A value for Relay 2
2102/2	Out2 / Set 2B	Real 64		Set 2B value according to type of function for Relay 2
2102/3	Out2 / Mode	Unsigned 8		Function type for relay 2: '0'=OFF, '1'=Stand, '2'=Band, '3'=Catch, '4'=Dual, '5'=Periodic

2102/4	Out2 / Delay	Real 64		Delay value for relay 2
2102/5	Out2 / HysUp	Real 64		Hysteresis UP value for Relay 2
2102/6	Out2 / HysDown	Real 64		Hysteresis DOWN value for relay 2
2102/7	Out2 / Offset	Real 64		Offset (start) value for the relay 2
2102/8	Out2 / Condition	Unsigned 8		Normal state of the relay 2: '0' = NC (Normally closed) '1' = NO (Normally open)
2105/1	AnalogOutput/ Type	Unsigned 8	Read/ Write	For mode the analog output module if it is present: '0'=0-10V, '1'=4-20 mA, '2'=0-5V, '3'=0.5-4.5V, '4'=0-20 mA
2105/2	AnalogOutput/ Enable			Activation if analogue output module is present '0' = Inactive, '1' = Active
2105/3	AnalogOutput/ Inverse			Enable analogue outputs to increase or decrease in the reverse direction '0' = Inactive, '1' = Active
2106/1	CANopen/ BaudRate	Unsigned 8	Read/ Write	CAN bit rate value, '0'=10 kbps, '1'=20 kbps, '2'=50 kbps, '3'=100 kbps, '4'=125 kbps, '5'=250 kbps '6'=500 kbps, '7'= 800 kbps '8'= 1000 kpbs
2106/2	CANopen/ NodeID			NodeID value, between 1 and 127
2106/3	CANopen/ AutoOper			Your device connected to Master automatically switches to Operational mode '0' = Inactive, '1' = Active
2106/4	CANopen/ SendNmtOper			Automatically send Operational mode command to CANopen which will be connected to it '0' = Inactive, '1' = Active
2107/1	Rpdo1Setting/ CobID	Unsigned 32	Read/ Write	CobID value for RPDO1
2107/2	Rpdo1Setting/ DataStartBit	Unsigned 8		Start bit value for RPDO1
2107/3	Rpdo1Setting/ DataType	Unsigned 8		Data type for RPDO 1: '0'=unsigned 16, '1'=unsigned 24, '2'=unsigned 32, '3'=int 16, '4'=int 24, '5'=int 32 '6'=real 32
2107/4	Rpdo1Setting/ MulFactor	Real 64		Product factor for RPDO1
2107/5	Rpdo1Setting/ CalibrationOption	Unsigned 8		RPDO1 calibration on and off '0' = Off, '1' = On
2108/1	Rpdo2Setting/ CobID	Unsigned 32	Read/ Write	CobID value for RPDO2
2108/2	Rpdo2Setting/ DataStartBit	Unsigned 8		The start bit value for RPDO2
2109/1	Tpdo1Setting/ MappedData	Unsigned 8	Read/ Write	Data type for TPDO1: '0'=unsigned 16, '1'=int 16, '2'=int 24, '3'=int 32, '4'=real 32
2109/2	Tpdo1Setting/ EventTimer	Unsigned 16		TPDO data transmission time, in 'ms'
2120/1	UART/ Protocol	Unsigned 8	Read/ Write	Protocol selection for RS232 and RS485 connections '0'=ASCII, '1'=MB_RTU, '2'=MB_ASCII
2120/2	UART/ Adress	Unsigned 8		Address information for network connection (1 to 247)
2120/3	UART/ Baud	Unsigned 8		Baudrate selection '0'=600, '1'=1200, '2'=2400, '3'=4800, '4'=9600, '5'=14400, '6'=19200, '7'=38400, '8'=57600, '9'=115200
2120/4	UART/ Parity	Unsigned 8		Parity selection '0'=None, '1'=Odd, '2'=Even
2120/5	UART/ Period	Unsigned 16		For ASCII protocol Period (in 1 / ms)
2130	Sound	Unsigned 8	Read/ Write	The state of beep sounding buzzer '0' = Disabled, '1' = Active

CALIBRATION MENU				
Index/ Subindex	**Parameter name**	**Data Type**	**Read/ Write**	**Explanation**
2201/1	Scale/Low	Real 64	Read/ Write	Minimum point for calibration S-LO value
2201/2	Scale/High			Maximum point for calibration S-HI value
2201/3	Scale/Factor			Scale factor for calibration
2202	CalibrationOption	Unsigned 8	Read/ Write	Calibration option: '0' = FCAL : Factory calibration '1' = 2_Pnt '2' : Segmented
2203/1	TwoPointCalib/ LowValue	Unsigned 16	Read/ Write	Value for minimum point in manual calibration
2203/2	/HighValue			Value for maximum point in manual calibration
2203/3	/CalLow	Unsigned 8	Write-Only	Enter '1' to perform manual calibration.
2203/4	/CalHigh			Enter '1' to perform manual calibration.
2204/1	SegmentedCalib/ Seg0_Value	Unsigned 16	Read/ Write	Value for each segment in multiple calibrations
2204/2	/Seg1_Value			
2204/3	/Seg2_Value			
2204/4	/Seg3_Value			
2204/5	/Seg4_Value			
2204/6	/Seg5_Value			
2204/7	/Seg6_Value			
2204/8	/Seg7_Value			
2204/9	/Seg8_Value			
2204/10	/Seg9_Value			
2204/11	/NumberofSegment	Unsigned 8		Number of multiple calibration points, 2 to 9
2204/12	/CalibrateSegN	Unsigned 8	Write-Only	Enter '1' to start multiple calibrations.

DISPLAY MENU				
Index/ Subindex	**Parameter name**	**Data Type**	**Read/ Write**	**Explanation**
2301/1	Tare/Event	Unsigned 8	Read/ Write	Tare event mode option '0'=OFF, '1'=Zero, '2'=Preset, '3'=Repeated Zero, '4'=Repeated Preset
2301/2	Tare/Preset	Real 64		Preset value for preset options
2301/3	Tare/InputEdge	Unsigned 8		Edge option that the signal will activate when the button is pressed for the External Route module '0'=OFF '1'=Rise '2'=Fall
2301/4	Tare/Filter	Unsigned 16		The period for checking the incoming signal for the External Tare module, in ms
2302	DecimalPoints	Unsigned 8	Read/ Write	The location of the point of the decimal digits '0'=A, '1'=A.A, '2'=A.AA, '3'=A.AAA '4'=A.AAAA
2303	RefreshRate	Unsigned 16	Read/ Write	The rate of refresh on the screen in ms
2304/1	Filter/ AverageFilterOn	Unsigned 8	Read/ Write	Average filter to prevent flicker on the screen '0'=OFF '1'=ON
2304/2	Filter/ AverageSampCount	Unsigned 16		The number of reads to expect to calculate the average filter
2304/3	Filter/LinearQuadraticEstOn	Unsigned 8		LQE filter '0'=OFF '1'=ON
2304/4	Filter/Covariance	Unsigned 16		Covariance value for LQE filter
2304/5	Filter/Error	Unsigned 16		Error parameter for LQE filter
2305	Label	Unsigned 8	Read/ Write	In run mode, the second line of the display shows '0' = Off, 1 to 45 different options

SECURE MENU				
Index/ Subindex	**Parameter name**	**Data Type**	**Read/ Write**	**Explanation**
2401/1	HideMenu/All	Unsigned 8	Read/ Write	Hide all menus except Secure
2401/2	HideMenu/Out			Hiding the output menu
2401/3	HideMenu/Calib			Hide the calibration menu
2401/4	HideMenu/Display			Hide the display menu
2401/5	HideMenu/QuickOut			Hiding the entered quick set input menu by holding down ESC in run mode
2402/1	LockMenu/All	Unsigned 8	Read/ Write	Encrypt all menus except Secure
2402/2	LockMenu/Out			Output menu encryption
2402/3	LockMenu/Calib			Calibration menu encryption
2402/4	LockMenu/Display			Display menu encryption
2402/5	LockMenu/QuickOut			Encrypting the entered quick set-up input menu by pressing ESC in run mode
2403	UserPassword	Unsigned 32	Read/ Write	User password
2404	FactorySetting	Unsigned 32	Write-Only	Enter '1' to return to the factory settings.
2405	DeviceReset	Unsigned 8	Read/ Write	Enter '1' to restart the device.

CONFIDENTIAL SERVICE MENU				
Index/ Subindex	**Parameter name**	**Data Type**	**Read/ Write**	**Explanation**
2501	FactoryReset	Unsigned 32	Write-Only	Enter '1' to return to the factory settings.
2503	SensorType	Unsigned 8	Read/ Write	The sensor type of the device is '7' for CANopen,
2504/1	AOCal/ZeroVal	Unsigned 16	Read/ Write	Zero value for analog output
2504/2	AOCal/SpanVal			Span value for Analog Output
2505/1	AInFCal/ Low_0_10V	Unsigned 16	Read/ Write	Unprocessed raw value of minimum and maximum points for factory calibration These values are determined during production, please do not change. Use Calib menus for calibration.
2505/2	/Low_Pot			
2505/3	/Low_4_20			
2505/4	/Low_0_5V			
2505/5	/Low_05_45V			
2505/6	/Low_0_20ma			
2505/7	/Low_MiliVolts			
2505/8	/High_0_10V			
2505/9	/High_Pot			
2505/10	/High_4_20			
2505/11	/High_0_5V			
2505/12	/High_05_45V			
2505/13	/High_0_20ma			
2505/14	/High_Milivolts			
2505/15	/FCalLow	Unsigned 8	Write-Only	Change the unprocessed raw value of minimum and maximum points for factory calibration
2505/16	/FCalHigh			
2506	ProductionDate	String	Read-Only	Device Production Date
2507	Assembler	String	Read-only	Device Producer
2508	LockServiceMenu	Unsigned 8	Read/ Write	Encrypting the Service menu

COMMUNICATION PARAMETERS				
Index/ Subindex	**Parameter Name**	**Data Type**	**Read/ Write**	**Explanation**
1000	Device type	Unsigned 32	Read-only	Device type
1001	Error Register	Unsigned 8	Read-only	
1003/1	Standart Error Field	Unsigned 32	Read-only	Error history
1003/2				
1003/3				
1003/4				
1003/5				
1003/6				
1003/7				
1003/8				
1005	SYNC COB ID	Unsigned 32	Read/ Write	CAN-identifier. The default is 0x80.
1006	Communication Cycle Period	Unsigned 32	Read/ Write	
1008	Manufacturer Device Name	String	Const.	Manufacturer-designated device name
1009	Manufacturer Hardware Version	String	Const.	Device hardware version specified by manufacturer
100A	Manufacturer Software Version	String	Const.	Device software version specified by manufacturer
1010/1	Save All Parameters	Unsigned 32	Read/ Write	Each changed parameter is automatically saved, there is no need to change this parameter.
1011/1	Restore All Default Parameters			To return to the default parameters, enter the value 0x64616F6C.
1014	Emergency COB ID	Unsigned 32	Read/ Write	Node ID + 0x80
1015	Inhibit Time Emergency	Unsigned 16	Read/ Write	
1017	Producer Heartbeat Time	Unsigned 16	Read/ Write	Heartbeat value, in ms
1018/1	Vendor ID	Unsigned 32	Read-only	Device-specific manufacturer-assigned numbers
1018/2	Product Code			
1018/3	Revision Number			
1018/4	Serial Number			

SDO VE PDO PARAMETERS				
Index/ Subindex	**Parameter Name**	**Data Type**	**Read/ Write**	**Explanation**
0x1200: SERVER SDO				
1200/1	COB ID Client to Server (Recieve SDO)	Unsigned 32	Read-only	From the device to the sensor for communication COB ID Node ID + 0x600
1200/2	COB ID Server to Client (Transmit SDO)			From the sensor to the device for communication COB ID Node ID + 0x580
0x1400: Recieve PDO 1 Parameter				
1400/1	COB ID	Unsigned 32	Read/ Write	COB ID for rPDO1 data from the network
1400/2	Transmission Type	Unsigned 8		These parameters are disabled.
1400/3	Inhibit Time	Unsigned 16		
1400/5	Event Timer	Unsigned 16		
1400/6	SYNC start value	Unsigned 8		
0x1401: Recieve PDO 2 Parameter				
1401/1	COB ID	Unsigned 32	Read/ Write	COB ID for rPDO2 data from the network
1401/2	Transmission Type	Unsigned 8		These parameters are disabled.
1401/3	Inhibit Time	Unsigned 16		
1401/5	Event Timer	Unsigned 16		
1401/6	SYNC start value	Unsigned 8		
0x1600: Recieve PDO Mappings: Static PDO mapping is used.				
1600/1	Recieve PDO 1 Mapping*	Unsigned 32	Read/ Write	Mapping information for the value that appears on the screen. COB ID (0x2107 / 1), DataStartbit (0x2107 / 2), and Datatype (0x2107 / 3) values must be specified.
1601/1	Recieve PDO 2 Mapping**	Unsigned 32	Read/ Write	Mapping information for analog output and digital output. COB ID (0x2108 / 1), DataStartbit (0x2108 / 2) must be specified.
0x1800: Transmit PDO 1 Parameter				
1800/1	COB ID	Unsigned 32	Read/ Write	0x180
1800/2	Transmission Type	Unsigned 8		0xFE (Manufacturer specific)
1800/3	Inhibit Time	Unsigned 16		0x00
1800/5	Event Timer	Unsigned 16		0x1F4 (500 ms)
1800/6	SYNC start value	Unsigned 8		0x00
0x1A00: Transmit PDO Mappings: Variable PDO mapping is used.				
1A00/1	Transmit PDO 1 Mapping Process Data Variable 1	Unsigned 32	Read/ Write	Default value: 0x20000520 (Object dictionary: 0x2000 / 1: Raw Data, Unsigned 16) Mapping information for raw value from sensor
1A00/2	Transmit PDO 1 Mapping Process Data Variable 2			Default value: 0x20070008 (Object dictionary: 0x2007: DioStatus, Unsigned 8) Mapping information for the status of Digital Outputs

**8-bit data content table for 64-bit RPDO2: (Each tab refers to 8-bit data)

DATA 7	DATA 6	DATA 5	DATA 4	DATA 3	DATA 2	DATA 1	DATA 0
Analog Output value in percent of Real32 type				Input/Output Status			