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<div><div>FESTO</div><div></div></div>																																																						
mailto:Phone: Fax:																																																						
<div><div>Plant designationFESTO template IEC 81346 / EN61355</div><div>Customer order no.SAP CUSTOMER ORDER NO</div><div>Festo order numberFESTO order number</div><div>Material / Project noMaterial no./ FMCP-1PH-3CMMT</div></div> <div><div>Customer</div><div>NameCustomer nameType of projectProject type</div><div>PlantCustomer plantResponsible for projectZFA</div><div>StreetCustomer roadProject nameFMCP-1PH-3CMMT</div><div>Code postal: / locationCustomer ZICustomer CityPCodeCreated03/07/2024 / Technical designer</div><div>Edit03/07/2024 / ca0zfa</div><div>Approved /</div><div>Number of pages33</div></div>																																																						
FESTO assumes no warranty and liability for any changes to this documentation made by the customer. The circuit diagrams were created on the EPLAN Electric P8 and EPLAN Fluid CAE systems. Changes may only be made using the CAE systems and the original parameters.																																																						
<div><div><table><tr><td>Project status</td><td>xxx</td><td colspan="2">Customer name</td><td rowspan="4">FESTO</td><td rowspan="4">Title page / cover sheet</td><td colspan="2">EN &MAA</td></tr><tr><td></td><td></td><td>Date</td><td>03/07/2024</td><td>Technical designer</td><td colspan="2">=</td></tr><tr><td></td><td></td><td>Edit by</td><td>03/07/2024</td><td>ca0zfa</td><td colspan="2">+</td></tr><tr><td></td><td></td><td>Appr.</td><td></td><td></td><td colspan="2"></td></tr><tr><td>Modification</td><td>Date</td><td>Name</td><td>Standard</td><td></td><td></td><td>Project no.:FMCP-1PH-3CMMT</td><td>Pg.1</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Productionorder:SAP PRODUCTION_ORDER / CSFE</td><td>Pg.1</td></tr></table></div><div><div></div><div></div></div></div>										Project status	xxx	Customer name		FESTO	Title page / cover sheet	EN &MAA				Date	03/07/2024	Technical designer	=				Edit by	03/07/2024	ca0zfa	+				Appr.					Modification	Date	Name	Standard			Project no.:FMCP-1PH-3CMMT	Pg.1							Productionorder:SAP PRODUCTION_ORDER / CSFE	Pg.1
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&MAB/1

WIN A3 03/07/2024

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Technical notes

Voltage and frequency, as well as the setting points for motor protection and time relays must be checked prior to commissioning.

All terminal screws must be tightened prior to commissioning and during maintenance work

Keep doors closed at all times, as dust and moisture may cause malfunctioning.

The specified cable cross sections are minimum cross section for copper, without taking into account:

a.) Cable lengths and the resulting voltage drops. (Permissible voltage drop for motors according to VDE 0530 5%* Un)

b.) Type of cable installation and permissible ambient temperature (Installation type reduction factor 0,8 / amb. temp. 20° C)

In the event that operating voltages deviate from the assumed values listed above, correspondingly larger cross-sections must be selected.

(e.g. with increased voltage drop, increased ambient temp., unsuitable type of cable installation, high wiring density)

Sizing of cables is the responsibility of the customer

Air supply:

This controller is designed for a state-of-the-art (ISO 8573-A:2010) compressed air network

We require compressed air that is unlubricated, free of residual oil (residual oil from compressors max. 0.1mg/m³ for "HEES fluids, biodegradable oils" or max. 5mg/m³ for mineral oils permissible) and appropriately dried

A filter should remove solid contamination from the compressed air. (ISO 8573-A:2010)

Class:

7:4:4 --> 40µm Filter

Technical data

Reference identification

=A1+O1

IP-degree of protection

IPxx

Ambient temperature

+5°C - +35°C

Humidity

max. 50%

Electric

Supply voltage

120 VAC 50-60 HZ

Pre-fuse (max.)

Supply cable

Pneumatics

Max. system pressure

xx bar

Working pressure

xx bar

Supply air connection

Tube mm externally calibrated

Working ports

according to circuit diagram

Special feature

No single-core marking

no hose designation

Wire colours used:

Power circuit:

Black (BK)

Neutral conductor:

White (WH)

Protective conductor:

Green/yellow (GNYE)

Control circuit AC:

Red (RD)

Control circuit DC (+):

Blue (BU)

Control circuit DC (-):

White Blue (WHBU)

excepted circuits:

Orange (OR)

Standards used:

NFPA 79

Electrical Standard for Industrial Machinery

UL 508A

STANDARD FOR SAFETY Industrial Control Panels

EN 60204-1:2018

Safety of machinery - Electrical equipment of machines – Part 1: General requirements

EN ISO 4414:2010

Pneumatic fluid power - General rules and safety requirements for systems and their components

used tube

PUN-H-.....-BL

--> not switched air

PUN-H-.....-SW

--> switched air

PUN-H-.....-NT

--> Condensate drain

PUN-.....-...

--> M5-Series

FESTO

5300 Explorer Drive , Mississauga, Ontario

Tel: 1-877-GO-FESTO Fax: 1-877-FX-FESTO

CONTROL PANEL

Part # / Project # :

FMCP-1PH-3CMMT

Prod. Order / Serial #:

FESTO order number

Year of Mfg.:

xxxx

Main Voltage

120 VAC 50-60 HZ

FLA

25A

Largest Motor:

xxxx

Fault Rating:

5KA

Control Voltage:

24V DC

Panel type:

Operating Pressure

xx bar

&MDB/1

Project status		xxx		Customer name	
		Date	03/07/2024	Technical designer	
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		Appr.			
Modification	Date	Name	Standard		

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FESTO

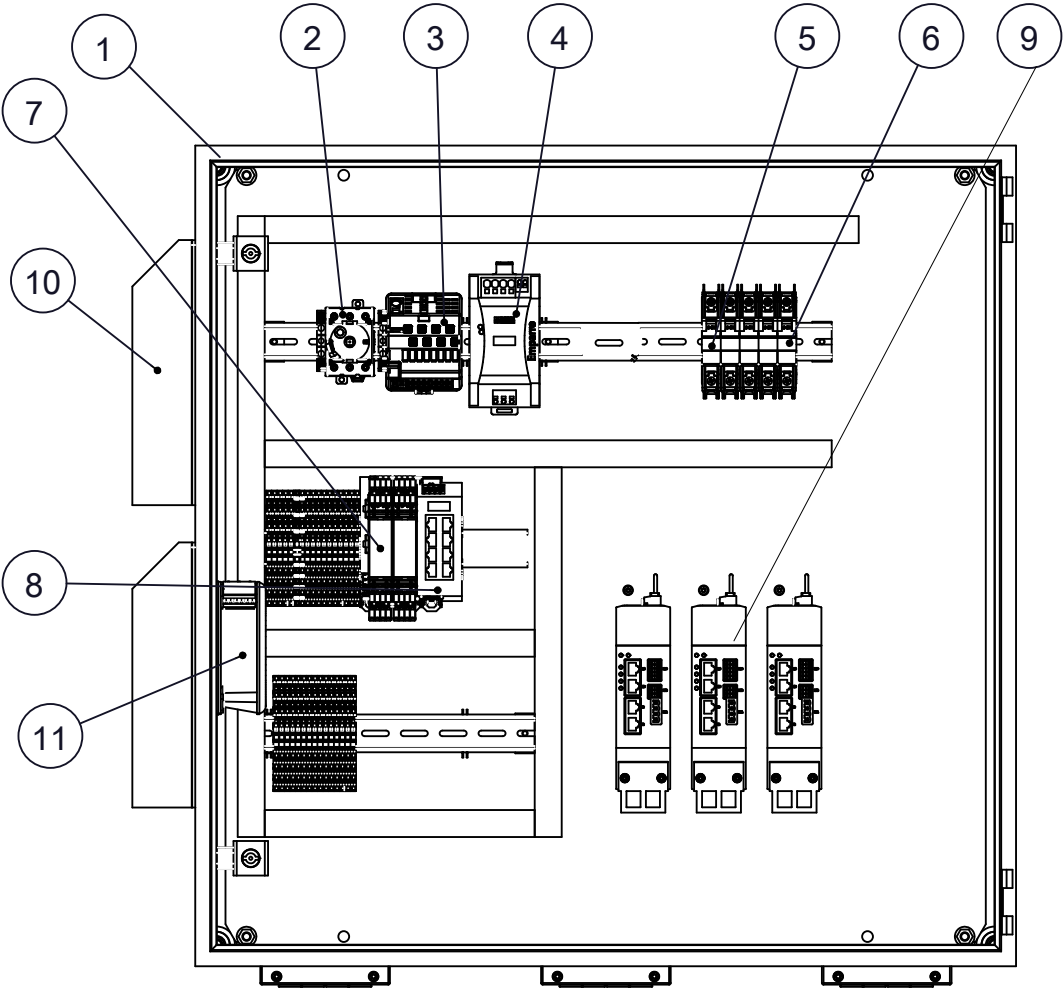
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Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
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		Pg.	1

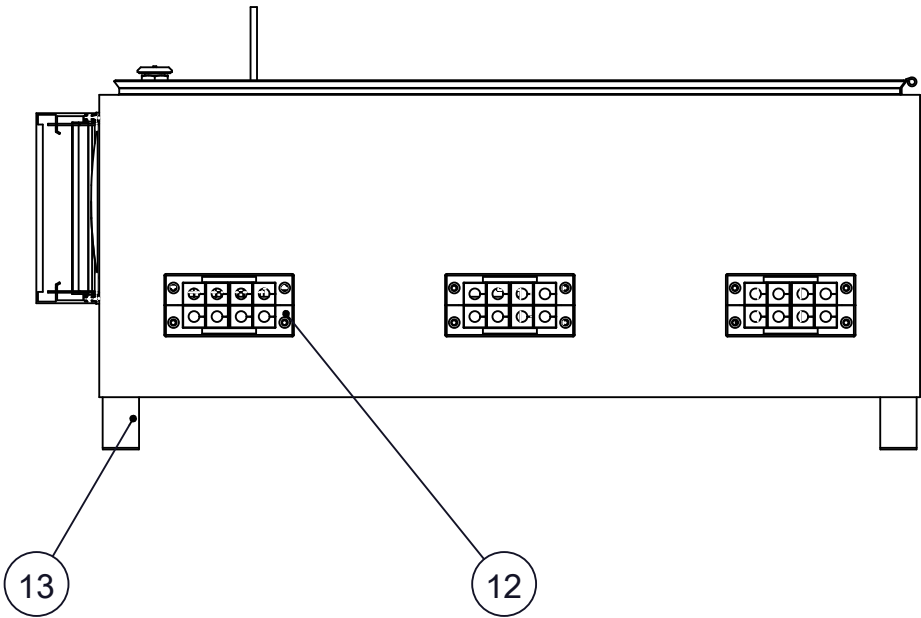
&MTB/1

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ITEM NO.	PN	QTY.
1	AX Cabinet 760x760x300 1014000	1
2	op. mode switch 194E-A32-1753	1
3	Fuse MICO 9000-41068-0400000	1
4	Power supply 85441-EMPARRO 10A-10-240	1
5	Circuit breaker WEID-BR1C6UC-CS	1
6	Circuit breaker WEID-BR1C15UC-CS	4
7	Relay SAFETY RELAY 3000-33113&	1
8	EP interface MURR-58812-Xelity8TX-CS	1
9	servo drive CMMT-AS-C4-3A-MP-S1	3
10	Filter SK3238200-PANL-FILTER-CS	1
11	Exh. air filter SK3238124-FILTER-FAN-CS	1
12	Cable distrib. IcoteK-KEL-ER-16/8-CS	1
13	HD-4000100-Rittal-CS	1



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			Edit by	03/07/2024	ca0zfa	+ O1			
			Appr.						
Modification	Date	Name	Standard						
FESTO template IEC 81346 / EN61355							Project no.: FMCP-1PH-3CMMT		Pg. 0
							Productionorder: SAP PRODUCTION_ORDER / CSFE		Pg. 55

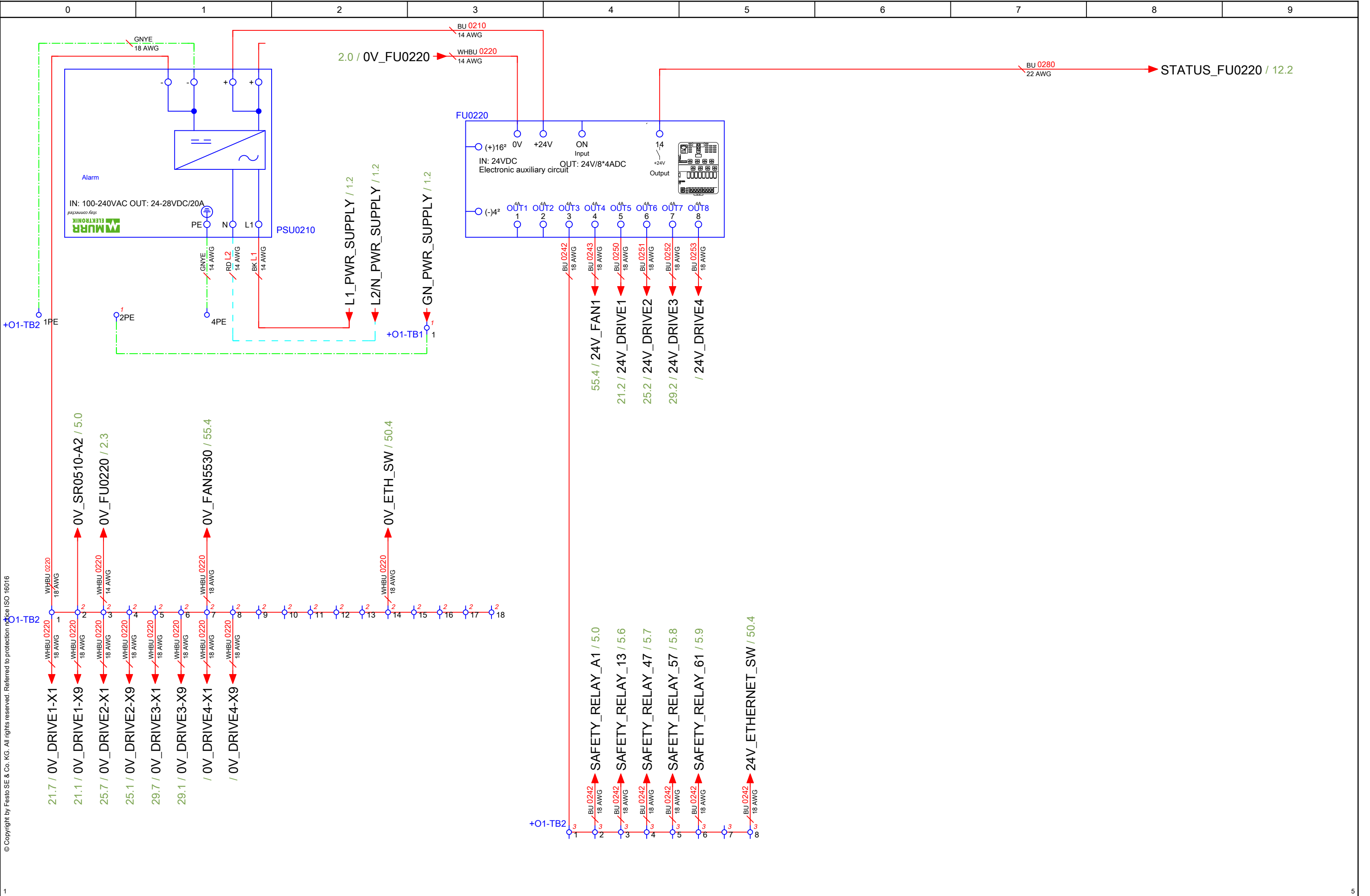
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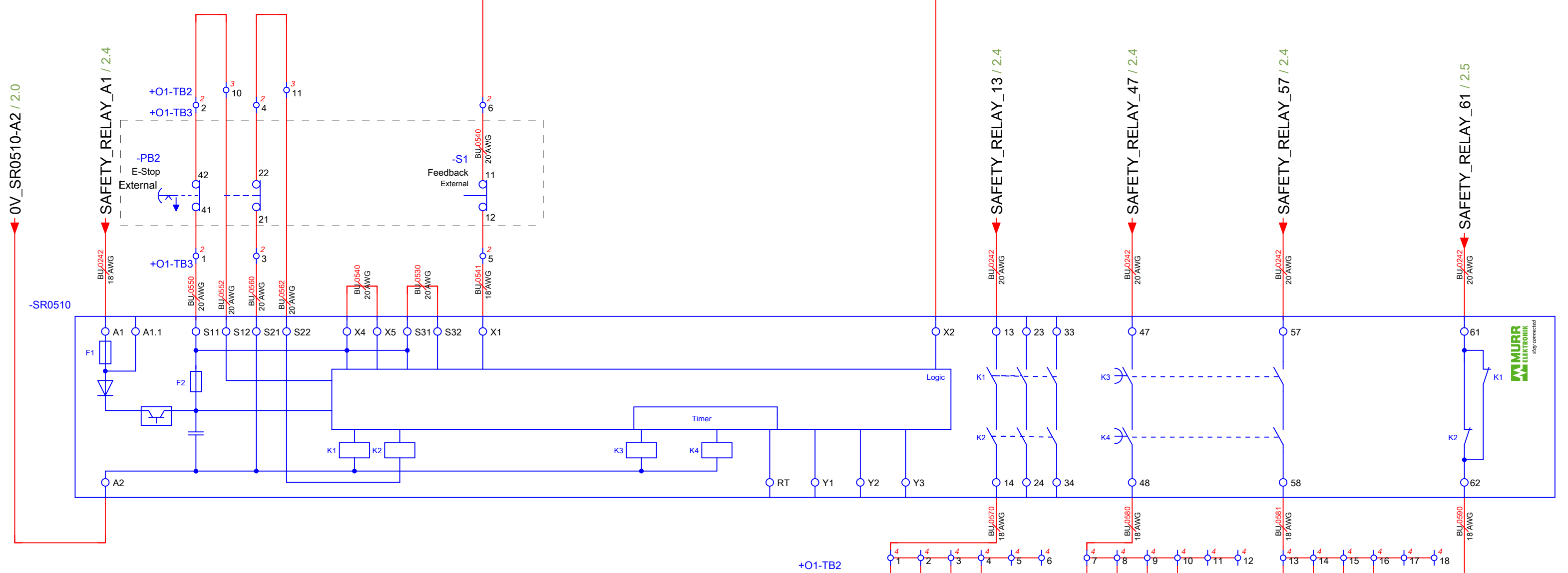
03/07/2024

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==&MTL/1



NO E-STOP ON THE DOOR



Components in the dashed box (PB2 and S1)
are optional and external and shall be provided by the customer when required .
If these components are not used they can be replaced with jumpers.



Possible Performance Level : SS1-t with safe state STO, Category 4, up to PL e
as per Application note 100241 (TSHQ) Section 1.2 SS1-t, STO with CMMT-AS-...-S1, contact output ,
without STA Evaluation .
Check Technical Documentation Section , Safety Function page for more information.

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Time setting (see Fig. 3 and 4)



DIP switch settings:

- The DIP switches are located underneath the front cover of the safety-monitoring module (see Fig. 3 and 4).
- Both DIP switches SW 1 (channel 1) and SW 2 (channel 2) must be set identically.
- The DIP switches can be set when the operating voltage is on; however, in order for the setting to be saved in the MIRO SAFE+ T 2 24, the voltage supply must be interrupted for approx. 3 seconds.
- The functionality of the setting must be checked.



Fig. 3

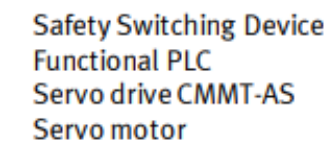


DIP switch setting	Drop-out delay	DIP switch setting	Drop-out delay
	<0,1 s		5.0 s
	0.5 s		8.5 s
	1.0 s		10.0 s
	1.5 s		12.0 s
	2.0 s		15.0 s
	2.5 s		20.0 s
	3.0 s		25.0 s
	4.0 s		30.0 s

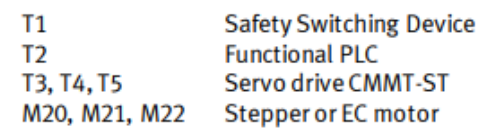
PANEL WILL BE SHIPPED WITH THE SETTING MARKED ABOVE

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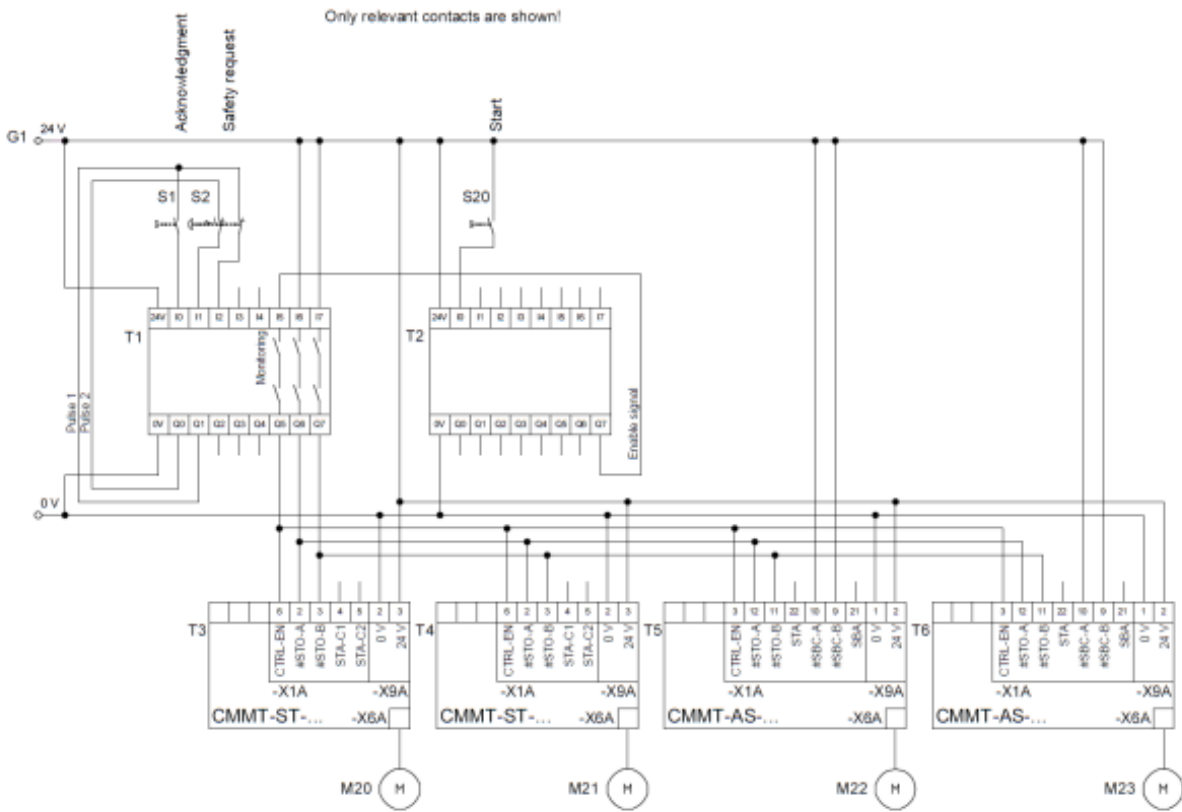
- SS1-t with safe state STO, category 4, up to PL e



- With stepper motors: SS1-t with safe state STO, category 3, up to PL e
- With EC motors: SS1-t with safe state STO, category 3, up to PL d



1.2 SS1-t, STO with CMMT-AS-...-S1 and CMMT-ST-...-S0, contact outputs, without STA evaluation



Selection criteria

- Safety switching device with contact outputs
- Without high test pulses
- Without evaluation STA

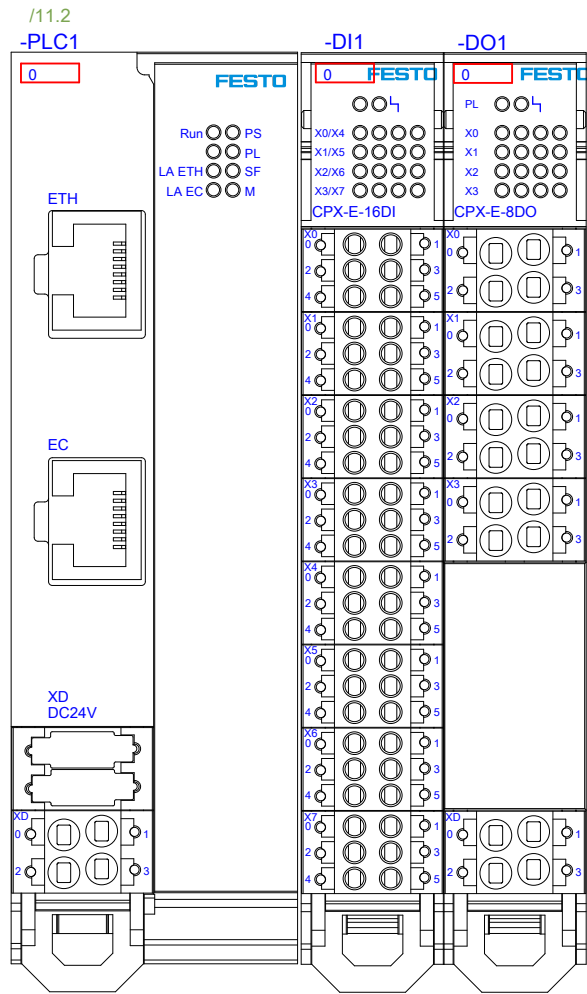
Remarks

- Fault exclusion control cabinet necessary

Possible Performance Level

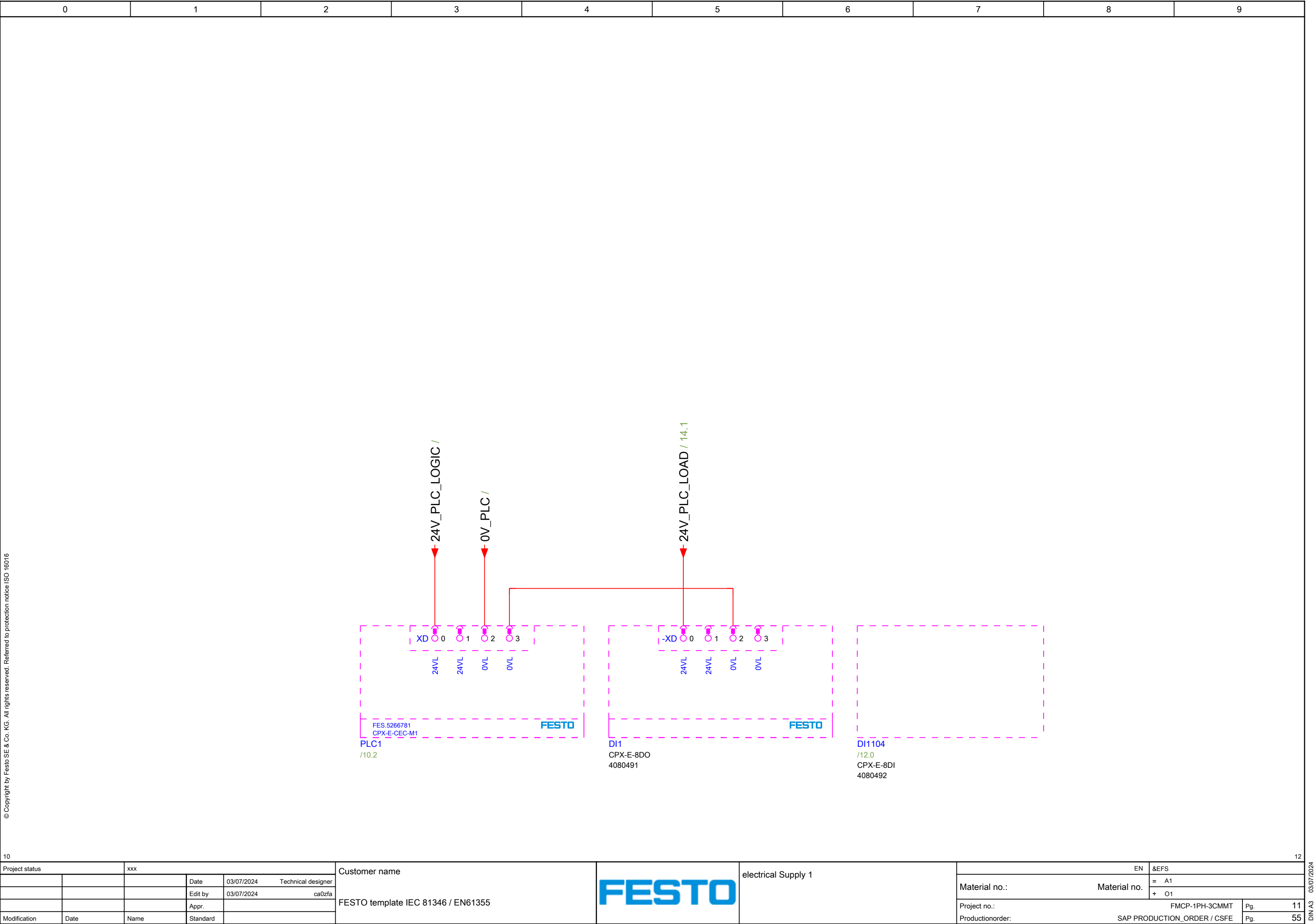
- With stepper motors: SS1-t with safe state STO, category 3, up to PL e
- With EC motors: SS1-t with safe state STO, category 3, up to PL d

T1	Safety Switching Device
T2	Functional PLC
T3, T4	Servo drive CMMT-ST
T5, T6	Servo drive CMMT-AS
M20, M21	Stepper or EC motor
M22, M23	Servo motor



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5.3



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Modification	Date	Name	Standard

Customer name
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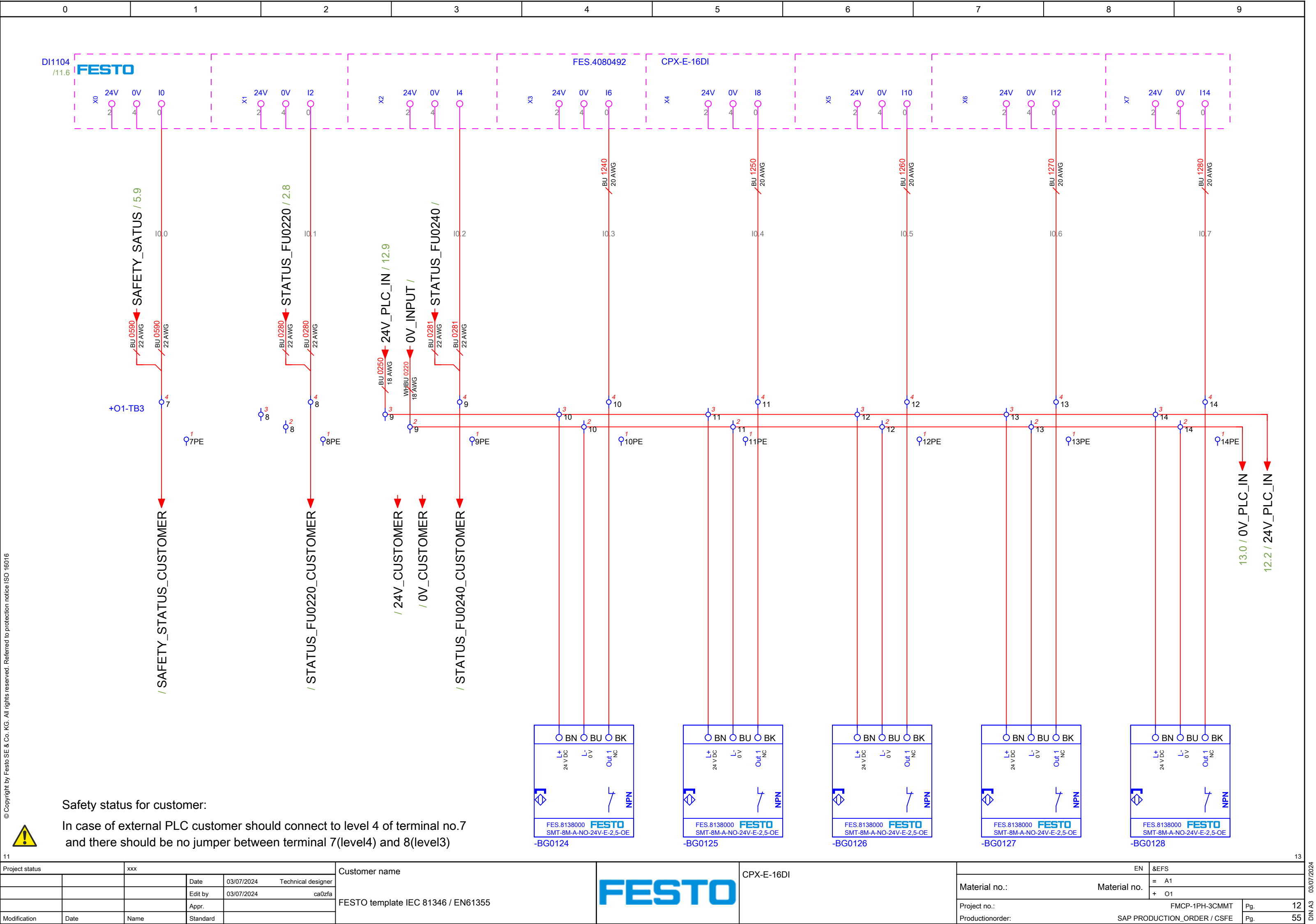


electrical Supply 1

EN		&EFS	
Material no.:		Material no.	
		= A1	
		+ O1	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
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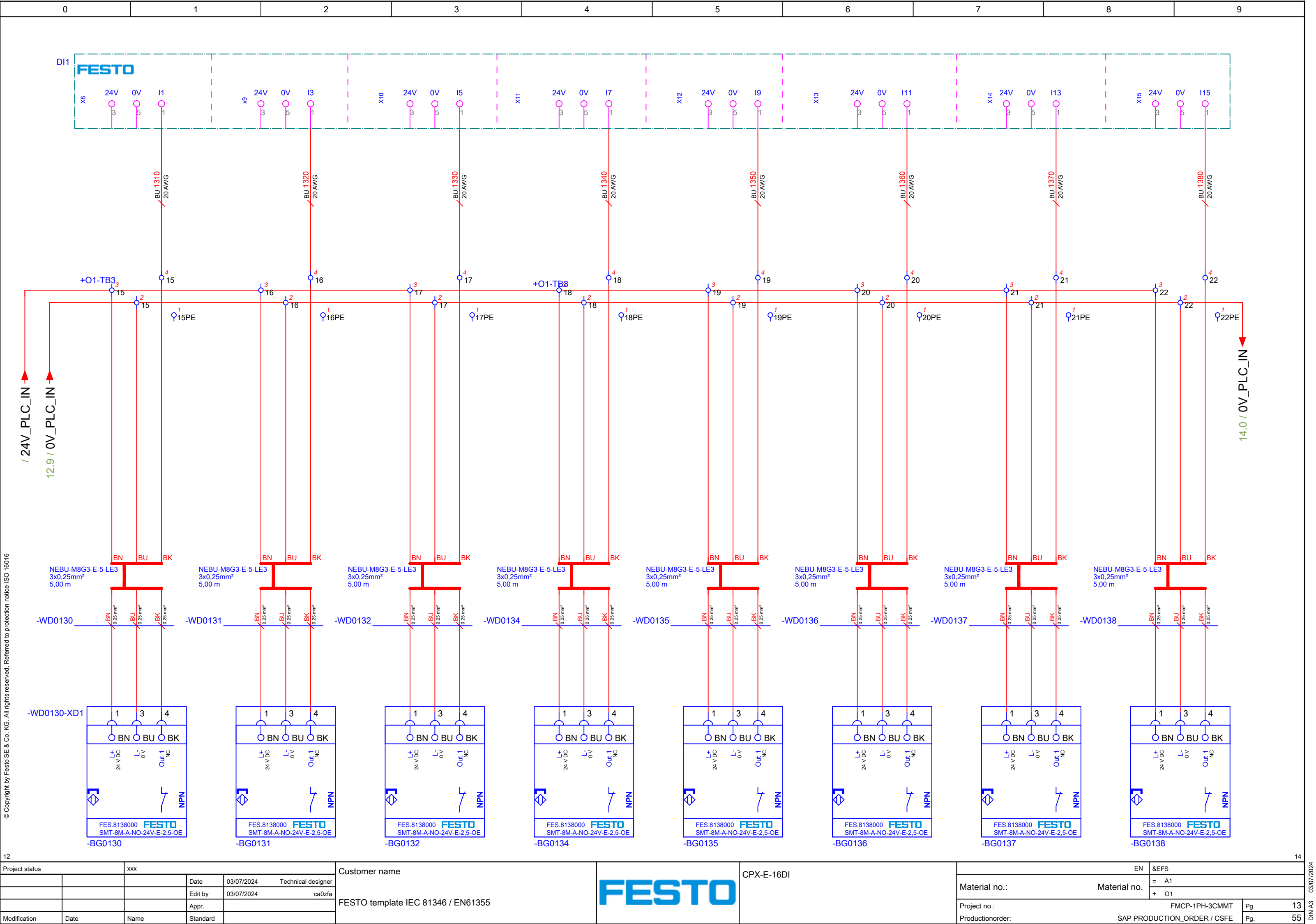
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		Date	03/07/2024	Technical designer	
		Edit by	03/07/2024	ca0zfa	
		Appr.			
Modification	Date	Name	Standard		

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CPX-E-16DI	
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Material no.:		= A1	
		+ O1	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
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		Pg.	55



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Project status		xxx	
		Date	03/07/2024
		Technical designer	
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		Appr.	ca0zfa
Modification	Date	Name	Standard

Customer name	
FESTO template IEC 81346 / EN61355	

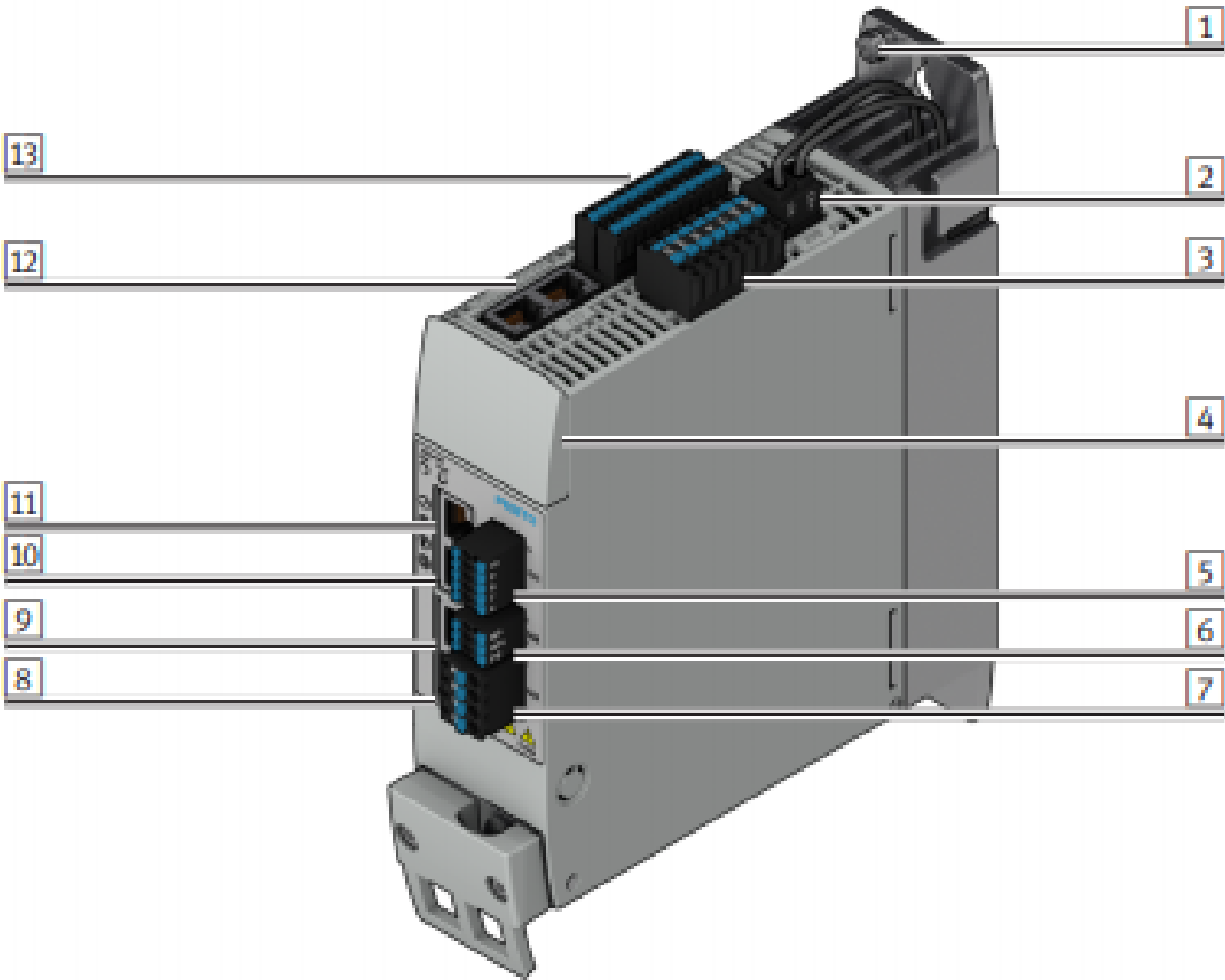


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		+ O1	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
		Pg.	13
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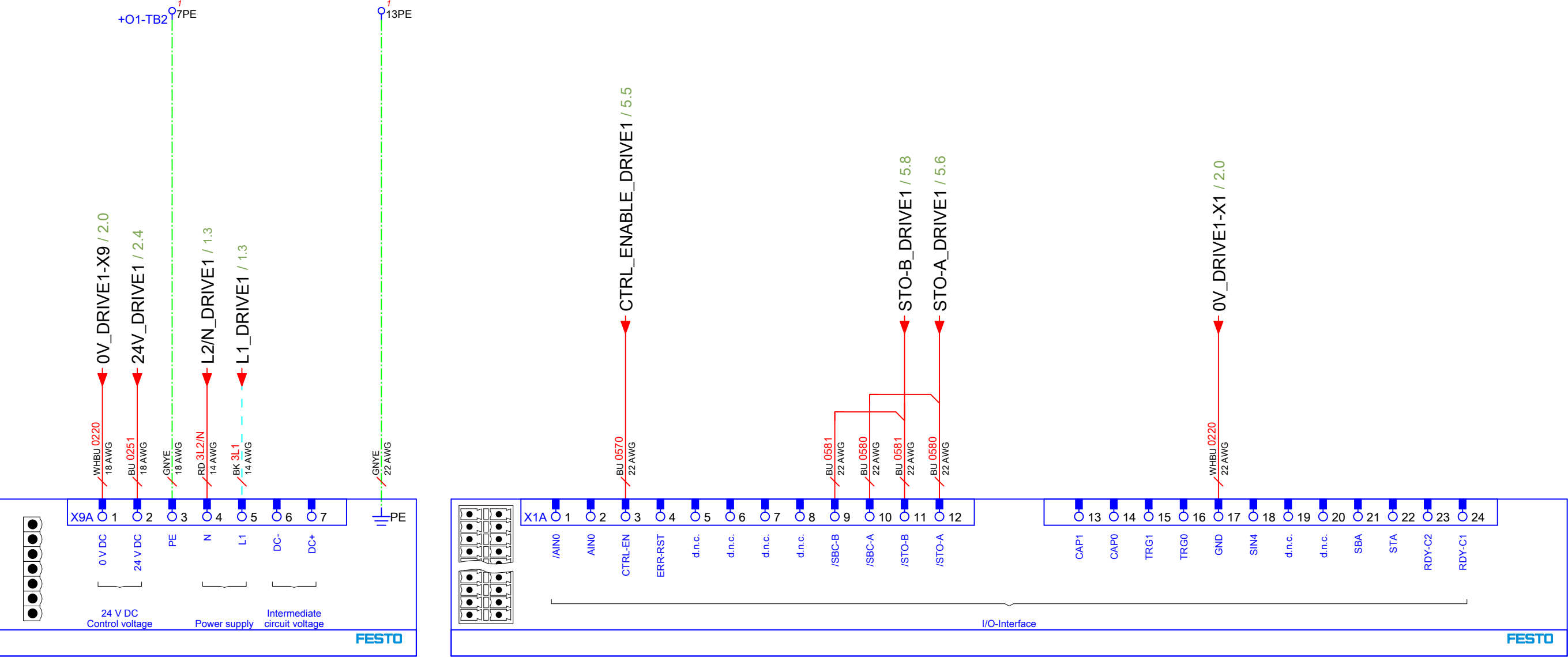
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Front view of the servo drive

1		PE connection, housing	8	X2	Encoder connection 1
2	X9B	Braking resistor	9	X3	Encoder connection 2
3	X9A	Mains voltage, intermedia- te circuit voltage and logic voltage	10	X10	Device synchronisation
4	X5	Connection for operating unit (behind the blind plate)	11	X18	Standard Ethernet
5	X1C	Inputs/outputs for the axis	12	X19	RTE interface port 1 [XF1 IN]
6	X6B	Motor auxiliary connection			RTE- Interface port port 2 [XF2 OUT]
7	X6A	Motor phase connection	13	X1A	I/O interface

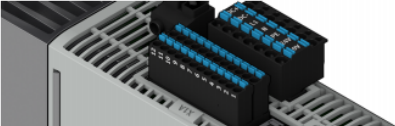
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CMMT-AS-1
/21.3
/22.0
/22.0
/22.2
/22.4
/22.7
/23.3
/23.0
/50.1
CMMT-AS-C4-3A-EC-S1

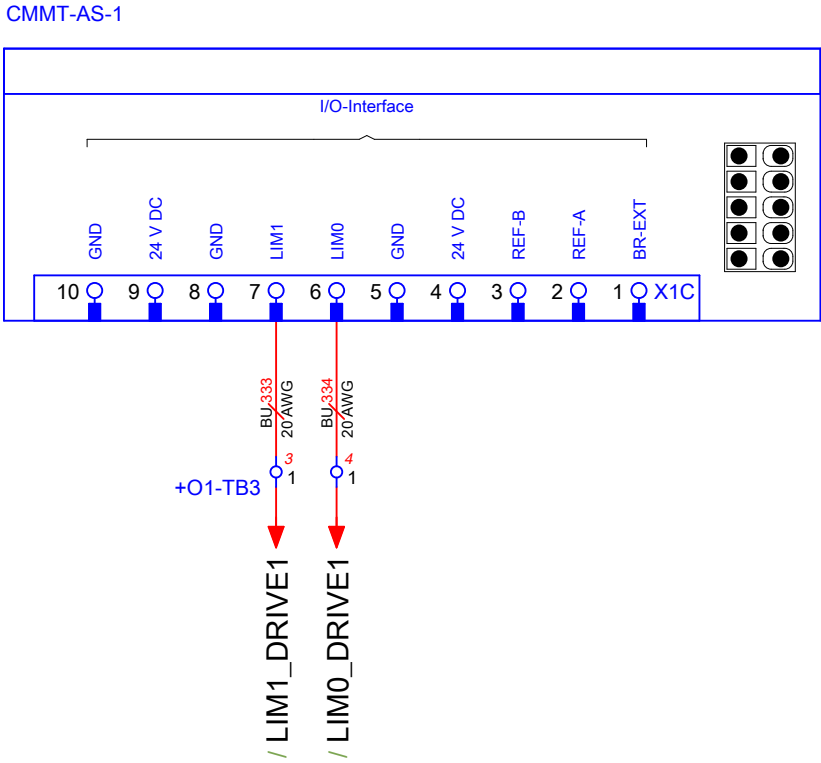
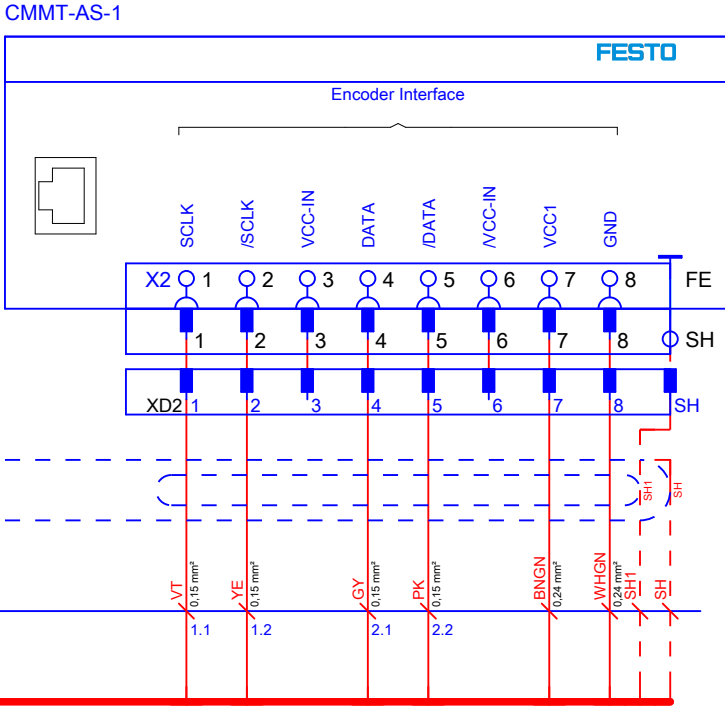
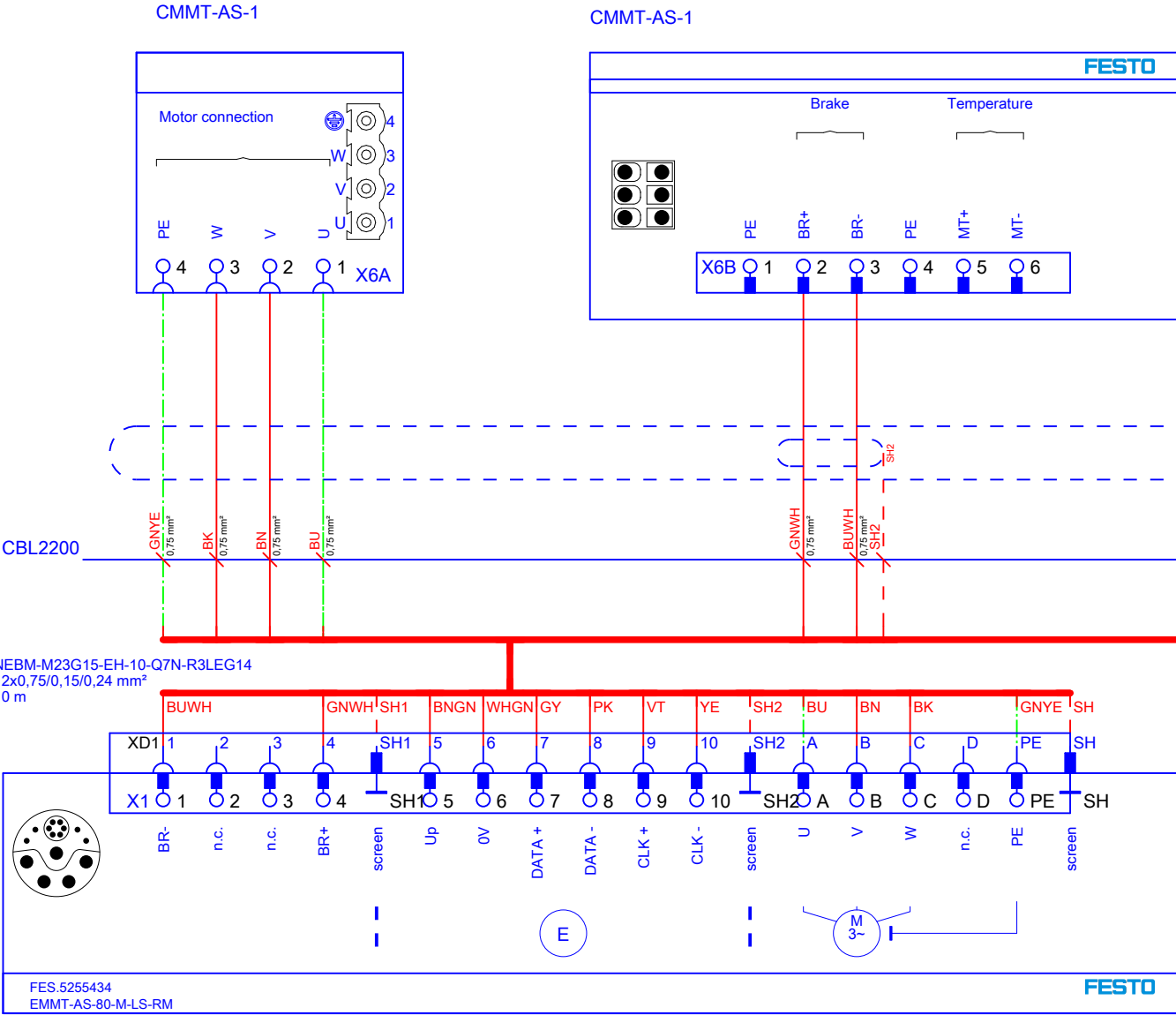
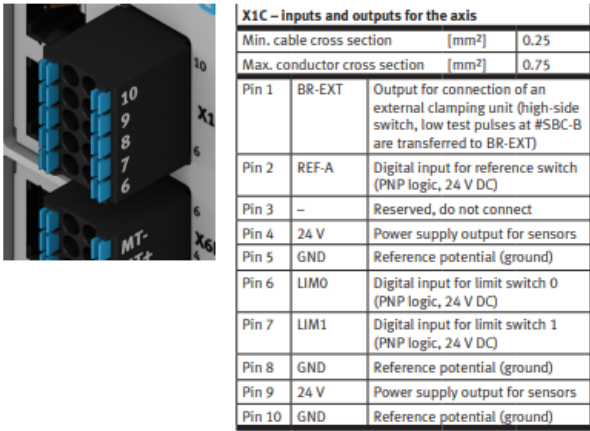
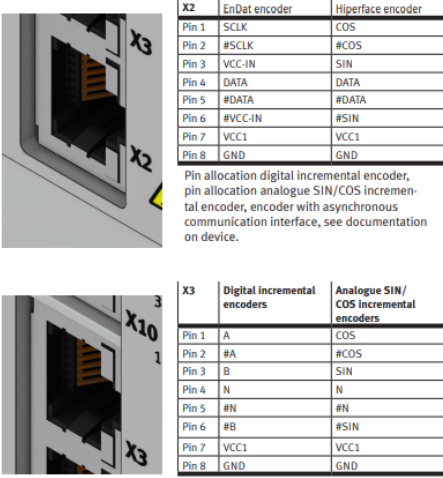
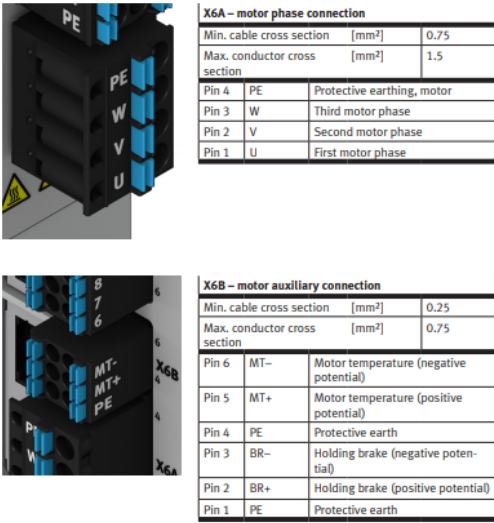
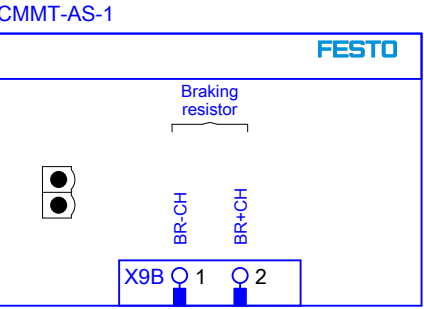


X9A – mains voltage, intermediate circuit voltage and logic voltage		
As single wiring connection		
Min. cable cross section	[mm²]	0.5
Max. conductor cross section	[mm²]	2.5
As cross-wiring (figure)		
Min. cable cross section	[mm²]	1.0
Max. conductor cross section	[mm²]	2.5
Pin 7	DC+	Intermediate circuit positive potential
Pin 6	DC-	Intermediate circuit negative potential
Pin 5	L1	Mains supply phase L1
Pin 4	N	For 1-phase mains connection: mains supply neutral conductor For 2-phase mains connection: mains supply phase L2
Pin 3	PE	Protective earthing
Pin 2	24 V	Positive potential of the 24 V logic voltage
Pin 1	0 V	Reference potential of the 24 V logic voltage



X1A – Inputs and outputs for the higher-order PLC and to the safety relay unit					
Min. cable cross section			[mm ²] 0.25		
Max. conductor cross section			[mm ²] 0.75		
Pin 1	#AIN0	Differential analogue input +/–10 V control voltage	Pin 13	CAP1	Like CAP0, but channel 1 +24 V
Pin 2	AIN0		Pin 14	CAP0	Fast input for position detection, channel 0 +24 V
Pin 3	CTRL-EN	Output stage enable (can be parameterised) +24 V	Pin 15	TRG1	Like TRG0, but channel 1 +24 V
Pin 4	ERR-RST	Error acknowledgement (rising edge) +24 V	Pin 16	TRG0	Fast output for triggering external components, channel 0 +24 V
Pin 5	–	Reserved, do not connect	Pin 17	GND	Reference potential (ground)
Pin 6	–		Pin 18	SIN4	Release brake request +24 V
Pin 7	–		Pin 19	–	Reserved, do not connect
Pin 8	–		Pin 20	–	
Pin 9	#SBC-B	Control input Safe Brake Control, channel B	Pin 21	SBA	Diagnostic output Safe Brake Control acknowledge
Pin 10	#SBC-A	Control input Safe Brake Control, channel A	Pin 22	STA	Diagnostic output Safe Torque Off acknowledge
Pin 11	#STO-B	Control input Safe Torque Off, channel B	Pin 23	RDY-C2	Normally open contact: ready for operation message (Ready)
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	

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		Date	03/07/2024
		Technical designer	
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Customer name

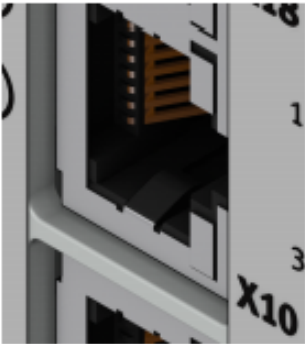
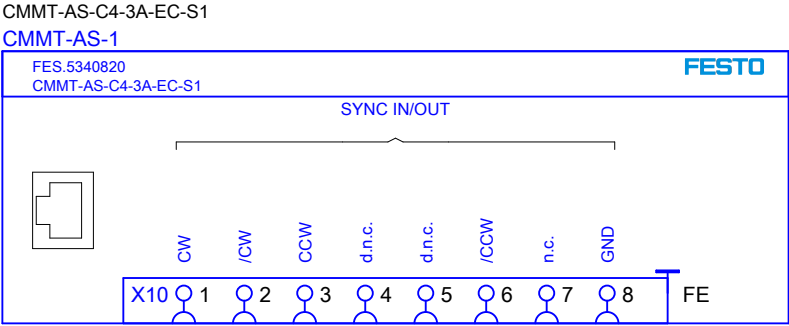
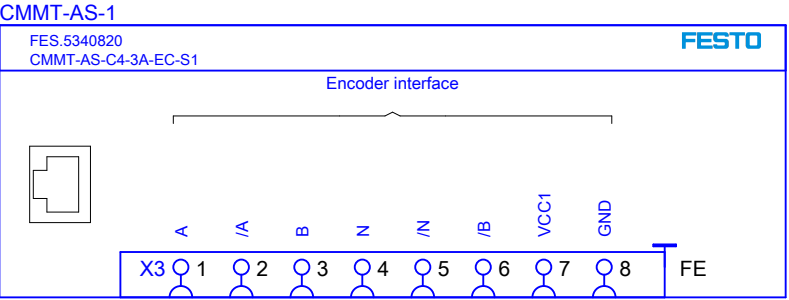
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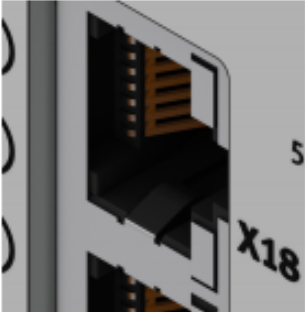
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EN		&EFS	
Material no.:		= A1	
		+ O1	
Project no.:		FMCP-1PH-3CMMT	
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X10	Incremental encoder In/ Out	Pulse/direction input	Incremental encoder input CW/CCW
Pin 1	A	CLK	CW
Pin 2	#A	#CLK	#CW
Pin 3	B	DIR	CCW
Pin 4	Z	–	–
Pin 5	#Z	–	–
Pin 6	#B	#DIR	#CCW
Pin 7	n.c.	n.c.	n.c.
Pin 8	GND	GND	GND



X18 – Standard Ethernet (parameterisation interface)		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	



X19 – RTE interface port 1 [XF1 IN]/port 2 [XF2 OUT]		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	

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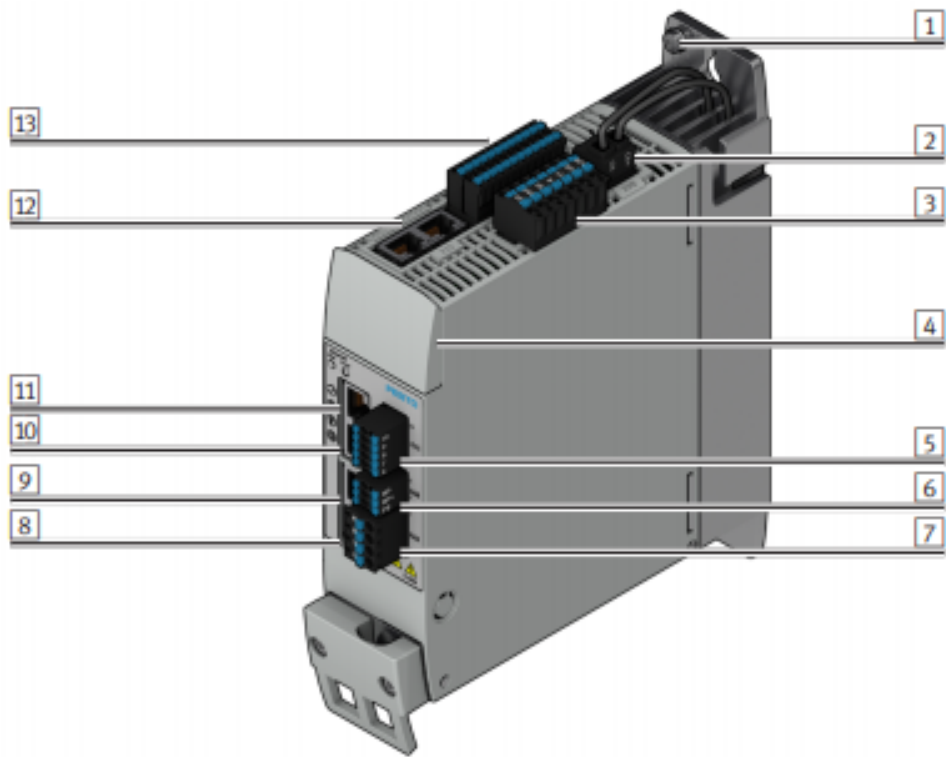
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Customer name
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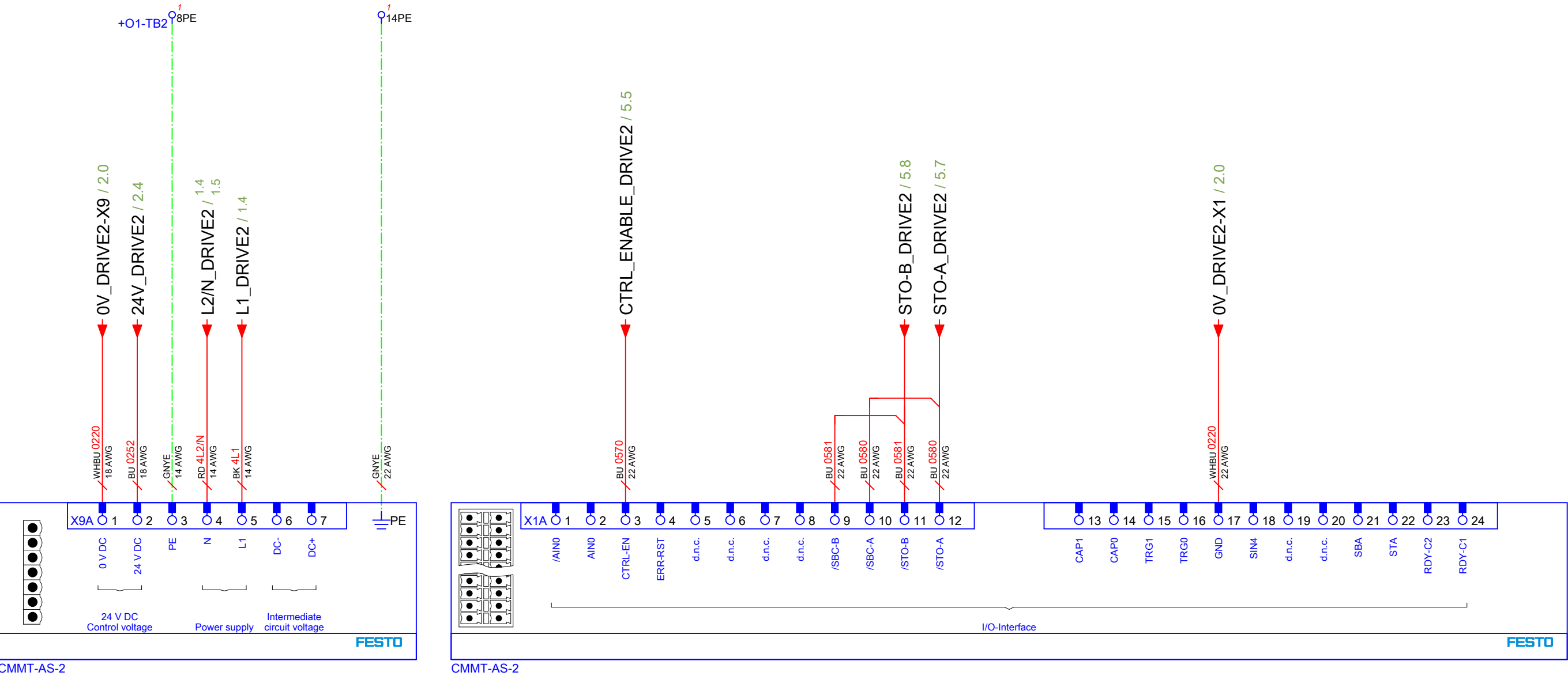
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Material no.:		Material no.	
		= A1	
		+ 01	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
		Pg.	23
		Pg.	55



Front view of the servo drive					
1		PE connection, housing	8	X2	Encoder connection 1
2	X9B	Braking resistor	9	X3	Encoder connection 2
3	X9A	Mains voltage, intermedia- te circuit voltage and logic voltage	10	X10	Device synchronisation
4	X5	Connection for operating unit (behind the blind plate)	11	X18	Standard Ethernet
5	X1C	Inputs/outputs for the axis	12	X19	RTE interface port 1 [XF1 IN] RTE- interface port port 2 [XF2 OUT]
6	X6B	Motor auxiliary connection	13	X1A	I/O interface
7	X6A	Motor phase connection			

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CMMT-AS-2

CMMT-AS-2

/25.3
/26.0
/26.0
/26.2
/26.4
/26.7
/27.4
/27.1
/50.2
X10 : NOT USED
CMMT-AS-C4-3A-EC-S1

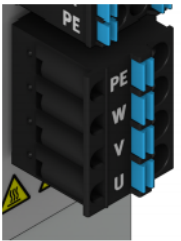
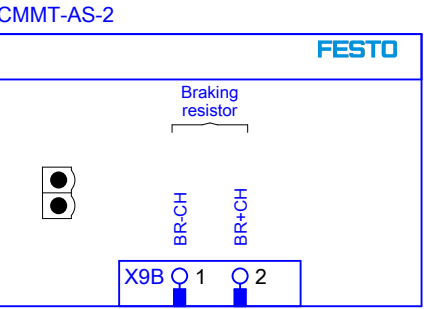


X9A – mains voltage, intermediate circuit voltage and logic voltage		
As single wiring connection		
Min. cable cross section	[mm²]	0.5
Max. conductor cross section	[mm²]	2.5
As cross-wiring (figure)		
Min. cable cross section	[mm²]	1.0
Max. conductor cross section	[mm²]	2.5
Pin 7	DC+	Intermediate circuit positive potential
Pin 6	DC-	Intermediate circuit negative potential
Pin 5	L1	Mains supply phase L1
Pin 4	N	For 1-phase mains connection: mains supply neutral conductor For 2-phase mains connection: mains supply phase L2
Pin 3	PE	Protective earthing
Pin 2	24 V	Positive potential of the 24 V logic voltage
Pin 1	0 V	Reference potential of the 24 V logic voltage

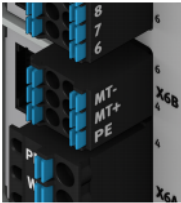


X1A – Inputs and outputs for the higher-order PLC and to the safety relay unit					
Min. cable cross section			[mm ²] 0.25		
Max. conductor cross section			[mm ²] 0.75		
Pin 1	#AIN0	Differential analogue input +/ -10 V control voltage	Pin 13	CAP1	Like CAP0, but channel 1 +24 V
Pin 2	AIN0		Pin 14	CAP0	Fast input for position detection, channel 0 +24 V
Pin 3	CTRL-EN	Output stage enable (can be parameterised) +24 V	Pin 15	TRG1	Like TRG0, but channel 1 +24 V
Pin 4	ERR-RST	Error acknowledgement (rising edge) +24 V	Pin 16	TRG0	Fast output for triggering external components, channel 0 +24 V
Pin 5	–	Reserved, do not connect	Pin 17	GND	Reference potential (ground)
Pin 6	–		Pin 18	SIN4	Release brake request +24 V
Pin 7	–		Pin 19	–	Reserved, do not connect
Pin 8	–		Pin 20	–	
Pin 9	#SBC-B	Control input Safe Brake Control, channel B	Pin 21	SBA	Diagnostic output Safe Brake Control acknowledge
Pin 10	#SBC-A	Control input Safe Brake Control, channel A	Pin 22	STA	Diagnostic output Safe Torque Off acknowledge
Pin 11	#STO-B	Control input Safe Torque Off, channel B	Pin 23	RDY-C2	Normally open contact: ready for operation message (Ready)
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	

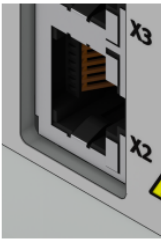
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X6A – motor phase connection		
Min. cable cross section	[mm²]	0.75
Max. conductor cross section	[mm²]	1.5
Pin 4	PE	Protective earthing, motor
Pin 3	W	Third motor phase
Pin 2	V	Second motor phase
Pin 1	U	First motor phase



X6B – motor auxiliary connection		
Min. cable cross section	[mm²]	0.25
Max. conductor cross section	[mm²]	0.75
Pin 6	MT–	Motor temperature (negative potential)
Pin 5	MT+	Motor temperature (positive potential)
Pin 4	PE	Protective earth
Pin 3	BR–	Holding brake (negative potential)
Pin 2	BR+	Holding brake (positive potential)
Pin 1	PE	Protective earth

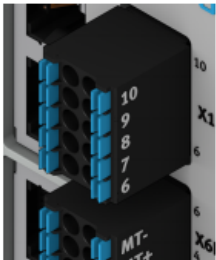


X2		
EnDat encoder		Hiperface encoder
Pin 1	SCLK	COS
Pin 2	#SCLK	#COS
Pin 3	VCC-IN	SIN
Pin 4	DATA	DATA
Pin 5	#DATA	#DATA
Pin 6	#VCC-IN	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

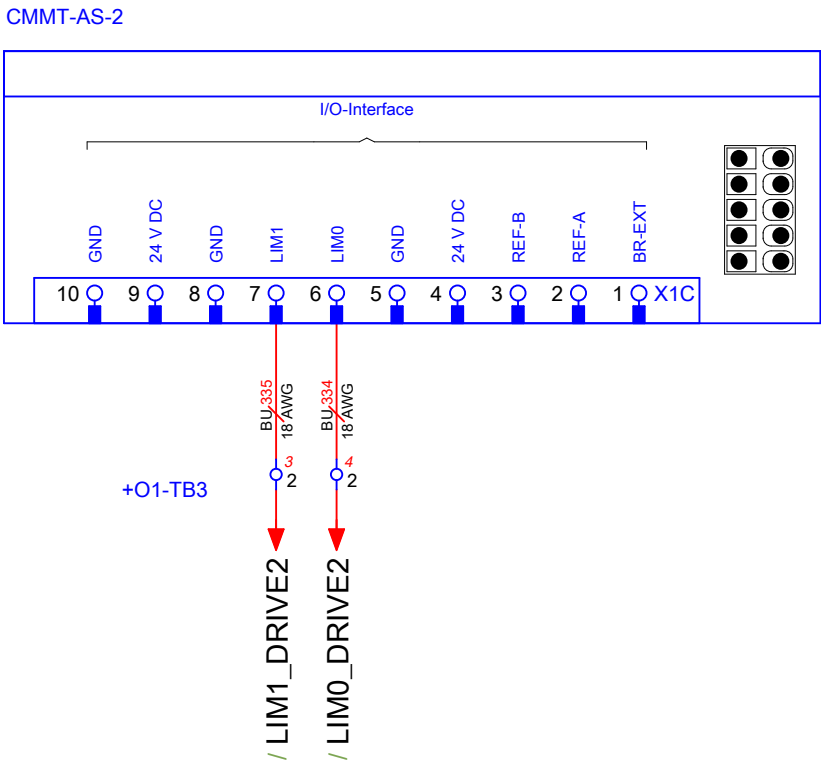
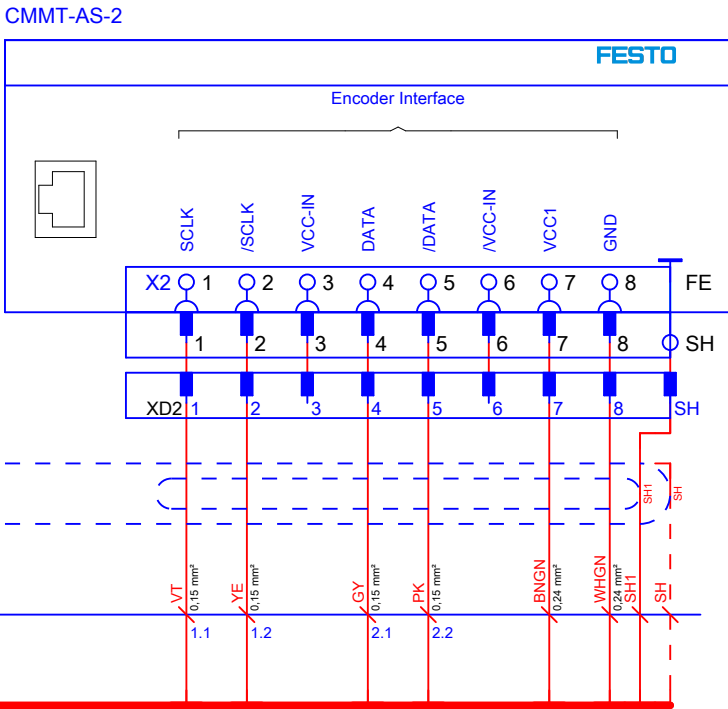
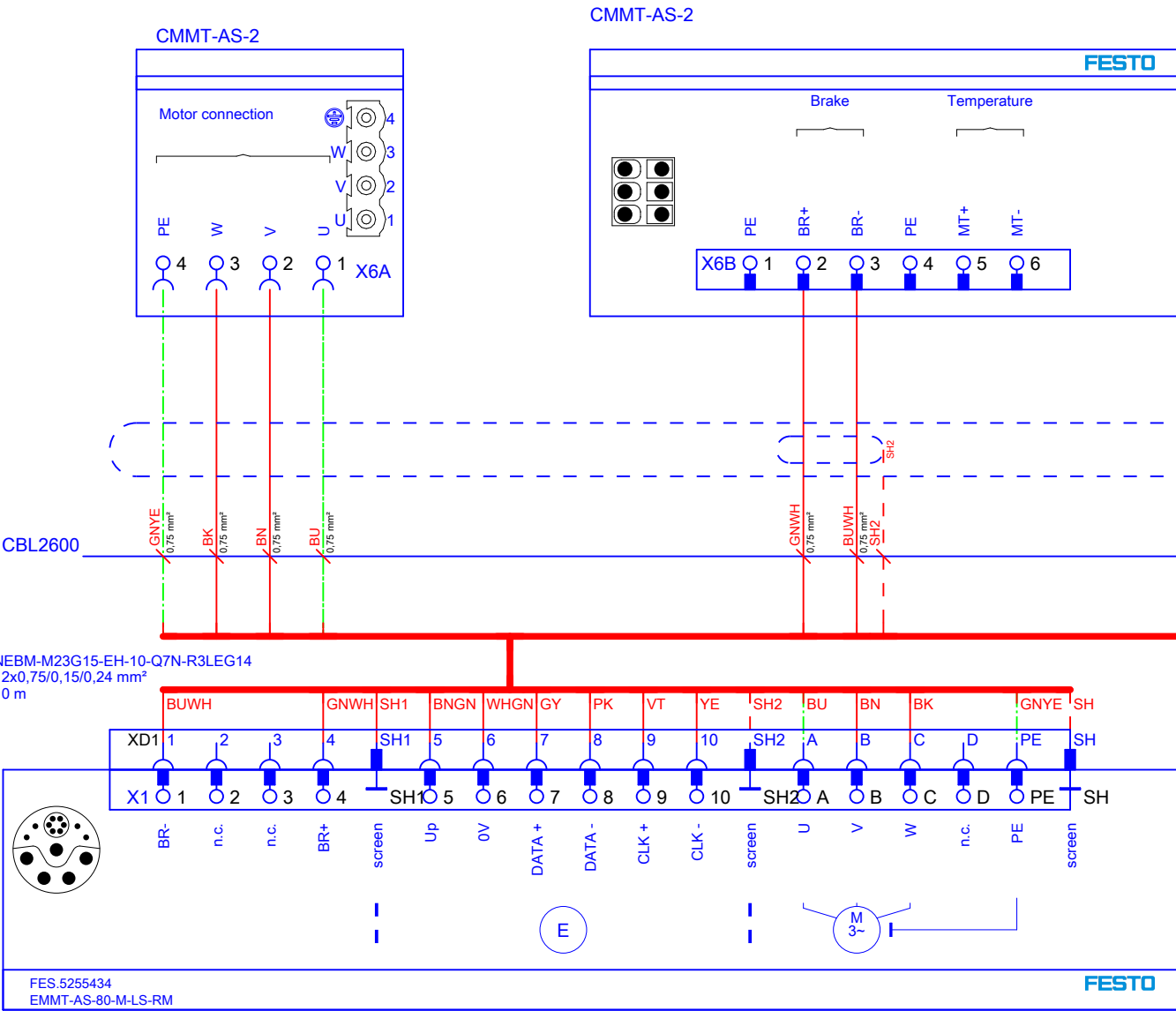
Pin allocation digital incremental encoder, pin allocation analogue SIN/COS incremental encoder, encoder with asynchronous communication interface, see documentation on device.



X3		
Digital incremental encoders		Analogue SIN/COS incremental encoders
Pin 1	A	COS
Pin 2	#A	#COS
Pin 3	B	SIN
Pin 4	N	N
Pin 5	#N	#N
Pin 6	#B	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND



X1C – inputs and outputs for the axis		
Min. cable cross section	[mm²]	0.25
Max. conductor cross section	[mm²]	0.75
Pin 1	BR-EXT	Output for connection of an external clamping unit (high-side switch, low test pulses at #SBC-B are transferred to BR-EXT)
Pin 2	REF-A	Digital input for reference switch (PNP logic, 24 V DC)
Pin 3	–	Reserved, do not connect
Pin 4	24 V	Power supply output for sensors
Pin 5	GND	Reference potential (ground)
Pin 6	LIM0	Digital input for limit switch 0 (PNP logic, 24 V DC)
Pin 7	LIM1	Digital input for limit switch 1 (PNP logic, 24 V DC)
Pin 8	GND	Reference potential (ground)
Pin 9	24 V	Power supply output for sensors
Pin 10	GND	Reference potential (ground)



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Project status		xxx	
		Date	03/07/2024
		Technical designer	
		Edit by	03/07/2024
		ca0zfa	
		Appr.	
Modification	Date	Name	Standard

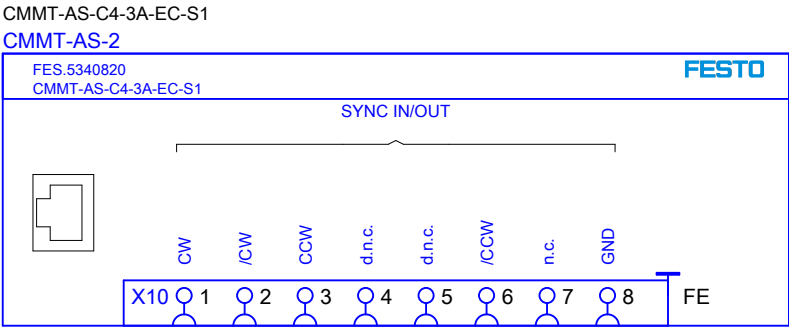
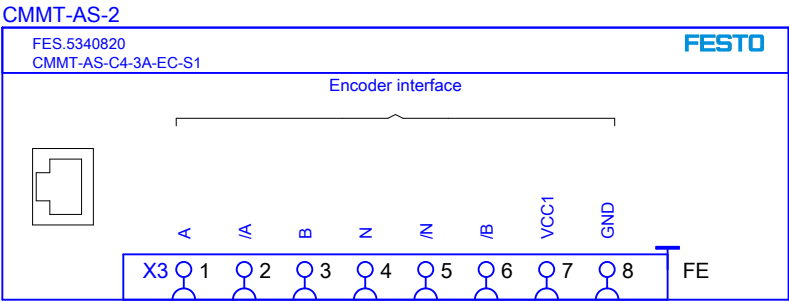
Customer name

FESTO template IEC 81346 / EN61355

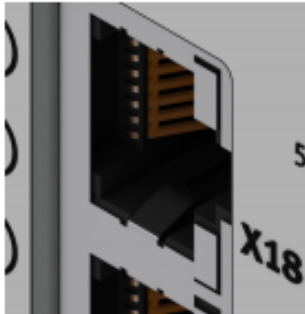


CMMT-AS-2:X6A,X6B,X2,X1C,X9B

EN		&EFS	
Material no.:		Material no.	
		= A1	
		+ O1	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
		Pg.	26
		Pg.	55



X10	Incremental encoder In/ Out	Pulse/direction input	Incremental encoder input CW/CCW
Pin 1	A	CLK	CW
Pin 2	#A	#CLK	#CW
Pin 3	B	DIR	CCW
Pin 4	Z	–	–
Pin 5	#Z	–	–
Pin 6	#B	#DIR	#CCW
Pin 7	n.c.	n.c.	n.c.
Pin 8	GND	GND	GND



X18 – Standard Ethernet (parameterisation interface)		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	



X19 – RTE interface port 1 [XF1 IN]/port 2 [XF2 OUT]		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	

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Project status		xxx	
		Date	03/07/2024
		Technical designer	
		Edit by	03/07/2024
		ca0zfa	
		Appr.	
Modification	Date	Name	Standard

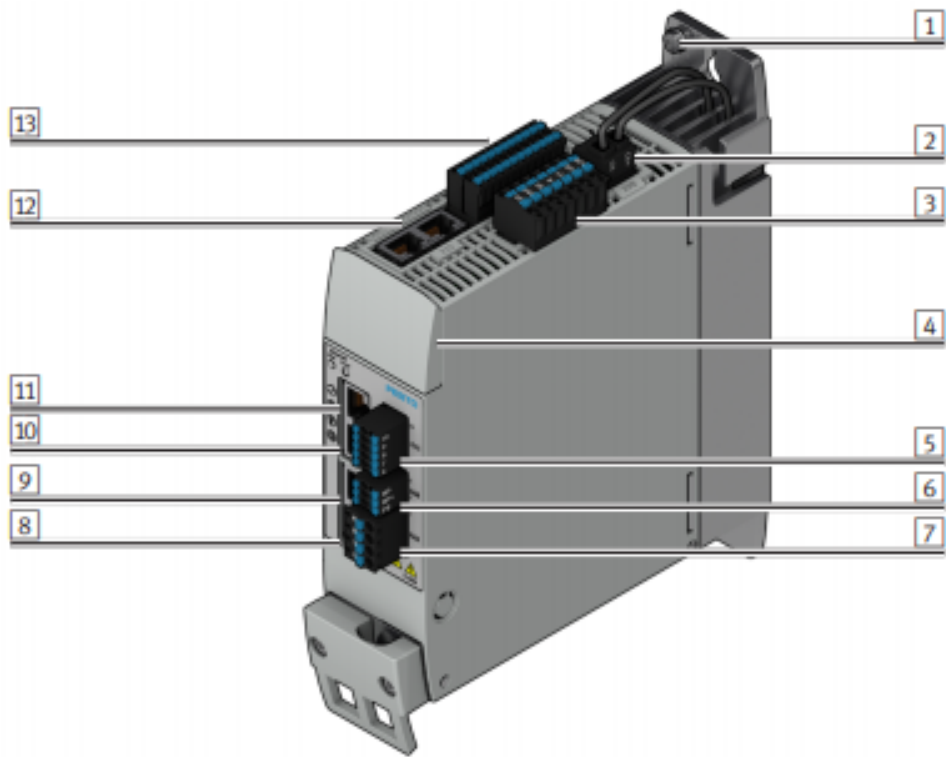
Customer name

FESTO template IEC 81346 / EN61355



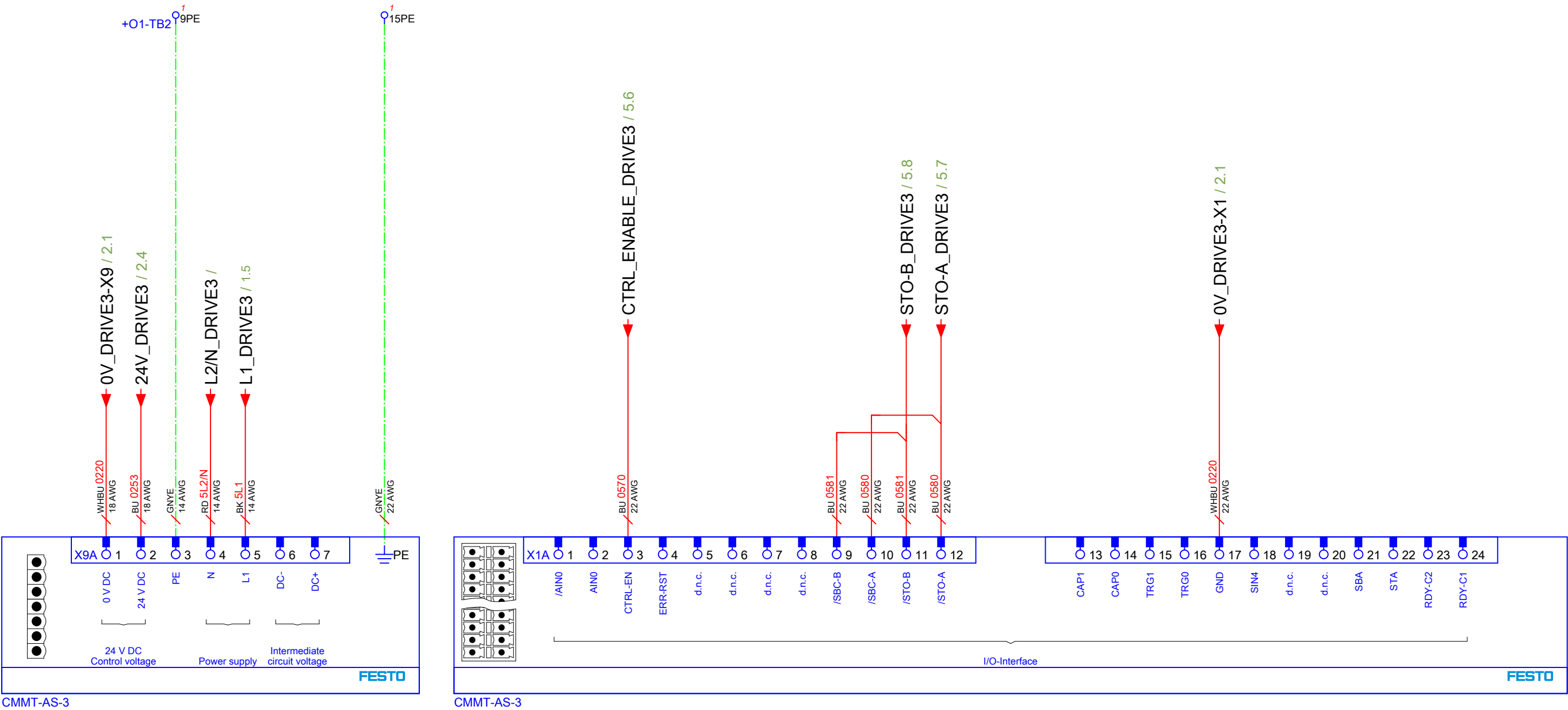
CMMT-AS-2:X9A,X1A

EN		&EFS	
Material no.:		Material no.	
		= A1	
		+ 01	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
		Pg.	27
		Pg.	55



Front view of the servo drive					
1		PE connection, housing	8	X2	Encoder connection 1
2	X9B	Braking resistor	9	X3	Encoder connection 2
3	X9A	Mains voltage, intermedia- te circuit voltage and logic voltage	10	X10	Device synchronisation
4	X5	Connection for operating unit (behind the blind plate)	11	X18	Standard Ethernet
5	X1C	Inputs/outputs for the axis	12	X19	RTE interface port 1 [XF1 IN] RTE- interface port port 2 [XF2 OUT]
6	X6B	Motor auxiliary connection	13	X1A	I/O interface
7	X6A	Motor phase connection			

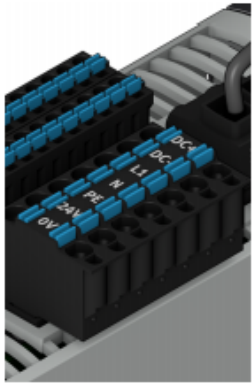
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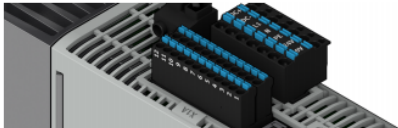
CMMT-AS-3

/29.3
/30.0
/30.2
/30.3
/30.6
/30.8
/31.4
/31.1

CMMT-AS-C4-3A-EC-S1



X9A – mains voltage, intermediate circuit voltage and logic voltage		
As single wiring connection		
Min. cable cross section	[mm²]	0.5
Max. conductor cross section	[mm²]	2.5
As cross-wiring (figure)		
Min. cable cross section	[mm²]	1.0
Max. conductor cross section	[mm²]	2.5
Pin 7	DC+	Intermediate circuit positive potential
Pin 6	DC-	Intermediate circuit negative potential
Pin 5	L1	Mains supply phase L1
Pin 4	N	For 1-phase mains connection: mains supply neutral conductor For 2-phase mains connection: mains supply phase L2
Pin 3	PE	Protective earthing
Pin 2	24 V	Positive potential of the 24 V logic voltage
Pin 1	0 V	Reference potential of the 24 V logic voltage



X1A – inputs and outputs for the higher-order PLC and to the safety relay unit					
Min. cable cross section			[mm²]	0.25	
Max. conductor cross section			[mm²]	0.75	
Pin 1	#AIN0	Differential analogue input +/-10 V control voltage	Pin 13	CAP1	Like CAP0, but channel 1 +24 V
Pin 2	AIN0		Pin 14	CAP0	Fast input for position detection, channel 0 +24 V
Pin 3	CTRL-EN	Output stage enable (can be parameterised) +24 V	Pin 15	TRG1	Like TRG0, but channel 1 +24 V
Pin 4	ERR-RST	Error acknowledgement (rising edge) +24 V	Pin 16	TRG0	Fast output for triggering external components, channel 0+24 V
Pin 5	–	Reserved, do not connect	Pin 17	GND	Reference potential (ground)
Pin 6	–		Pin 18	SIN4	Release brake request +24 V
Pin 7	–		Pin 19	–	Reserved, do not connect
Pin 8	–		Pin 20	–	
Pin 9	#SBC-B	Control input Safe Brake Control, channel B	Pin 21	SBA	Diagnostic output Safe Brake Control acknowledge
Pin 10	#SBC-A	Control input Safe Brake Control, channel A	Pin 22	STA	Diagnostic output Safe Torque Off acknowledge
Pin 11	#STO-B	Control input Safe Torque Off, channel B	Pin 23	RDY-C2	Normally open contact: ready for operation message
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	(Ready)

Project status		xxx	
		Date	03/07/2024
		Technical designer	ca0zfa
		Edit by	03/07/2024
		Appr.	
Modification	Date	Name	Standard

Customer name

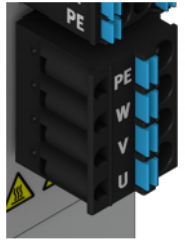
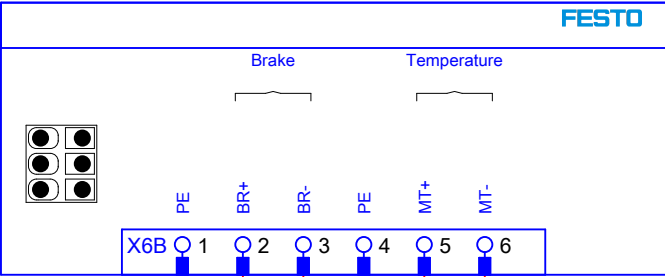
FESTO template IEC 81346 / EN61355



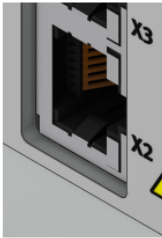
CMMT-AS-3:X9A,X1A

EN		&EFS	
Material no.:		= A1	
		+ O1	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
		Pg.	29
		Pg.	55

CMMT-AS-3

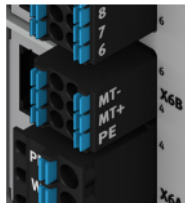


X6A – motor phase connection		
Min. cable cross section	[mm²]	0,75
Max. conductor cross section	[mm²]	1,5
Pin 4	PE	Protective earthing, motor
Pin 3	W	Third motor phase
Pin 2	V	Second motor phase
Pin 1	U	First motor phase



X2 – digital incremental encoder		
Pin 1	SCLK	COS
Pin 2	#SCLK	#COS
Pin 3	VCC-IN	SIN
Pin 4	DATA	DATA
Pin 5	#DATA	#DATA
Pin 6	#VCC-IN	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

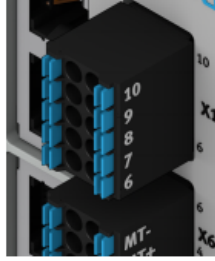
Pin allocation digital incremental encoder, pin allocation analogue SIN/COS incremental encoder, encoder with asynchronous communication interface, see documentation on device.



X6B – motor auxiliary connection		
Min. cable cross section	[mm²]	0,25
Max. conductor cross section	[mm²]	0,75
Pin 6	MT-	Motor temperature (negative potential)
Pin 5	MT+	Motor temperature (positive potential)
Pin 4	PE	Protective earth
Pin 3	BR-	Holding brake (negative potential)
Pin 2	BR+	Holding brake (positive potential)
Pin 1	PE	Protective earth

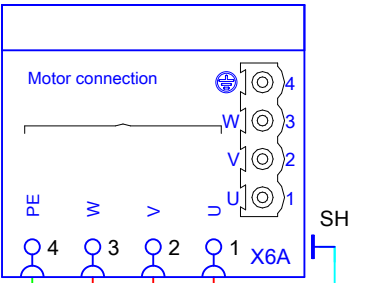


X3 – digital incremental encoders		
Pin 1	A	COS
Pin 2	#A	#COS
Pin 3	B	SIN
Pin 4	N	N
Pin 5	#N	#N
Pin 6	#B	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

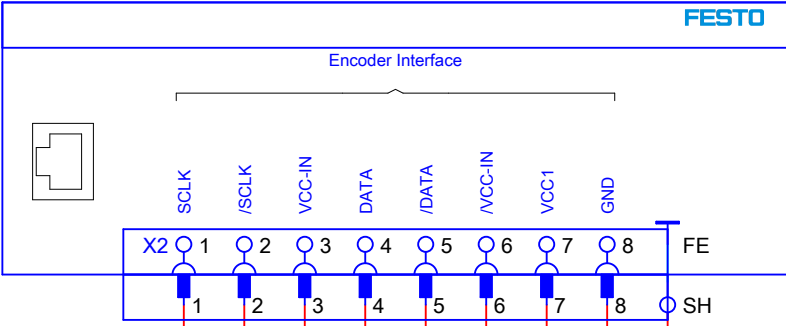


X1C – inputs and outputs for the axis		
Min. cable cross section	[mm²]	0,25
Max. conductor cross section	[mm²]	0,75
Pin 1	BR-EXT	Output for connection of an external clamping unit (high-side switch, low test pulses at #SBC-B are transferred to BR-EXT)
Pin 2	REF-A	Digital input for reference switch (PNP logic, 24 V DC)
Pin 3	–	Reserved, do not connect
Pin 4	24 V	Power supply output for sensors
Pin 5	GND	Reference potential (ground)
Pin 6	LIM0	Digital input for limit switch 0 (PNP logic, 24 V DC)
Pin 7	LIM1	Digital input for limit switch 1 (PNP logic, 24 V DC)
Pin 8	GND	Reference potential (ground)
Pin 9	24 V	Power supply output for sensors
Pin 10	GND	Reference potential (ground)

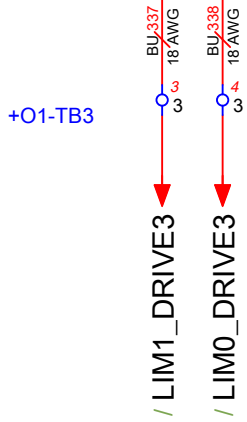
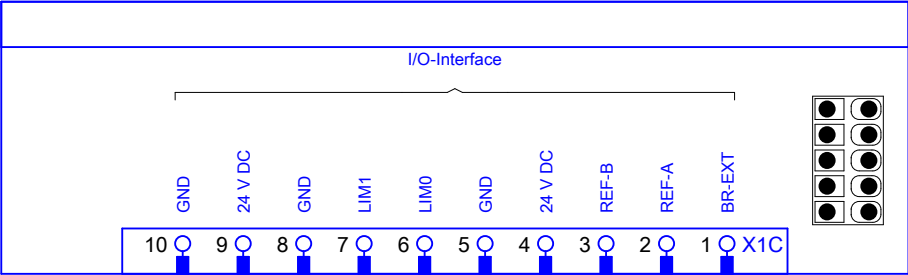
CMMT-AS-3



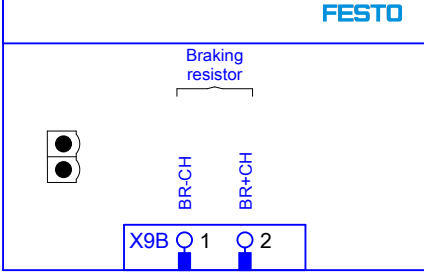
CMMT-AS-3



CMMT-AS-3

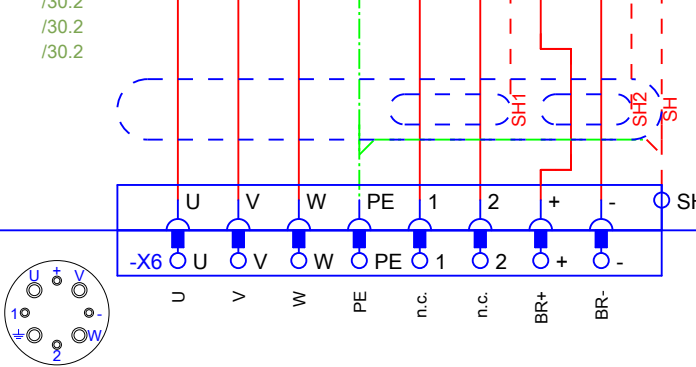


CMMT-AS-3



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7,50 m

CBL3001

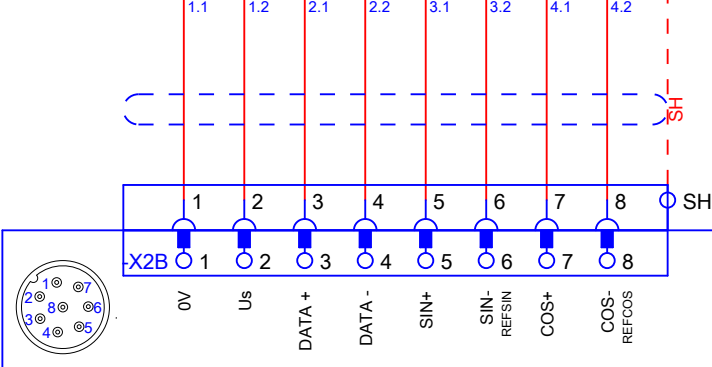


MOT-3

/30.3

NEBM-M12G8-E-7.5-N-R3G8
4x2x0,14mm²
7,50 m

CBL3003



MOT-3

E

Part 2 of 2

FESTO

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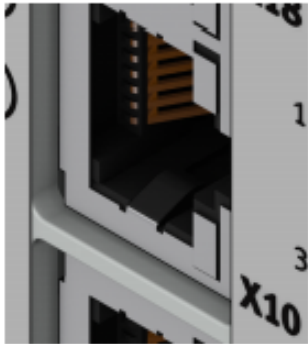
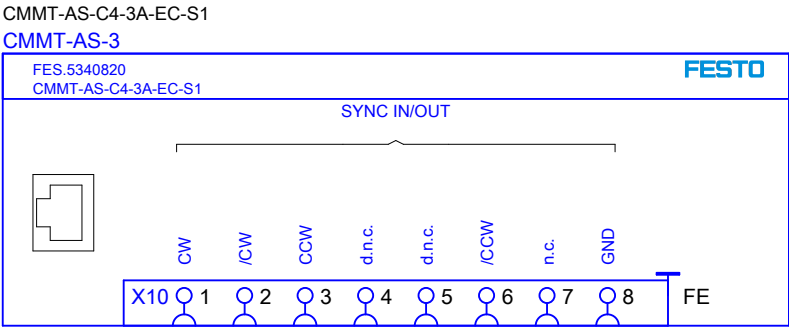
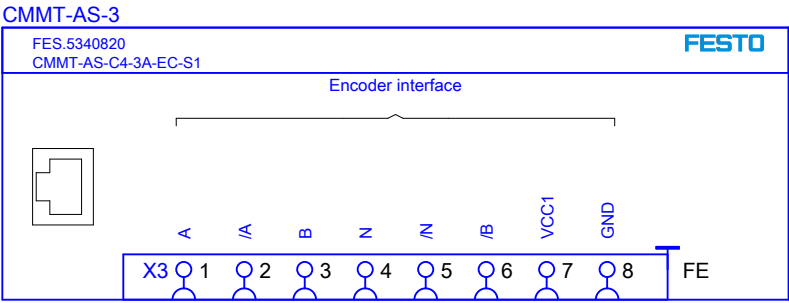
Project status		xxx	
		Date	03/07/2024
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		Edit by	03/07/2024
		Appr.	ca0zfa
Modification	Date	Name	Standard

Customer name
FESTO template IEC 81346 / EN61355

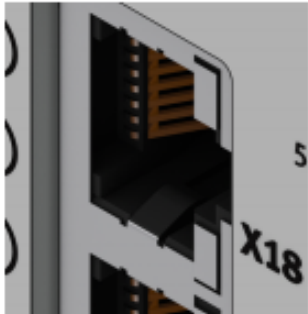


CMMT-AS-3:X6A,X6B,X2,X1C,X9B

EN		&EFS	
Material no.:		Material no.	
		= A1	
		+ O1	
Project no.:		FMCP-1PH-3CMMT	
Productionorder:		SAP PRODUCTION_ORDER / CSFE	
		Pg.	30
		Pg.	55



X10	Incremental encoder In/ Out	Pulse/direction input	Incremental encoder input CW/CCW
Pin 1	A	CLK	CW
Pin 2	#A	#CLK	#CW
Pin 3	B	DIR	CCW
Pin 4	Z	–	–
Pin 5	#Z	–	–
Pin 6	#B	#DIR	#CCW
Pin 7	n.c.	n.c.	n.c.
Pin 8	GND	GND	GND




X18 – Standard Ethernet (parameterisation interface)		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	



X19 – RTE interface port 1 [XF1 IN]/port 2 [XF2 OUT]		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	

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Project status		xxx		Customer name
		Date	03/07/2024	
		Edit by	03/07/2024	
		Appr.		
Modification	Date	Name	Standard	FESTO template IEC 81346 / EN61355

	CMMT-AS-3:X9A,X1A	EN		&EFS		
		Material no.:	Material no.	= A1		
				+ 01		
			Project no.:	FMCP-1PH-3CMMT		Pg.
		Productionorder:	SAP PRODUCTION_ORDER / CSFE		Pg.	55



50

&MFS/1

Project status

Date

03/07/2024

Technical designer

Edit by

03/07/2024

Appr.

Modification

Date

Name

Standard

Customer name

FESTO template IEC 81346 / EN61355

FESTO

FAN Connection

EN

&EFS

Material no.:

Material no.

Project no.:

FMCP-1PH-3CMMT

Productionorder:

SAP PRODUCTION_ORDER / CSFE

= A1

+ O1

Pg.

55

Pg.

55

