Festo Inc.
5300 Explorer Drive
L4W 5G4 Mississauga, Ontario

Customer Solutions

mailto:
http://www.festo.ca

Phone:
Fax:

2.9.4

Plant designation	FMCP-3P-CE-4CMMT-CPX-E
Customer order no.	6800097744
Festo order number	5221127050
Material / Project no	23442860 / CA_CS.2176940-A

Customer

Name	FESTO CORPORATION
Plant	
Street	1377 MOTOR PARKWAY, SUITE 310
Code postal: / location	11749 ISLANDIA

Type of project	37B1F6LX	
Responsible for project	Saeed Mortazavian	
Project name	CA_CS.2176940-A 1330706337	
Created	21.05.2021 /	CA0SMO
Edit	16.11.2021 /	ca0smo
Approved	/	
	/	
Number of pages	60	

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			Date	21.05.2021 CA0SMO				=
			Edit by	16.11.2021 ca0smo				Material no.: 23442860 +
			Appr.		FMCP-3P-CE-4CMMT-CPX-E			Project no.: CA_CS.2176940-A Pg. 1
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337 Pg. 3

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			Edit by	16.11.2021	ca0smo
			Appr.		
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FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

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EN	&MAB		
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		+	
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Summarized parts list

Quantity	Order number	Type number	Designation	Σ Length [m]	Manufacturer
1	WEI.BR3C06UC		Circuit breaker 3Poles, C-Curve,6A	0	
3				0	
1	194E-A32-1753	194E	IEC Load Switch, Base/DIN Rail Mounting	0	Allen-Bradley (NFPA Data)
1	194L-G3394	194L	Shaft Extension	0	Allen-Bradley (NFPA Data)
1	194L-HE6G-175	194L	Handle for Front/Base Mounting, 64 x 64mm	0	Allen-Bradley (NFPA Data)
4	5391548	NEBM-M16G8-E-7.5-Q7-LE8-1	Motor cable	30	Festo
4	5251382	NEBM-M23G15-EH-5-Q9N-R3LEG14	Motor cable	20	Festo
10	AT-C5-3BU-10PK		3FT Cat5e UTP 24AWG Ethernet Network	0	Festo
4	5340823	CMMT-AS-C5-11A-P3-EC-S1	Servo drive	0	Festo
1	4080492	CPX-E-16DI	Digital input module	0	Festo
1	4080491	CPX-E-8DO	Digital output module	0	Festo
4	5255533	EMMT-AS-100-M-HS-RMB	Servo motor	0	Festo
1	4252744	CPX-E-CEC-M1-EP	control unit	0	Festo
1	58812	8 port unmanaged switch	Xelity 8TX	0	Murrelektronik GmbH
1	9000-41068-0400000	9000-41068-0400000	MICO BASIC 8.4 / 24VDC/8*4A	0	Murrelektronik GmbH
1	85691	85691	Emparro Power Supply 3-PHASE	0	Murrelektronik GmbH
1		MIRO SAFE+ T 2 24	MIRO SAFE+ T 2 24 24 VAC/DC - 3 N/O contact / 2 N/O contact delayed	0	Murrelektronik GmbH
1	4000-73000-0010000	4000-73000-0010000	Connector (special)	0	Murrelektronik GmbH
1	3238124	SK.3238124	SK TopTherm fan-and-filter unit, 55 m³/h, 24 V (DC), WH: 148.5x148.5 mm	0	Rittal
52	2434340000	AMC 2.5	motor connection terminal	0	Weidmueller
4	WEI.BR3C15UC	WEI.BR3C15UC	Circuit Breaker , 3Poles,C-Curve,15A	0	Weidmueller

Project status		xxx			FESTO CORPORATION		Summarized parts list	EN &MPC
			Date	21.05.2021 CA0SMO				=
			Edit by	08.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		Material no.: 23442860	+
			Appr.				Project no.: CA_CS.2176940-A	Pg. 1
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337	Pg. 2.2

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Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
-CB0120 =A1+O1&EFS/1.1	1	WEI.BR3C06UC	Circuit breaker 3Poles, C-Curve,6A			
-CB0130 =A1+O1&EFS/1.2	1	WEI.BR3C15UC WEI.BR3C15UC	Circuit Breaker , 3Poles,C-Curve,15A		Weidmueller	
-CB0140 =A1+O1&EFS/1.3	1	WEI.BR3C15UC WEI.BR3C15UC	Circuit Breaker , 3Poles,C-Curve,15A		Weidmueller	
-CB0150 =A1+O1&EFS/1.4	1	WEI.BR3C15UC WEI.BR3C15UC	Circuit Breaker , 3Poles,C-Curve,15A		Weidmueller	
-CB0160 =A1+O1&EFS/1.5	1	WEI.BR3C15UC WEI.BR3C15UC	Circuit Breaker , 3Poles,C-Curve,15A		Weidmueller	
CBL2210 =A1+O1&EFS/22.0	1	5251382 NEBM-M23G15-EH-5-Q9N-R3LEG14	Motor cable	5 m	Festo	
CBL2610 =A1+O1&EFS/26.0	1	5251382 NEBM-M23G15-EH-5-Q9N-R3LEG14	Motor cable	5 m	Festo	
CBL3010 =A1+O1&EFS/30.0	1	5251382 NEBM-M23G15-EH-5-Q9N-R3LEG14	Motor cable	5 m	Festo	
CBL3410 =A1+O1&EFS/34.0	1	5251382 NEBM-M23G15-EH-5-Q9N-R3LEG14	Motor cable	5 m	Festo	
CBL5010 =A1+O1&EFS/50.0	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
-CBL5020 =A1+O1&EFS/50.2	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
-CBL5030 =A1+O1&EFS/50.3	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
-CBL5040 =A1+O1&EFS/50.4	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
-CBL5050 =A1+O1&EFS/50.5	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
-CBL5080 =A1+O1&EFS/50.8	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	

Project status	xxx				FESTO CORPORATION	FESTO	Item parts list	EN	&MPC	16.11.2021
			Date	21.05.2021 CA0SMO				Material no.: 23442860	=	
			Edit by	08.11.2021 ca0smo					+	
			Appr.		FMCP-3P-CE-4CMMT-CPX-E			Project no.: CA_CS.2176940-A	Pg. 2	DIN A3
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337	Pg. 2.2	

Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
CBL5110 =A1+O1&EFS/51.1	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
CBL5120 =A1+O1&EFS/51.2	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
CBL5130 =A1+O1&EFS/51.5	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
CBL5140 =A1+O1&EFS/51.7	1	AT-C5-3BU-10PK	3FT Cat5e UTP 24AWG Ethernet Network		Festo	
CMMT-AS-1 =A1+O1&EFS/21.0	1	5340823 CMMT-AS-C5-11A-P3-EC-S1	Servo drive		Festo	
CMMT-AS-2 =A1+O1&EFS/25.0	1	5340823 CMMT-AS-C5-11A-P3-EC-S1	Servo drive		Festo	
CMMT-AS-3 =A1+O1&EFS/29.0	1	5340823 CMMT-AS-C5-11A-P3-EC-S1	Servo drive		Festo	
CMMT-AS-4 =A1+O1&EFS/33.0	1	5340823 CMMT-AS-C5-11A-P3-EC-S1	Servo drive		Festo	
DI1104 =A1+O1&EFS/11.6	1	4080492 CPX-E-16DI	Digital input module		Festo	
DO1103 =A1+O1&EFS/11.4	1	4080491 CPX-E-8DO	Digital output module		Festo	
-DS0110 =A1+O1&EFS/1.1	1	194E-A32-1753 194E	IEC Load Switch, Base/DIN Rail Mounting		Allen-Bradley (NFPA Data)	
-DS0110 =A1+O1&EFS/1.1	1	194L-G3394 194L	Shaft Extension		Allen-Bradley (NFPA Data)	
-DS0110 =A1+O1&EFS/1.1	1	194L-HE6G-175 194L	Handle for Front/Base Mounting, 64 x 64mm		Allen-Bradley (NFPA Data)	
ETH5000 =A1+O1&EFS/50.0	1	58812 8 port unmanaged switch	Xelity 8TX		Murrelektronik GmbH	
FAN5530 =A1+O1&EFS/55.3	1	3238124 SK.3238124	SK TopTherm fan-and-filter unit, 55 m³/h, 24 V (DC), WH: 148.5x148.5 mm		Rittal	

Project status		xxx			FESTO CORPORATION	FESTO	Item parts list	EN &MPC
			Date	21.05.2021 CA0SMO				Material no.: 23442860 =
			Edit by	08.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E			+
			Appr.					Project no.: CA_CS.2176940-A Pg. 2.1
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337 Pg. 2.2

16.11.2021 DIN A3

Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
FU0220 =A1+O1&EFS/2.3	1	9000-41068-0400000 9000-41068-0400000	MICO BASIC 8.4 / 24VDC/8*4A		Murrelektronik GmbH	
MOT1 =A1+O1&EFS/22.0	1	5255533 EMMT-AS-100-M-HS-RMB	Servo motor		Festo	
MOT2 =A1+O1&EFS/26.0	1	5255533 EMMT-AS-100-M-HS-RMB	Servo motor		Festo	
MOT3 =A1+O1&EFS/30.0	1	5255533 EMMT-AS-100-M-HS-RMB	Servo motor		Festo	
MOT4 =A1+O1&EFS/34.0	1	5255533 EMMT-AS-100-M-HS-RMB	Servo motor		Festo	
PLC1102 =A1+O1&EFS/11.2	1	4252744 CPX-E-CEC-M1-EP	control unit		Festo	
PSU0210 =A1+O1&EFS/2.0	1	85691 85691	Emparro Power Supply 3-PHASE		Murrelektronik GmbH	
-PS_AXIS1 =A1+O1&EFS/21.0	3					
-SR0510 =A1+O1&EFS/5.0	1	MIRO SAFE+ T 2 24	MIRO SAFE+ T 2 24 VAC/DC - 3 N/O contact / 2 N/O contact delayed		Murrelektronik GmbH	
-XF5080 =A1+O1&EFS/50.8	1	4000-73000-0010000 4000-73000-0010000	Connector (special)		Murrelektronik GmbH	
=A1+O1&EFS/22.0	4	5391548 NEBM-M16G8-E-7.5-Q7-LE8-1	Motor cable	7,5 m	Festo	

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, because 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 per VDE 0530 5%* Un)

b.) Type of cable installation and permissible ambient temperature (Installation type reduction factor %0.%1 / amb. temp.%2° 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 designation system	=A1+O1
IP-degree of protection	IPxx
Environment temperature	+5°C - +35°C
Humidity	max. 50%

Electric

Supply voltage	3-Phase 480 VAC
Pre-fuse (max.)	--A
Supply cable	----

Pneumatics

Max. system pressure	xx bar
Operating pressure	xx bar
Air supply	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)
Power circuit (permanent voltage):	Yellow (YE)
Neutral conductor:	Blue (BU)
Protective conductor:	Green/yellow (GNYE)
Control circuit AC:	Red (RD)
Control circuit DC (+):	Dark blue (DBU)
Control circuit DC (-):	Dark blue (DBU)
excepted circuits:	Orange (OG)

Standards used:

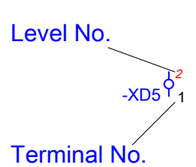
EN 61355-1:2008-06	Classification and designation of documents for plants, systems and equipment - Part 1: Rules and classification tables
EN 81346-2:2009	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes
EN 60204-1:2018	Safety of machinery - Electrical equipment of machines – Part 1: General requirements
EN 61439-1:2011	Low-voltage switchgear and controlgear assemblies- Part 1: General rules
EN 61439-2:2011	Low-voltage switchgear and controlgear assemblies- Part 2: Power switchgear and controlgear assemblies
EN ISO 4414:2010	Pneumatic fluid power - General rules and safety requirements for systems and their components

Used tube

PUN-H-.....-BL --> Control cabinet
PUN-H-.....-SW --> Control cabinet outside
PUN-H-...-NT --> Condensate drain
PUN-.....-BL --> M5-Series

FESTO
5300 Explorer Drive , Mississauga, Ontario
Tel: 1-877-GO-FESTO Fax: 1-877-FX-FESTO
CONTROL PANEL

Part # / Project # :	CA_CS.2176940-A		
Prod. Order / Serial #:	5221127050		
Year of Mfg.:	2021		
Main Voltage	3-Phase 480 VAC	FLA	32
Largest Motor:	1.7KW,4.3A		
Fault Rating:	5KA rms	Control Voltage:	24V DC
Panel type:			
Operating Pressure	xx bar		



&MPC/2.2

&MTB/1

Project status		xxx			FESTO CORPORATION		Technical notes	EN &MEC
			Date	21.05.2021 CA0SMO				Material no.: 23442860 =
			Edit by	16.11.2021 ca0smo				+
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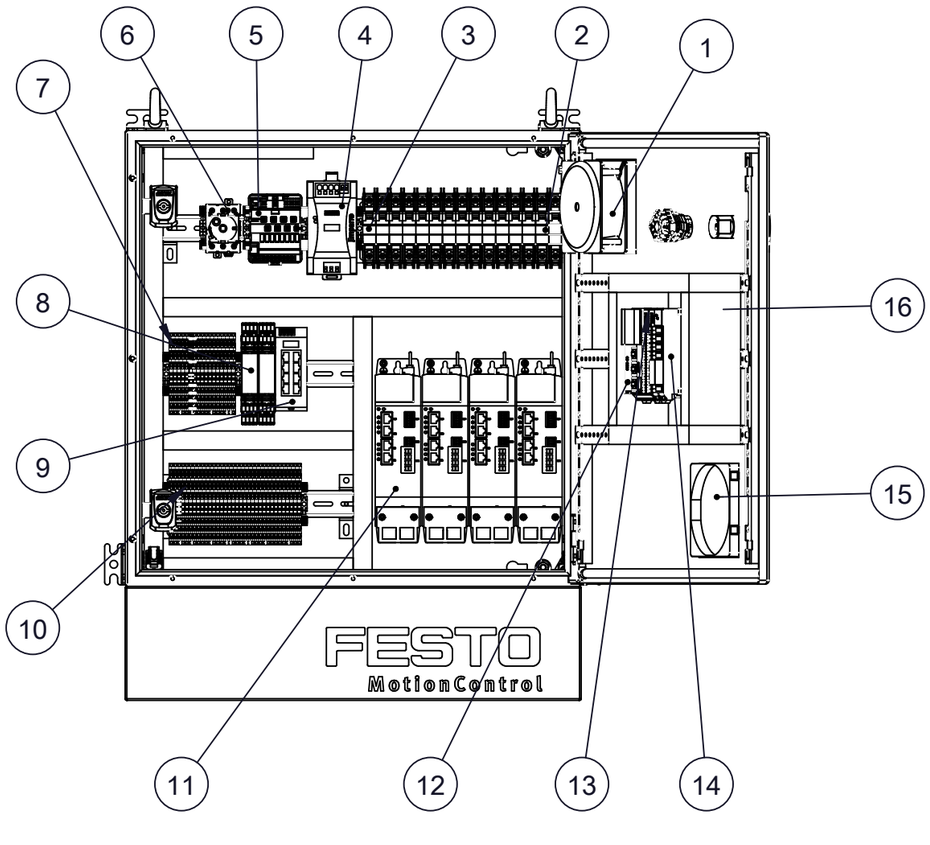

ITEM NO.	PART NUMBER	DESCR/MANUF	QTY.
1	SK3238124	Fan-Rittal	1
2	BR3C15UC	Circuit Breaker/Weid	4
3	BR3C6UC	Circuit Breaker/Weid	1
4	85691	Power Supply/Murr	1
5	9000-41068-0400000	Fuse Block/Murr	1
6	194E-A32-1753	Disc Switch/AB	1
7	2434340000	Terminal Block TB2/Weid	18
8	3000-33113-3020060	Safety Relay/Murr	1
9	58812	ETH Switch/Murr	1
10	2434340000	Terminal Block TB3/Weid	32
11	5340823	Servo Drive/Festo	4
12	4252744	PLC/Festo	1
13	4080492	Digital Input/Festo	1
14	4080491	Digital Output/Festo	1
15	SK3238200	Panel Vent/Rittal	1
16	AX1360000	Enclosure/Rittal	1

&MTB/1

&EFA/100

Project status		xxx			
			Date	21.05.2021	CA0SMO
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FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

Control cabinet construction

EN	&MTL		
Material no.: 23442860	=		
	+		
Project no.:	CA_CS.2176940-A	Pg.	1
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Cable overview

Cable designation	from	up to	Cable type	Conductors	Conductors used	Ø	Length [m]	Remark
-CBL2210			NEBM-M23G15-EH-5-Q9N-R3LEG14	12	0	12x1,5/0,75/0,24/0,15 mm²	5 m	
-CBL2610			NEBM-M23G15-EH-5-Q9N-R3LEG14	12	0	12x1,5/0,75/0,24/0,15 mm²	5 m	
-CBL3010			NEBM-M23G15-EH-5-Q9N-R3LEG14	12	0	12x1,5/0,75/0,24/0,15 mm²	5 m	
-CBL3410			NEBM-M23G15-EH-5-Q9N-R3LEG14	12	0	12x1,5/0,75/0,24/0,15 mm²	5 m	
-CBL5010	-ETH5000	-PLC1102			1			
-CBL5020	-CMMT-AS-1	-ETH5000			1			
-CBL5030	-CMMT-AS-2	-ETH5000			1			
-CBL5040	-CMMT-AS-3	-ETH5000			1			
-CBL5050	-CMMT-AS-4	-ETH5000			1			
-CBL5080	-ETH5000	-XF5080			1			
-CBL5110	-CMMT-AS-1	-PLC1102			1			
-CBL5120	-CMMT-AS-1	-CMMT-AS-2			1			
-CBL5130	-CMMT-AS-2	-CMMT-AS-3			1			
-CBL5140	-CMMT-AS-3	-CMMT-AS-4			1			

Project status	xxx		FESTO CORPORATION		Cable overview
		Date 21.05.2021 CA0SMO			
		Edit by 08.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		
		Appr.			
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EN	&EFA		
Material no.: 23442860	= A1		
	+ O1		
Project no.: CA_CS.2176940-A		Pg.	1
Productionorder: 001330706337		Pg.	100

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Overview Terminal types Image

Quantity	Order number	Type number	Designation		Manufacturer
50	2434340000	AMC 2.5	motor connection terminal		Weidmueller

Project status		xxx			FESTO CORPORATION	FESTO	Overview Terminal types Image	EN &EFA
			Date	21.05.2021 CA0SMO				= A1
			Edit by	08.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E			+ O1
			Appr.				Material no.: 23442860	Project no.: CA_CS.2176940-A Pg. 100
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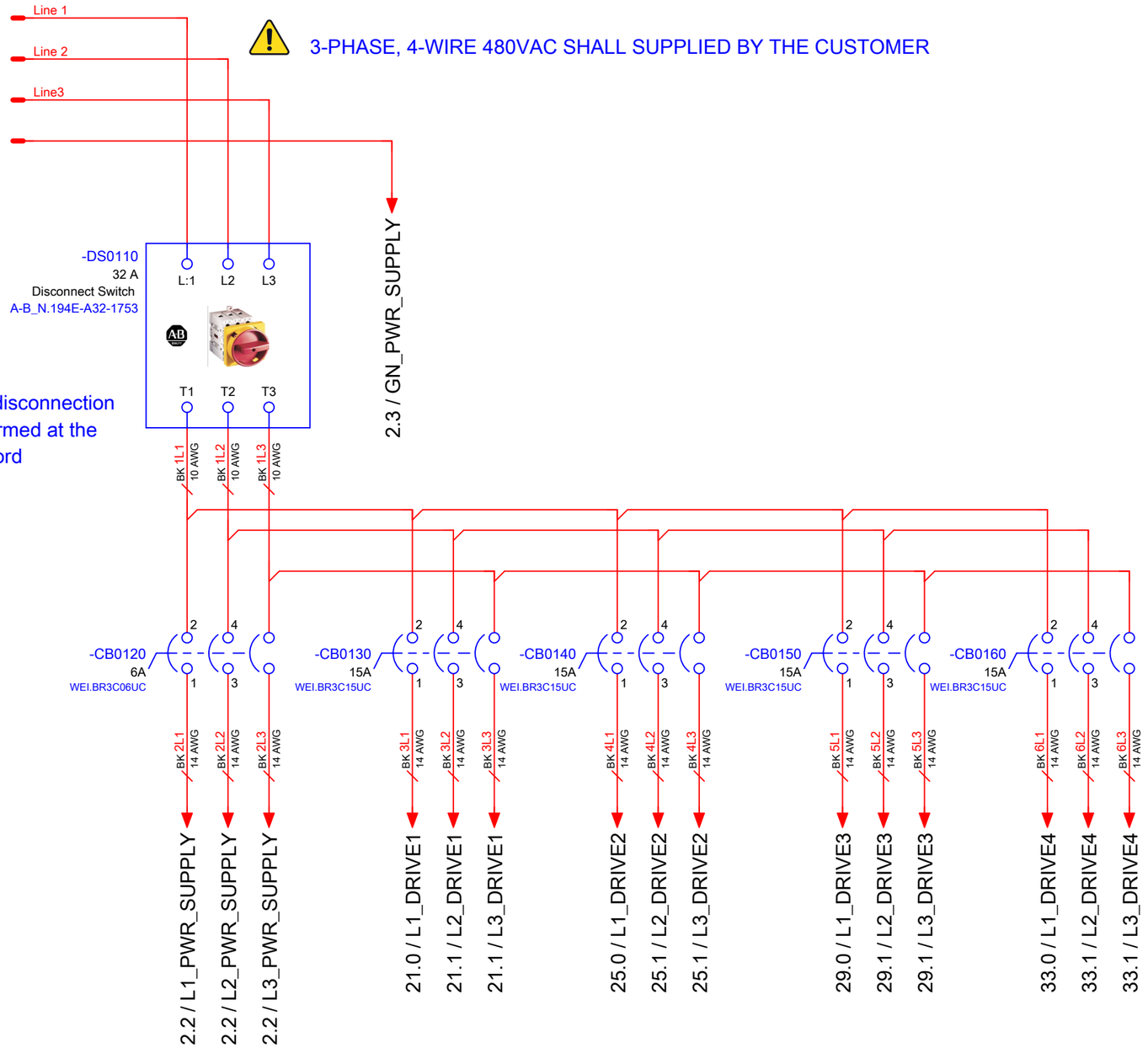

Project status		xxx			FESTO CORPORATION	MAIN AC	EN &EFS
			Date	21.05.2021 CA0SMO			= A1
			Edit by	04.11.2021 jret	FMCP-3P-CE-4CMMT-CPX-E		Material no.: 23442860 + O1
			Appr.				Project no.: CA_CS.2176940-A Pg. 1
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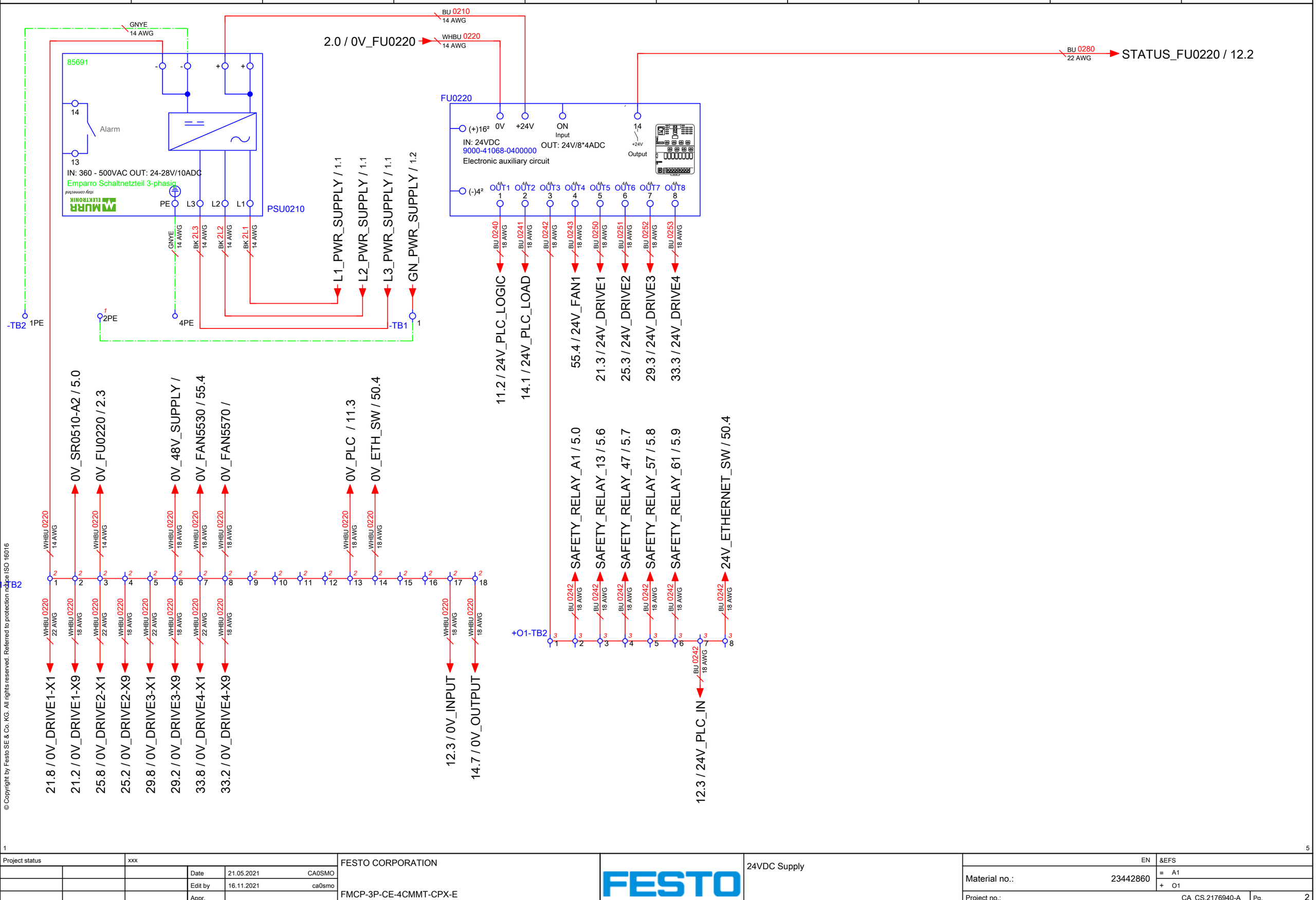

Project status		xxx			FESTO CORPORATION		24VDC Supply
			Date	21.05.2021 CA0SMO			
			Edit by	16.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		
			Appr.				
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			

EN	&EFS		
Material no.: 23442860	= A1		
	+ O1		
Project no.: CA_CS.2176940-A		Pg.	2
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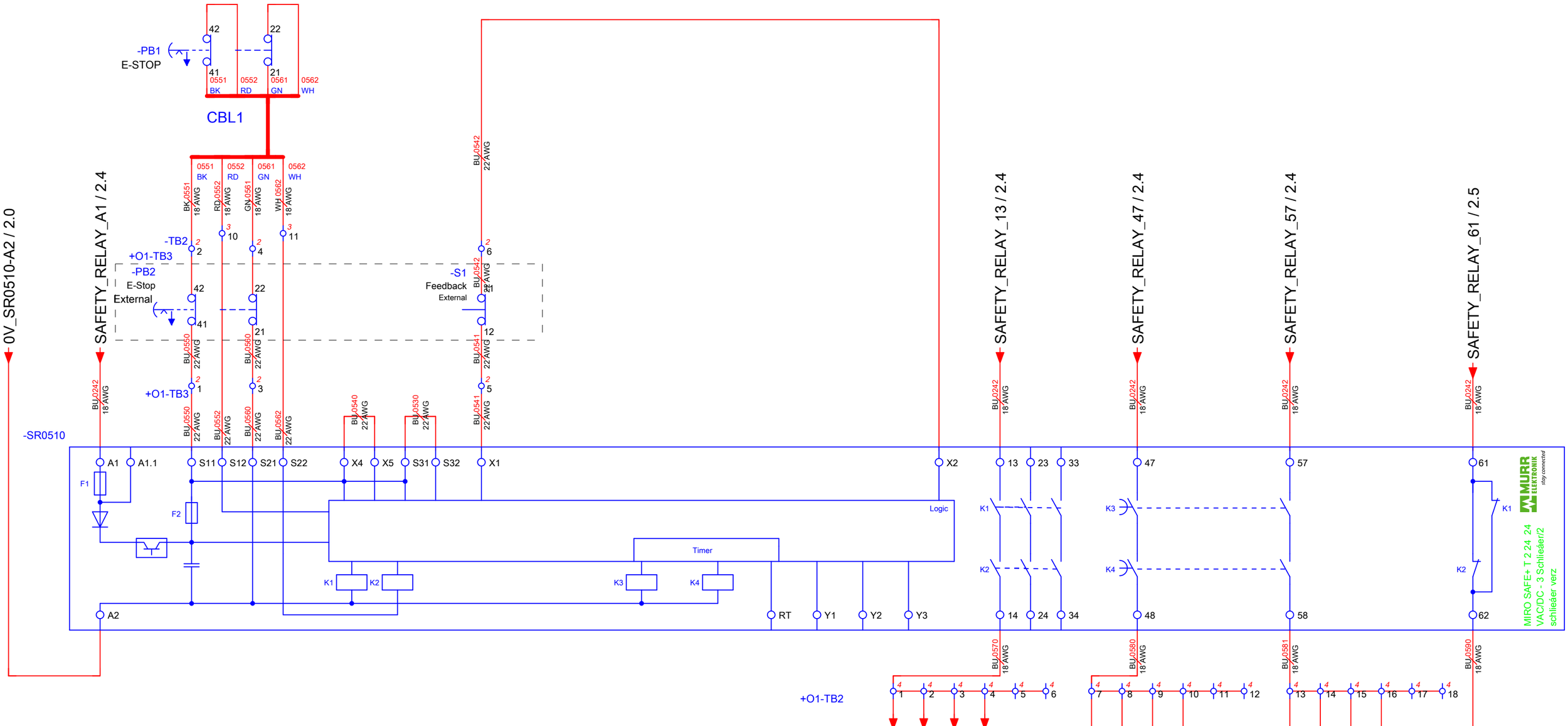

Components in the dashed box (PB2 and S1)
are optional and external and shall be provided by the customer when required .
If these components are not used they can be replaced with jumpers.

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.

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
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Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

SAFETY

	EN	&EFS	
Material no.:	23442860	= A1	
		+ O1	
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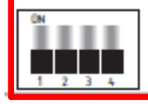
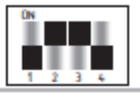
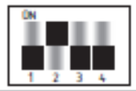
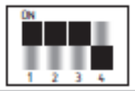
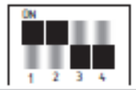
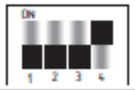
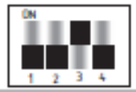
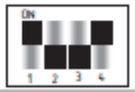
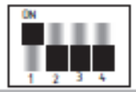
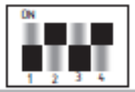
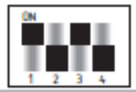
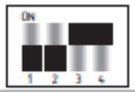
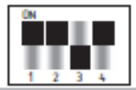
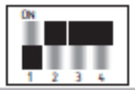
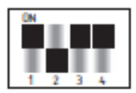
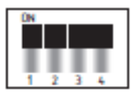
Time setting (see Fig. 3 and 4)

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

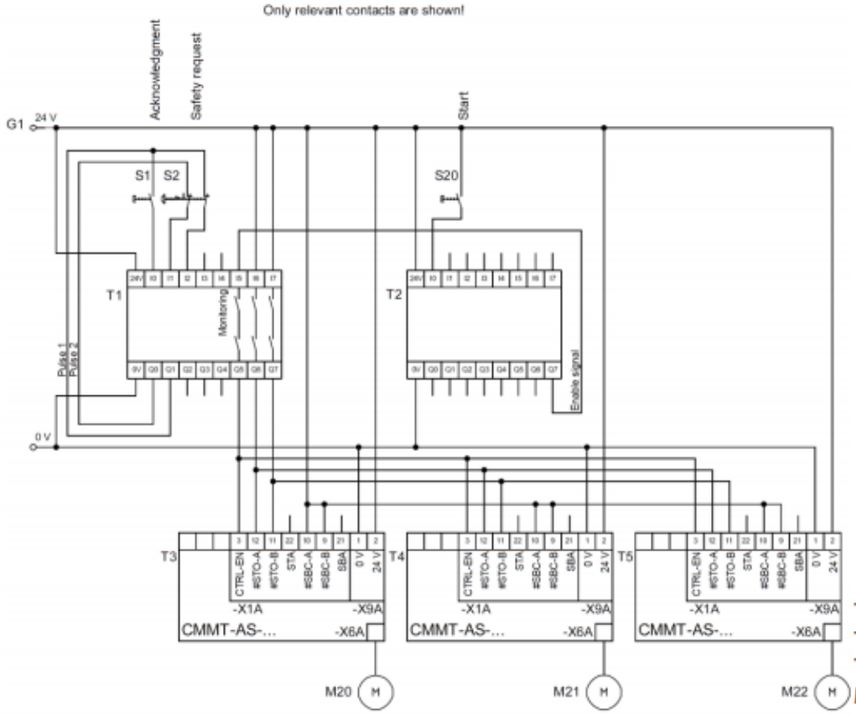
PANEL WILL BE SHIPPED WITH THE SETTING MARKED ABOVE

Project status		xxx			FESTO CORPORATION		SAFETY RELAY CONFIGURATION	EN / &EFS
			Date	21.05.2021 CA0SMO				= A1
			Edit by	04.11.2021 jret	FMCP-3P-CE-4CMMT-CPX-E			+ O1
			Appr.				Material no.: 23442860	Project no.: CA_CS.2176940-A Pg. 5.1
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021

0	1	2	3	4	5	6	7	8	9

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



Selection criteria

- Safety switching device with contact outputs
- Without evaluation STA

Remarks

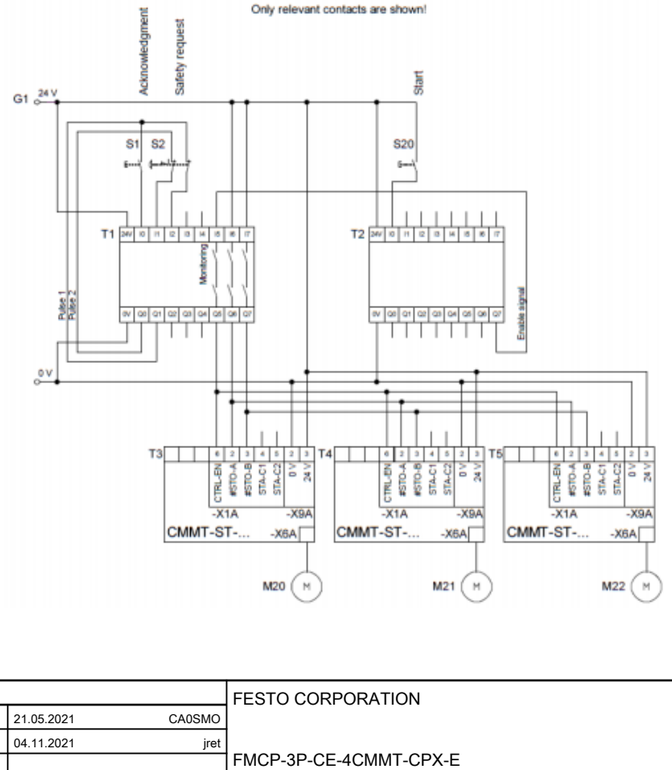
- Fault exclusion control cabinet necessary

Possible Performance Level

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

T1	Safety Switching Device
T2	Functional PLC
T3, T4, T5	Servo drive CMMT-AS
M20, M21, M22	Servo motor

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



Selection criteria

- Safety switching device with contact outputs
- Without evaluation STA

Remarks

- Fault exclusion control cabinet necessary

Possible Performance Level

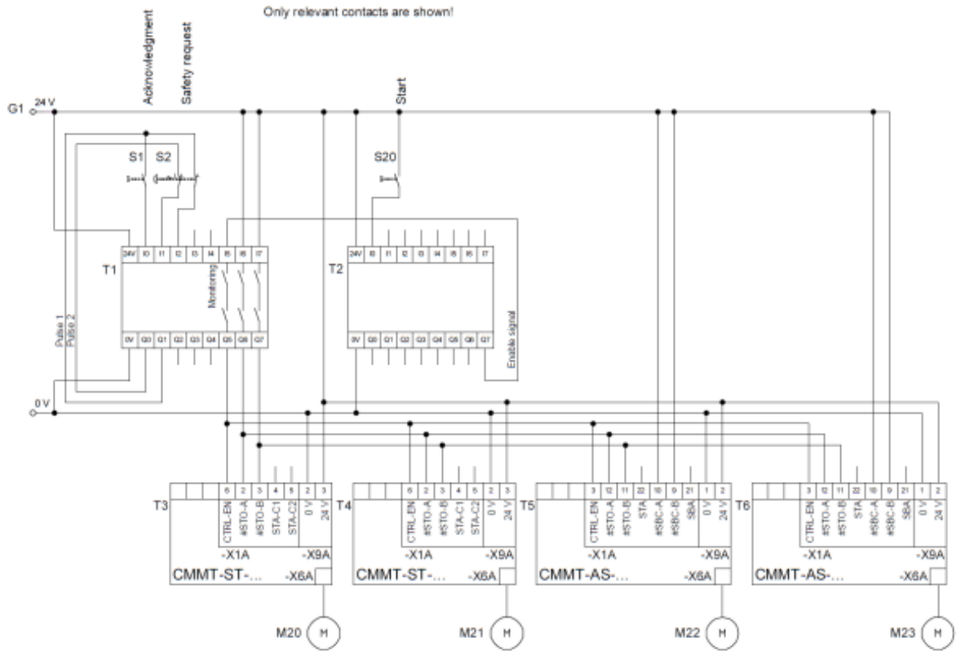
- With stepper motors: SS1-t with safe state STO, category 3, up to PL e
- With EC motors: SS1-t with safe state STO, category 3, up to PL d

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

Project status		xxx			FESTO CORPORATION	FESTO	SAFETY FUNCTIONS-1	EN	&EFS
			Date	21.05.2021 CA0SMO				Material no.: 23442860	= A1
			Edit by	04.11.2021 jret					+ O1
			Appr.		FMCP-3P-CE-4CMMT-CPX-E			Project no.: CA_CS.2176940-A	Pg. 5.2
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337	Pg. 60

DIN A3 16.11.2021

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

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	04.11.2021	jret
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

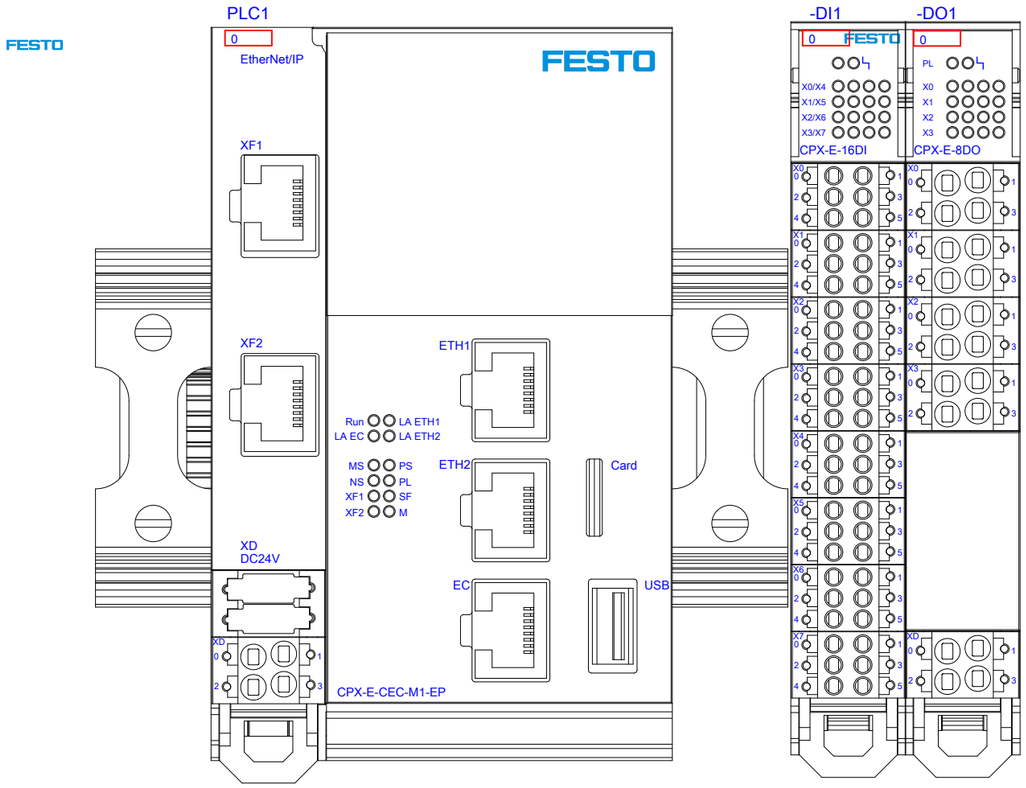
FMCP-3P-CE-4CMMT-CPX-E

FESTO

SAFETY FUNCTIONS-2

EN	&EFS		
Material no.: 23442860	= A1		
	+ O1		
Project no.: CA_CS.2176940-A		Pg.	5.3
Productionorder: 001330706337		Pg.	60

DIN A3 16.11.2021



Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	21.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

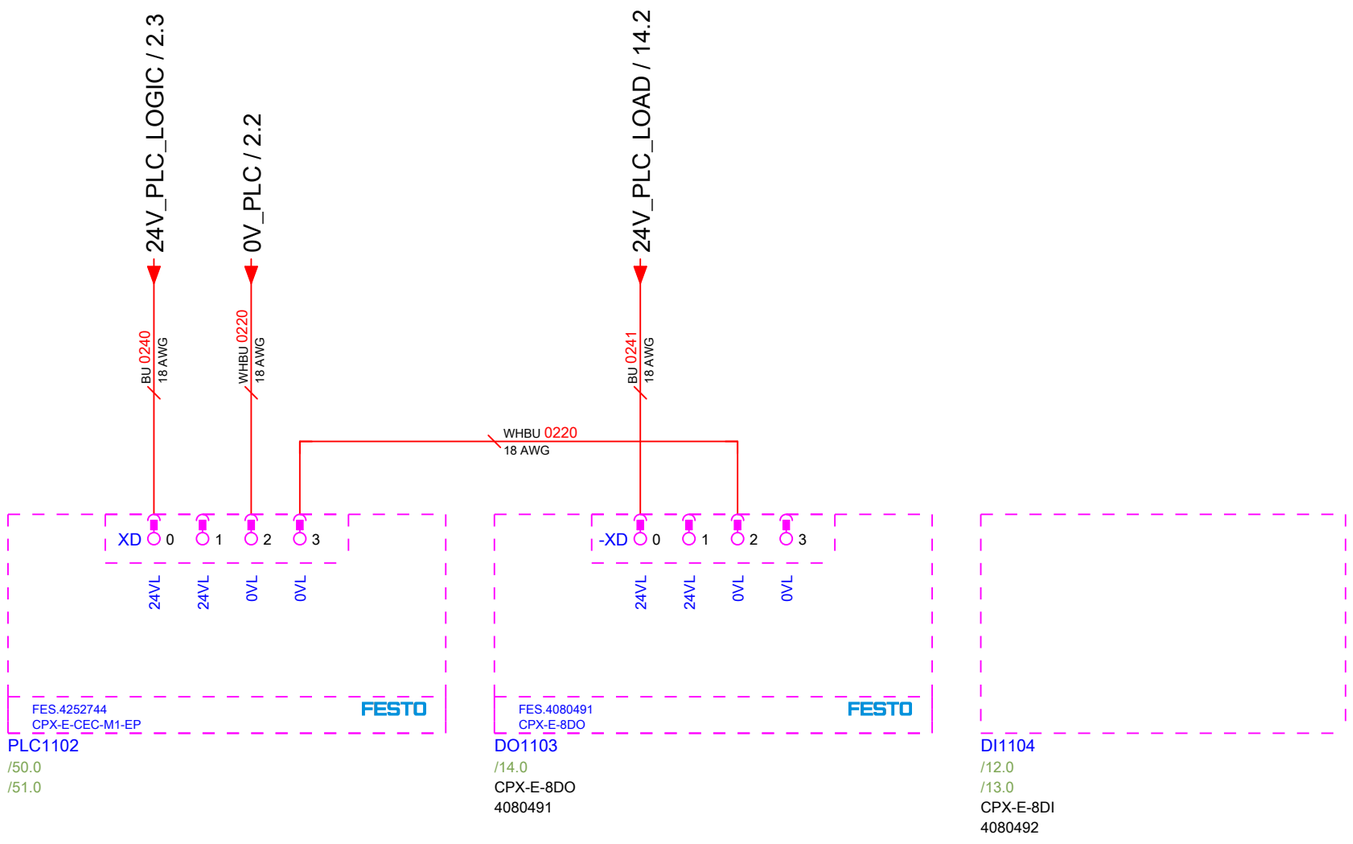
FMCP-3P-CE-4CMMT-CPX-E

FESTO

Panel - layout

		EN	&EFS
Material no.:	23442860	=	A1
		+	O1
Project no.:	CA_CS.2176940-A	Pg.	10
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021



Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	27.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

electrical Supply 1

	EN	&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	11
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021

DI1104
/11.6

FESTO

FES.4080492
CPX-E-16DI

	X0	X1	X2	X3	X4	X5	X6	X7
24V	2	2	2	2	2	2	2	2
0V	4	4	4	4	4	4	4	4
	I0	I2	I4	I6	I8	I10	I12	I14
	0	0	0	0	0	0	0	0
	I0.0	I0.1	I0.2	I0.3	I0.4	I0.5	I0.6	I0.7

SAFETY_SATUS / 5.9

STATUS_FU0220 / 2.8

24V_PLC_IN / 2.5

0V_INPUT / 2.3

BU 0590 22 AWG

BU 0280 22 AWG

BU 0242 18 AWG

WH/BU 0220 18 AWG

BU 1230 22 AWG

BU 1240 22 AWG

BU 1250 22 AWG

BU 1260 22 AWG

BU 1270 22 AWG

BU 1280 22 AWG

+O1-TB3

7PE

8PE

9PE

10PE

11PE

12PE

13PE

14PE

60.3 / SAFETY_STATUS_CUSTOMER

60.3 / STATUS_FU0220_CUSTOMER

60.3 / 24V_CUSTOMER

60.3 / 0V_CUSTOMER

13.0 / 0V_INPUT

13.0 / 24V_PLC_IN

Connection [X0] ... [X7]	Signal
0	Input 0, 2, 4, ...
1	Input 1, 3, 5, ...
2	+24 V DC input 0, 2, 4, ...
3	+24 V DC input 1, 3, 5, ...
4	0 V DC input 0, 2, 4, ...
5	0 V DC input 1, 3, 5, ...

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

CPX-E-16DI

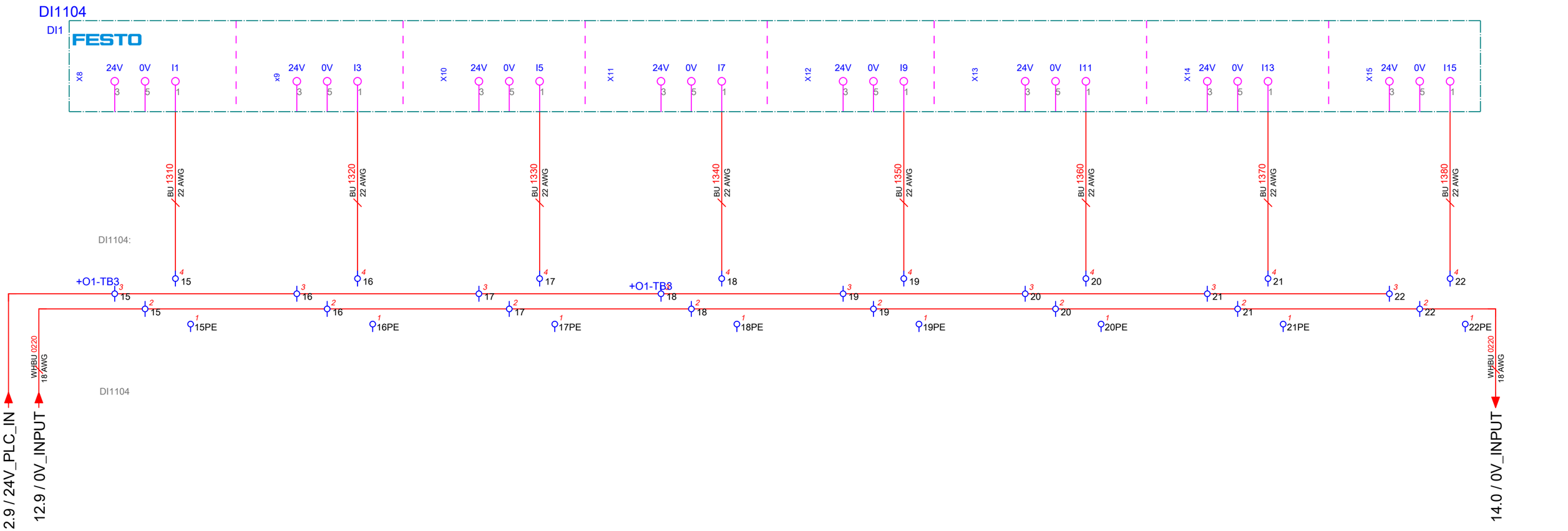
EN &EFS

Material no.: 23442860 = A1 + O1

Project no.: CA_CS.2176940-A Pg. 12

Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021



Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

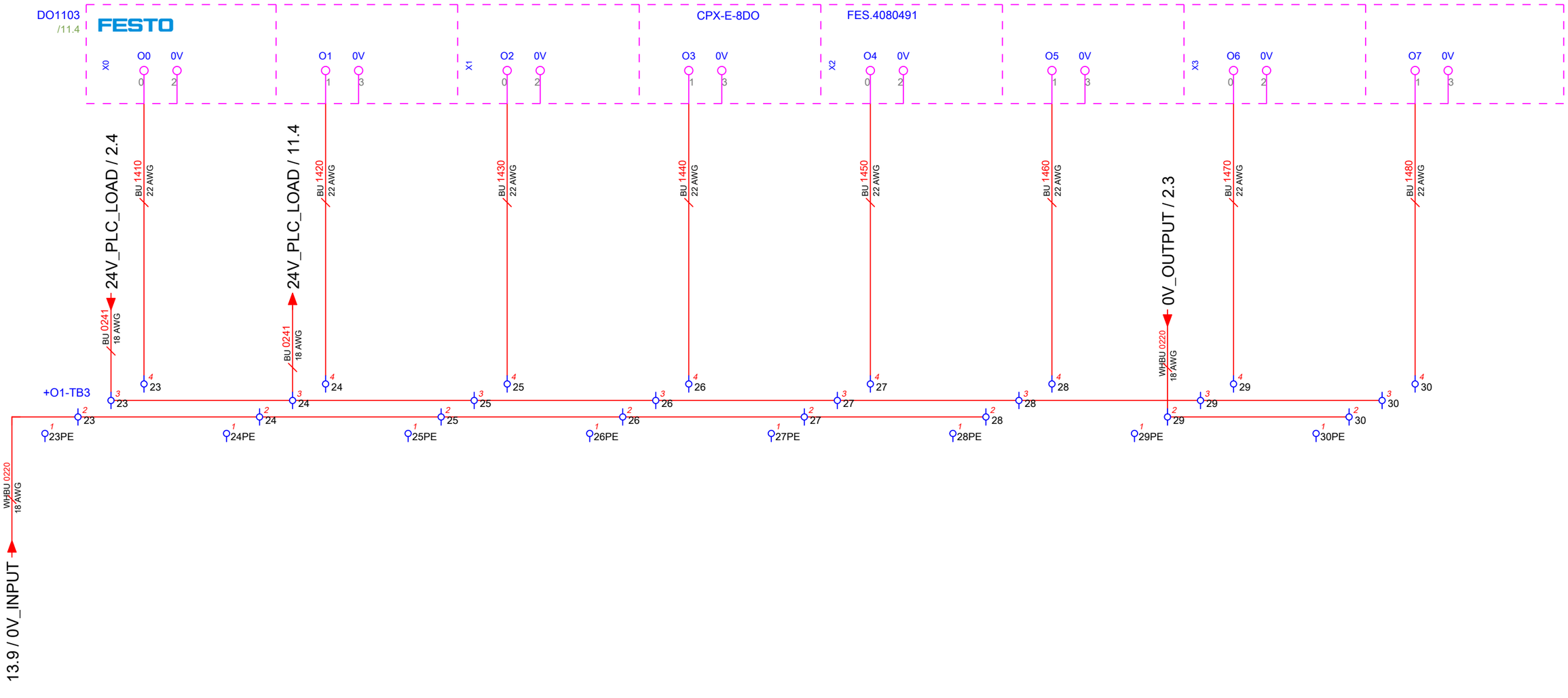
FMCP-3P-CE-4CMMT-CPX-E

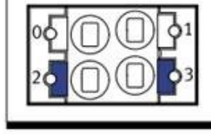
FESTO

CPX-E-16DI

	EN	&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	13
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021



Connection [X0] ... [X3]		Signal
	0	+24 V DC output 0, 2, 4, ...
	1	+24 V DC output 1, 3, 5, ...
	2	0 V DC output 0, 2, 4, ...
	3	0 V DC output 1, 3, 5, ...

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

CPX-E-8DO

EN		&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	14
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021

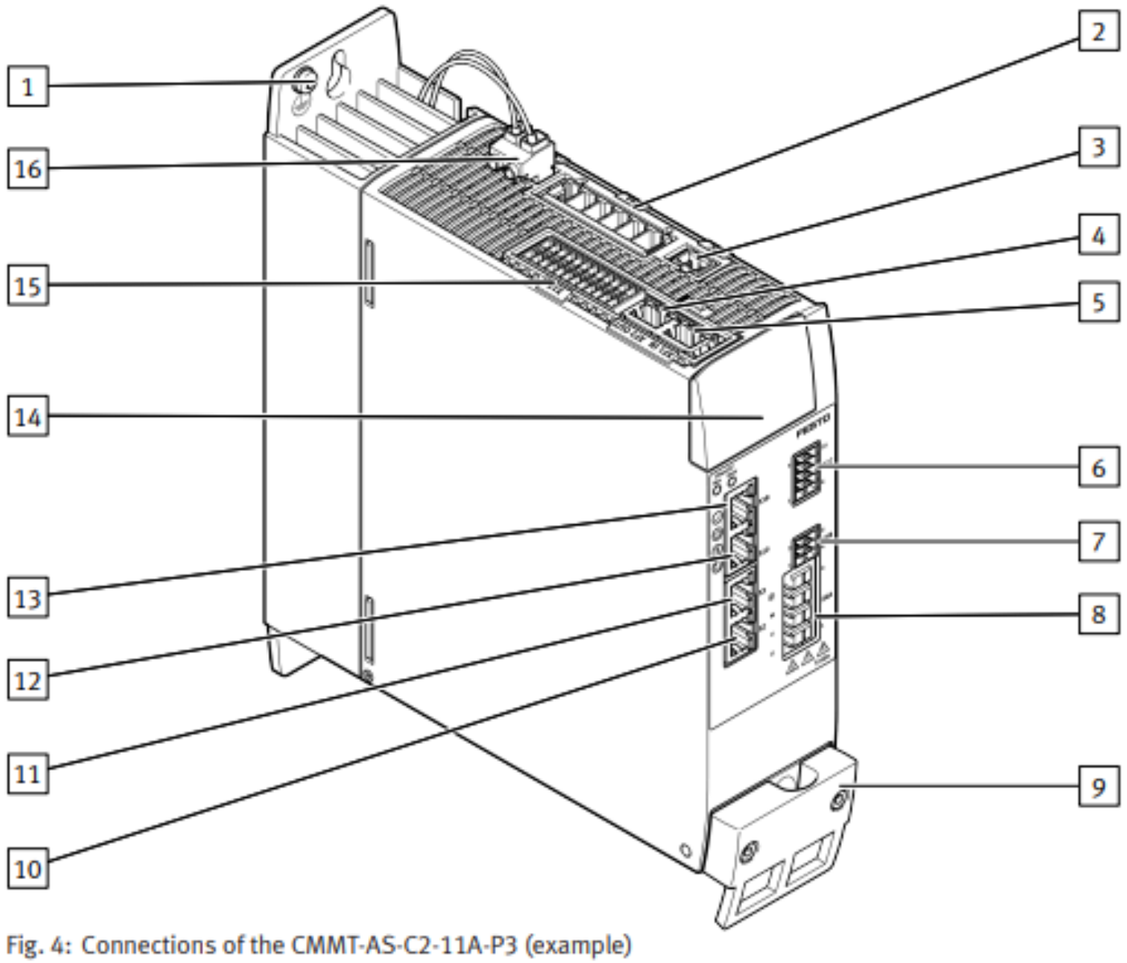
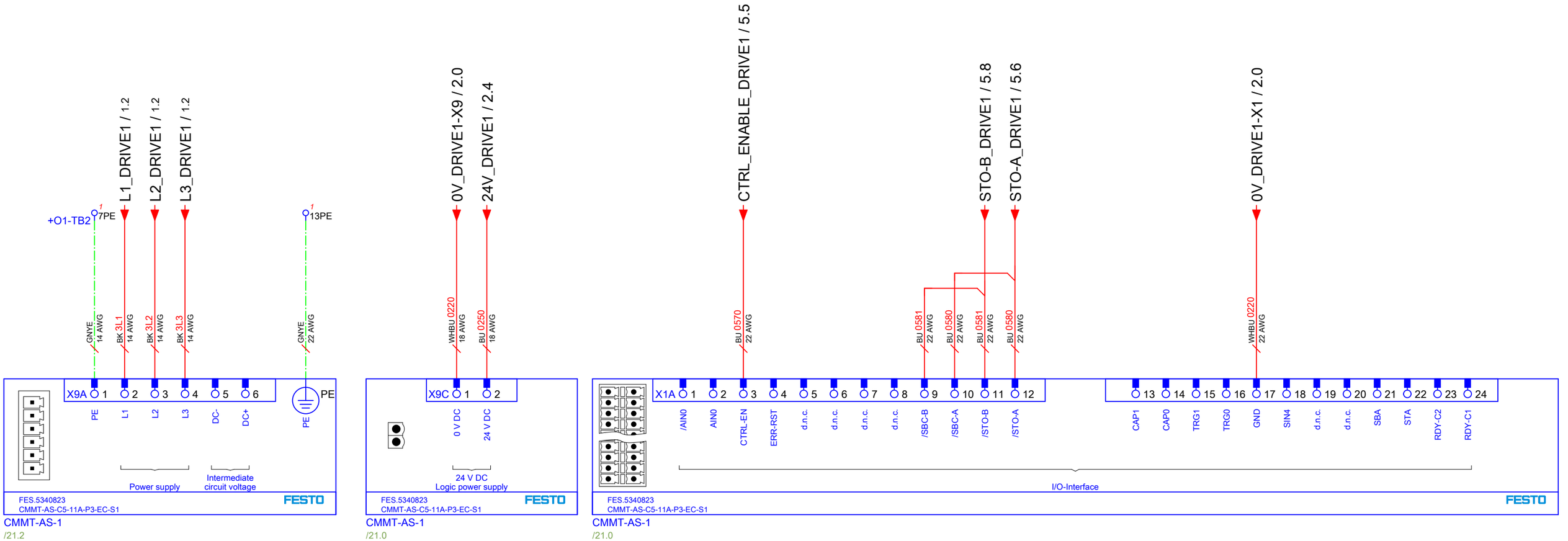


Fig. 4: Connections of the CMMT-AS-C2-11A-P3 (example)

1 PE connection, housing
2 [X9A] Mains and DC link circuit connection
3 [X9C] Logic voltage
4 [XF2 OUT] RTE interface port 2
5 [XF1 IN] RTE interface port 1
6 [X1C] inputs/outputs for the axis
7 [X6B] motor auxiliary connection
8 [X6A] motor phase connection
9 Shield clamp of motor cable
10 [X2] encoder connection 1
11 [X3] encoder connection 2
12 [X10] device synchronisation
13 [X18] standard Ethernet
14 [X5] connection for operator unit (behind the blind plate)
15 [X1A] I/O interface
16 [X9B] connection for braking resistor

Project status		xxx			FESTO CORPORATION		Overview	EN	&EFS
			Date	21.05.2021 CA0SMO				= A1	
			Edit by	19.10.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E			Material no.: 23442860	+ O1
			Appr.					Project no.: CA_CS.2176940-A	Pg. 20
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337	Pg. 60

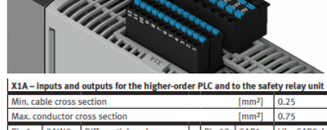
DIN A3 16.11.2021



CMMT-AS-1
/21.2
/21.3
/22.0
/22.2
/22.4
/22.5
/22.6
/23.3
/23.0
/50.1
/51.1

CMMT-AS-1
/21.0

CMMT-AS-1
/21.0



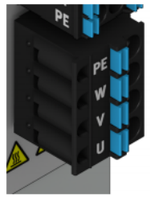
X1A – inputs and outputs for the higher-order PLC and to the safety relay unit

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 (Ready)
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	

Project status		xxx			FESTO CORPORATION	FESTO	CMMT-AS-1:X9A,X1A	EN &EFS
			Date	21.05.2021 CA0SMO				Material no.: 23442860 = A1
			Edit by	27.10.2021 ca0smo				+ O1
			Appr.		FMCP-3P-CE-4CMMT-CPX-E			Project no.: CA_CS.2176940-A Pg. 21
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337 Pg. 60

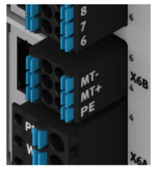
DIN A3 16.11.2021

0	1	2	3	4	5	6	7	8	9



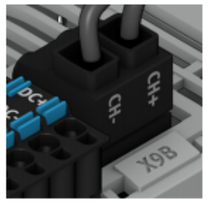
X6A – motor phase connection

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	



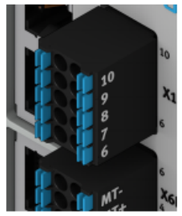
X6B – motor auxiliary connection

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	



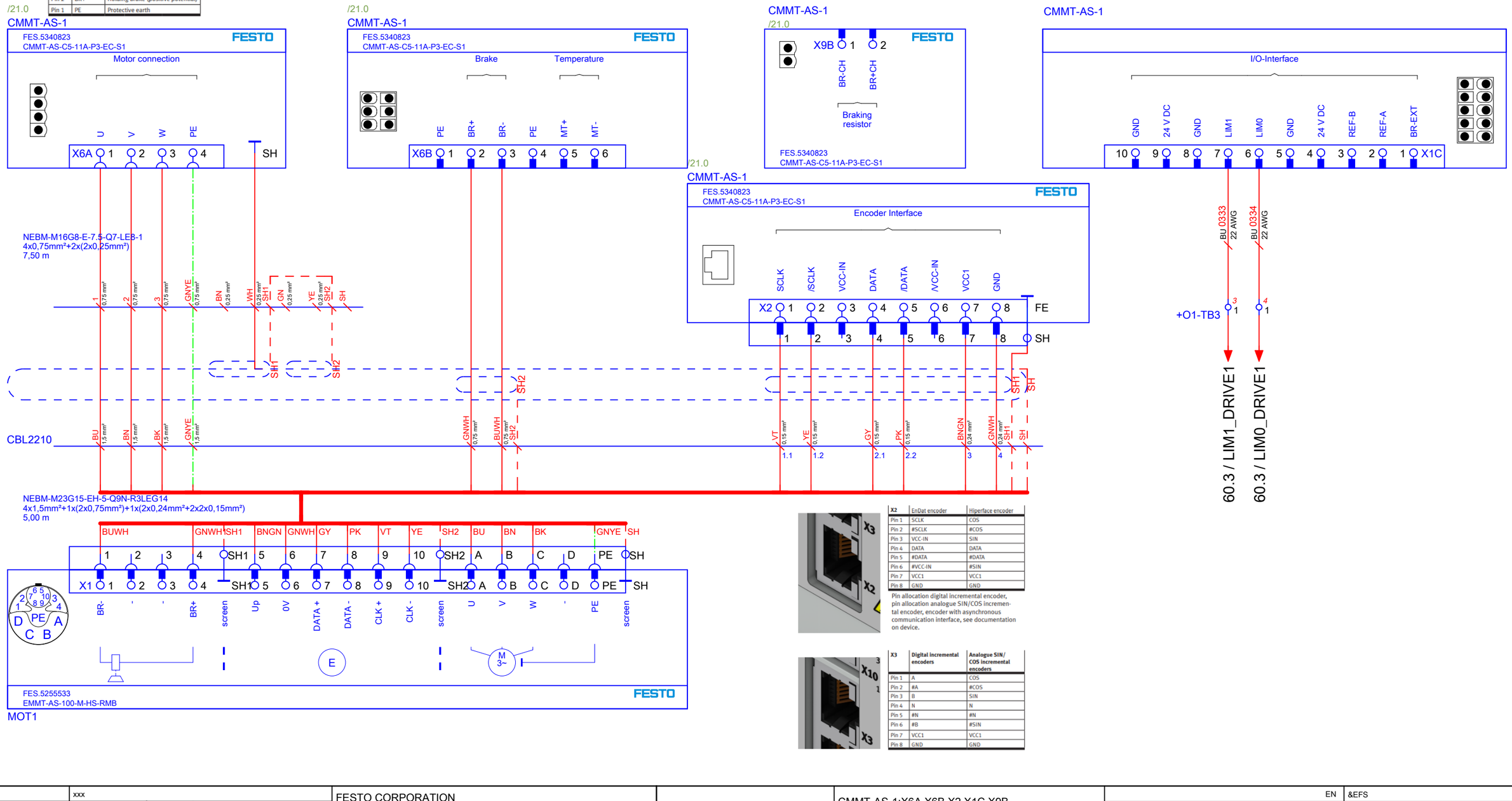
X9B – braking resistor

Min. cable cross section		[mm²]	0.25
Max. conductor cross section		[mm²]	2.5
Pin 1	CH-	Braking resistor negative Connection	
Pin 2	CH+	Braking resistor positive Connection	



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)	



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.

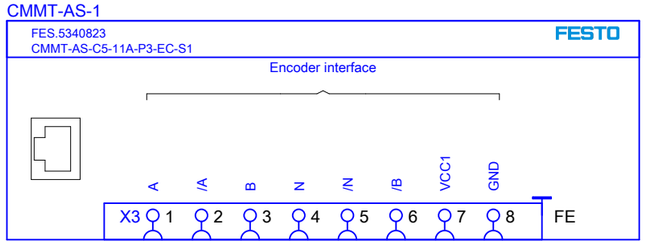
X3	Digital incremental encoders	Analogue SIN/ COS incremental encoders
Pin 1	A	COS
Pin 2	#A	#COS
Pin 3	B	SIN
Pin 4	N	N
Pin 5	#N	#N
Pin 6	#B	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

Project status		xxx			FESTO CORPORATION		CMMT-AS-1:X6A,X6B,X2,X1C,X9B	EN &EFS
			Date	21.05.2021 CA0SMO				= A1
			Edit by	16.11.2021 ca0smo			Material no.: 23442860	+ O1
			Appr.		FMCP-3P-CE-4CMMT-CPX-E		Project no.: CA_CS.2176940-A	Pg. 22
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337	Pg. 60

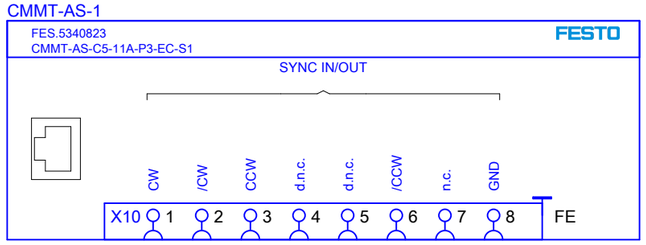
16.11.2021 DIN A3

0	1	2	3	4	5	6	7	8	9

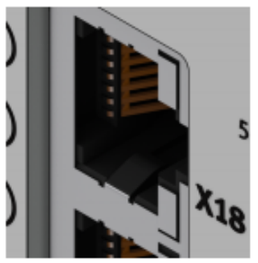
CMMT-AS-1



CMMT-AS-1



X10	Incremental encoder In/ Out	Pulse/direc-tion 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	–	

Project status		xxx			FESTO CORPORATION	CMMT-AS-1:X9A,X1A	EN &EFS
			Date	21.05.2021 CA0SMO			Material no.: 23442860 = A1
			Edit by	12.10.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		+ O1
			Appr.				Project no.: CA_CS.2176940-A Pg. 23
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021

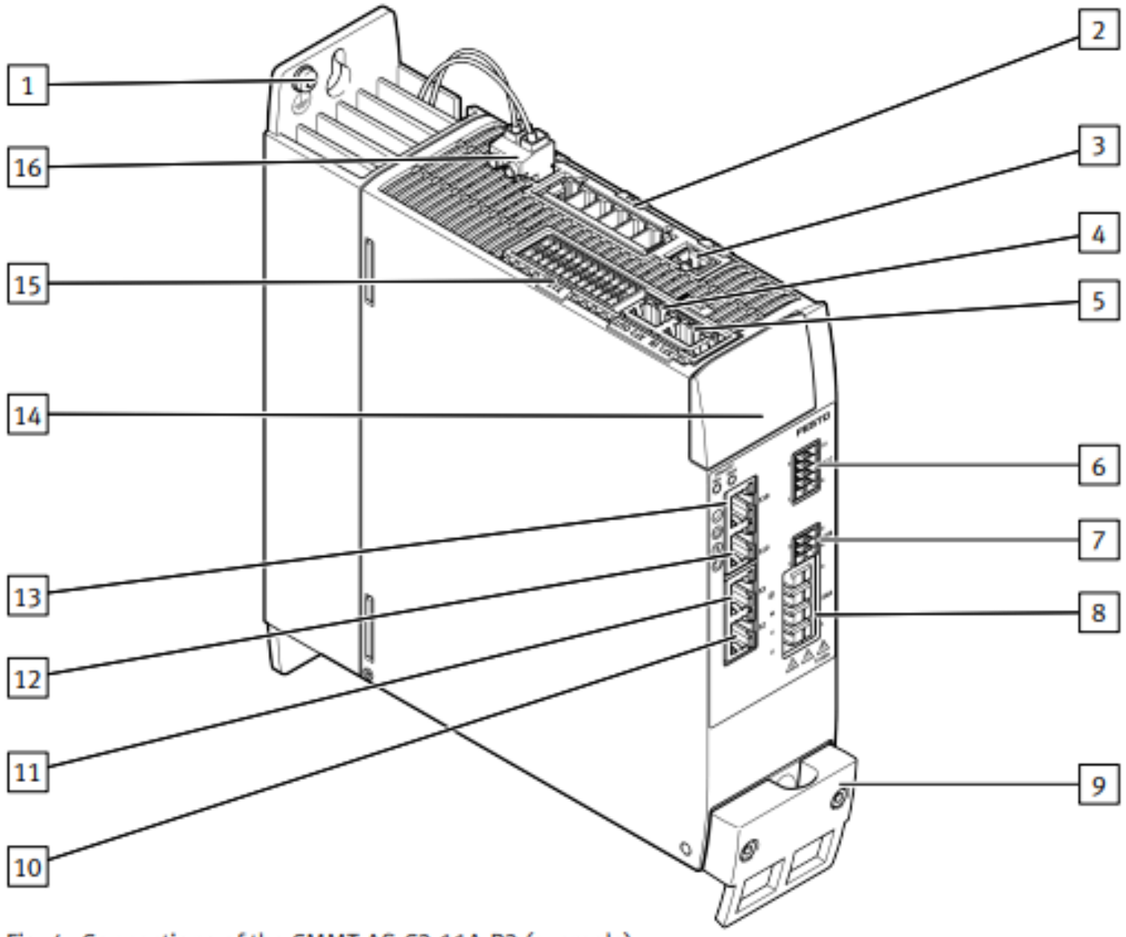


Fig. 4: Connections of the CMMT-AS-C2-11A-P3 (example)

1 PE connection, housing
2 [X9A] Mains and DC link circuit connection
3 [X9C] Logic voltage
4 [XF2 OUT] RTE interface port 2
5 [XF1 IN] RTE interface port 1
6 [X1C] inputs/outputs for the axis
7 [X6B] motor auxiliary connection
8 [X6A] motor phase connection
9 Shield clamp of motor cable
10 [X2] encoder connection 1
11 [X3] encoder connection 2
12 [X10] device synchronisation
13 [X18] standard Ethernet
14 [X5] connection for operator unit (behind the blind plate)
15 [X1A] I/O interface
16 [X9B] connection for braking resistor

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	19.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

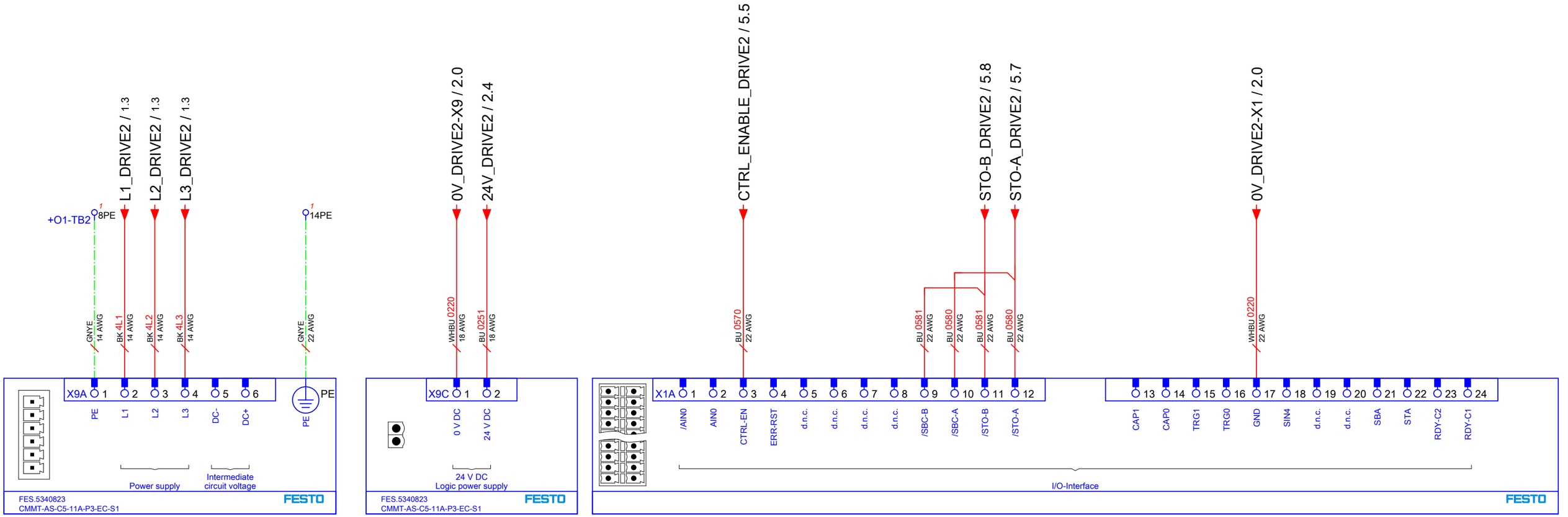
FMCP-3P-CE-4CMMT-CPX-E

FESTO

Overview

	EN	&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	24
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021



CMMT-AS-2
/25.2
/25.3
/26.0
/26.2
/26.4
/26.5
/26.6
/27.4
/27.1
/50.2
/51.3

CMMT-AS-2
/25.0

CMMT-AS-2

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 (Ready)
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	27.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

CMMT-AS-2:X9A,X1A

EN &EFS

Material no.: 23442860

= A1

+ O1

Project no.: CA_CS.2176940-A Pg. 25

Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021

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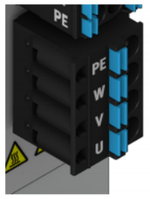
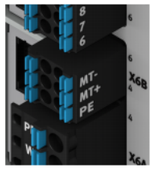


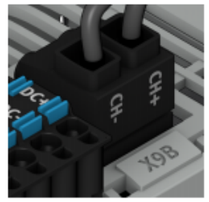
X6A – motor phase connection

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	



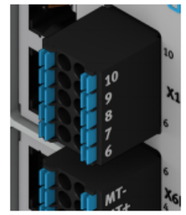
X6B – motor auxiliary connection

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	



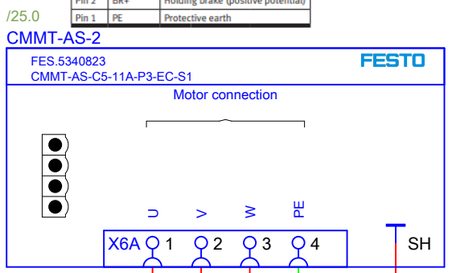
X9B – braking resistor

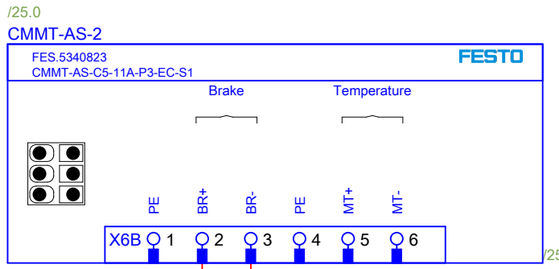
Min. cable cross section		[mm²]	0.25
Max. conductor cross section		[mm²]	2.5
Pin 1	CH-	Braking resistor negative Connection	
Pin 2	CH+	Braking resistor positive Connection	

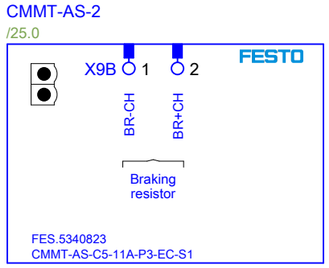


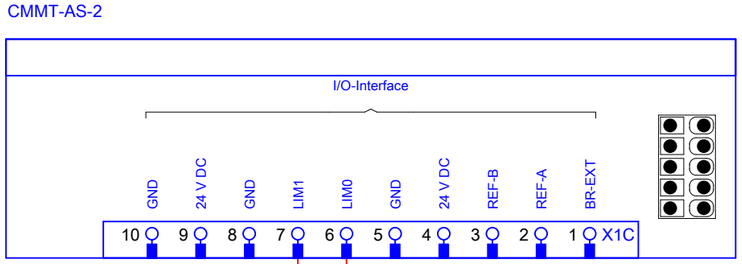
X1C – inputs and outputs for the axis

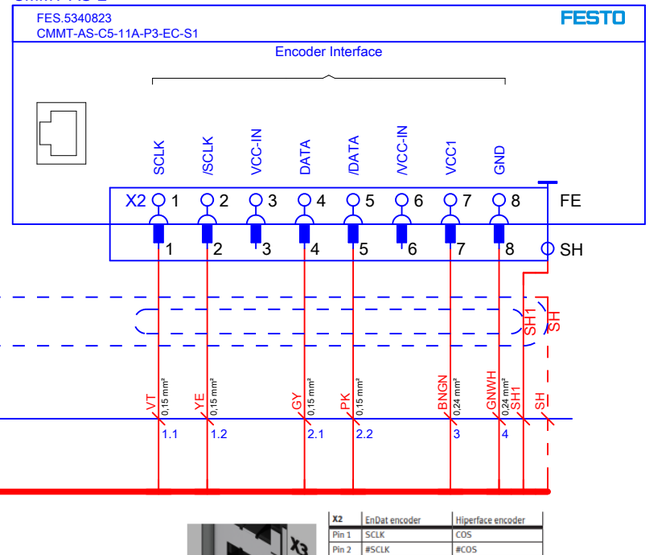
Min. cable cross section		[mm²]	0.25
Max. conductor cross section		[mm²]	0.75
Pin 1	BR-EXT	Output for connection of an external clamping unit (high-side switch, low test pulses at #SBC-B are transferred to BR-EXT)	
Pin 2	REF-A	Digital input for reference switch (PNP logic, 24 V DC)	
Pin 3	–	Reserved, 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)	







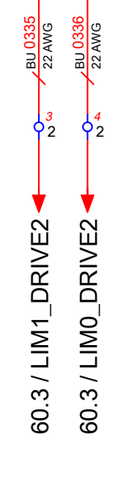




X2	EnDat encoder	Hiperface encoder
Pin 1	SCLK	COS
Pin 2	#SCLK	#COS
Pin 3	VCC-IN	SIN
Pin 4	DATA	DATA
Pin 5	#DATA	#DATA
Pin 6	#VCC-IN	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

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



Project status		xxx			FESTO CORPORATION		CMMT-AS-2:X6A,X6B,X2,X1C,X9B
			Date	21.05.2021 CA0SMO			
			Edit by	16.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		
			Appr.				
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			

EN	&EFS		
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	26
Productionorder:	001330706337	Pg.	60

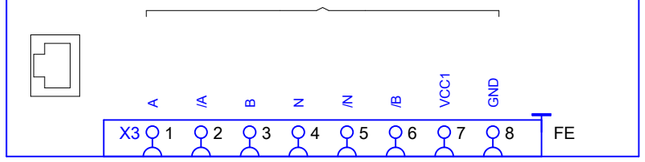
16.11.2021 DIN A3

CMMT-AS-2

FES.5340823
CMMT-AS-C5-11A-P3-EC-S1

FESTO

Encoder interface

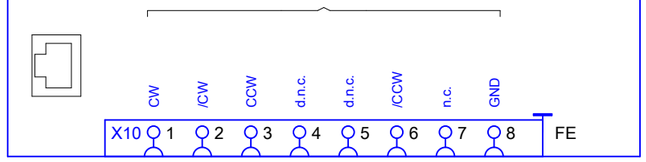


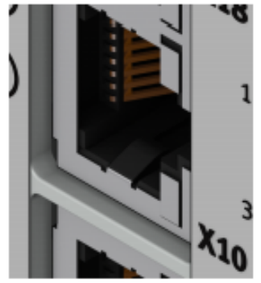
CMMT-AS-2

FES.5340823
CMMT-AS-C5-11A-P3-EC-S1

FESTO

SYNC IN/OUT





X10	Incremental encoder In/ Out	Pulse/direc-tion 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	–	

Project status		xxx			FESTO CORPORATION	CMMT-AS-2:X9A,X1A	EN &EFS
			Date	21.05.2021 CA0SMO			Material no.: 23442860 = A1
			Edit by	12.10.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		+ O1
			Appr.				Project no.: CA_CS.2176940-A Pg. 27
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021

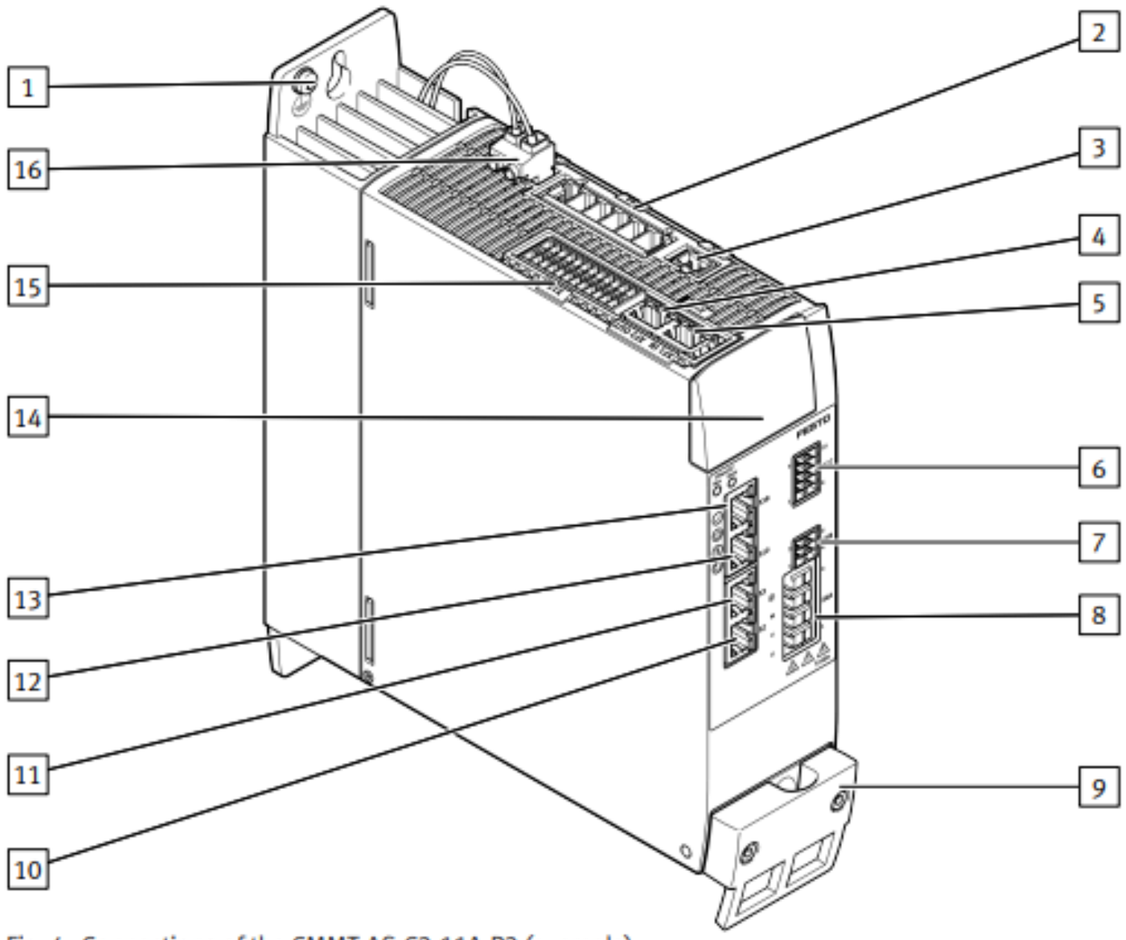
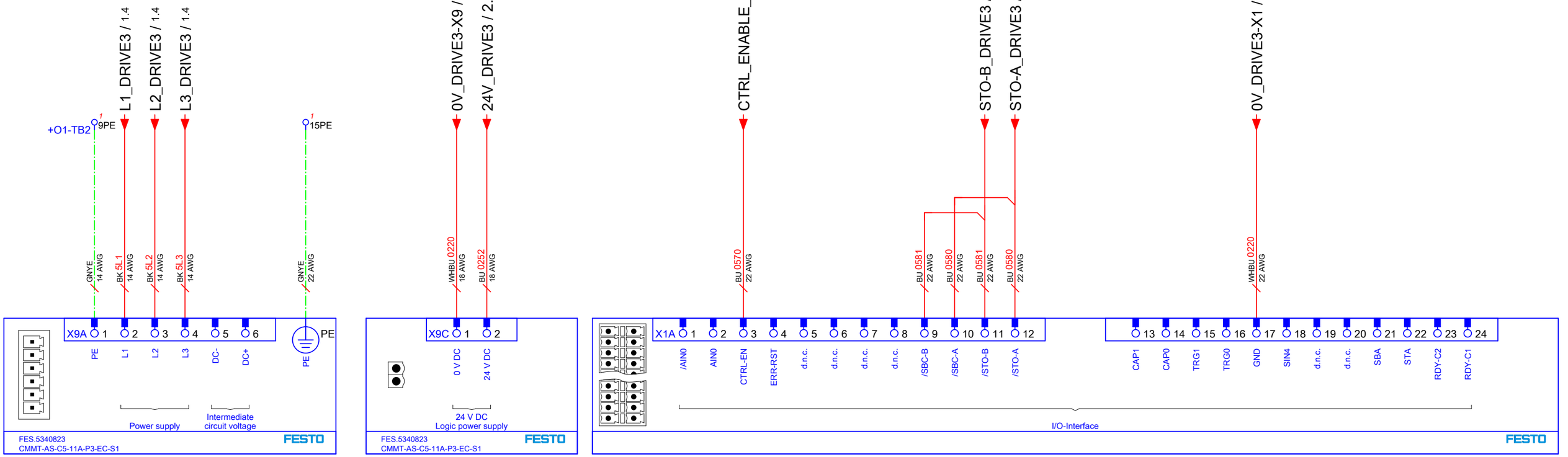


Fig. 4: Connections of the CMMT-AS-C2-11A-P3 (example)

1 PE connection, housing
2 [X9A] Mains and DC link circuit connection
3 [X9C] Logic voltage
4 [XF2 OUT] RTE interface port 2
5 [XF1 IN] RTE interface port 1
6 [X1C] inputs/outputs for the axis
7 [X6B] motor auxiliary connection
8 [X6A] motor phase connection
9 Shield clamp of motor cable
10 [X2] encoder connection 1
11 [X3] encoder connection 2
12 [X10] device synchronisation
13 [X18] standard Ethernet
14 [X5] connection for operator unit (behind the blind plate)
15 [X1A] I/O interface
16 [X9B] connection for braking resistor

Project status		xxx			FESTO CORPORATION	FESTO	Overview	EN	&EFS
			Date	21.05.2021 CA0SMO				Material no.: 23442860	= A1
			Edit by	19.10.2021 ca0smo					+ O1
			Appr.		FMCP-3P-CE-4CMMT-CPX-E			Project no.: CA_CS.2176940-A	Pg. 28
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 001330706337	Pg. 60

DIN A3 16.11.2021



CMMT-AS-3
/29.2
/29.3
/30.0
/30.2
/30.4
/30.5
/30.6
/31.4
/31.1
/50.4
/51.6

CMMT-AS-3
/29.0

CMMT-AS-3

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 (Ready)
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	27.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

CMMT-AS-3:X9A,X1A

EN &EFS

Material no.: 23442860

= A1

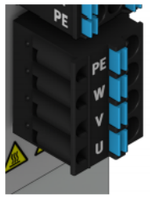
+ O1

Project no.: CA_CS.2176940-A Pg. 29

Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021

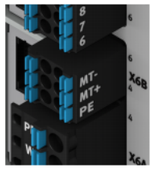
0	1	2	3	4	5	6	7	8	9



X6A – motor phase connection

Min. cable cross section	[mm²]	0.75
Max. conductor cross section	[mm²]	1.5

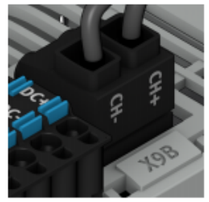
Pin 4	PE	Protective earthing, motor
Pin 3	W	Third motor phase
Pin 2	V	Second motor phase
Pin 1	U	First motor phase



X6B – motor auxiliary connection

Min. cable cross section	[mm²]	0.25
Max. conductor cross section	[mm²]	0.75

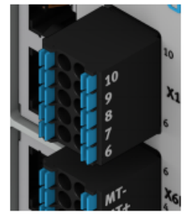
Pin 6	MT–	Motor temperature (negative potential)
Pin 5	MT+	Motor temperature (positive potential)
Pin 4	PE	Protective earth
Pin 3	BR–	Holding brake (negative potential)
Pin 2	BR+	Holding brake (positive potential)
Pin 1	PE	Protective earth



X9B – braking resistor

Min. cable cross section	[mm²]	0.25
Max. conductor cross section	[mm²]	2.5

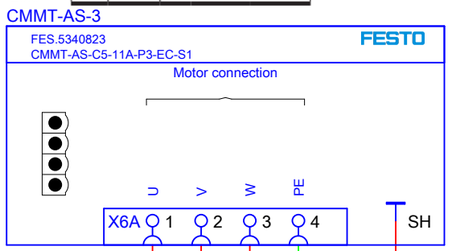
Pin 1	CH-	Braking resistor negative Connection
Pin 2	CH+	Braking resistor positive Connection

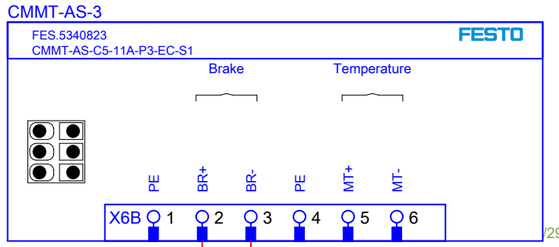


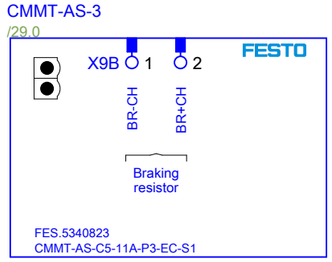
X1C – inputs and outputs for the axis

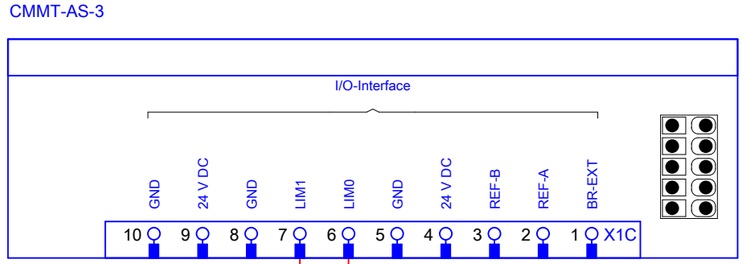
Min. cable cross section	[mm²]	0.25
Max. conductor cross section	[mm²]	0.75

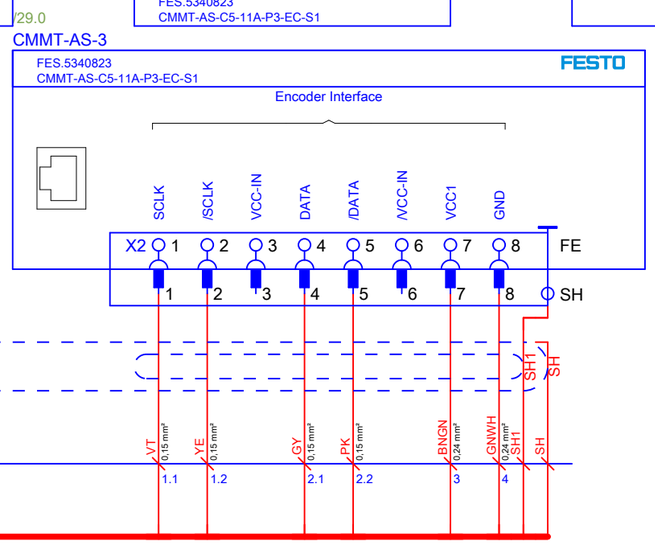
Pin 1	BR-EXT	Output for connection of an external clamping unit (high-side switch, low test pulses at #SBC-B are transferred to BR-EXT)
Pin 2	REF-A	Digital input for reference switch (PNP logic, 24 V DC)
Pin 3	–	Reserved, do not connect
Pin 4	24 V	Power supply output for sensors
Pin 5	GND	Reference potential (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)

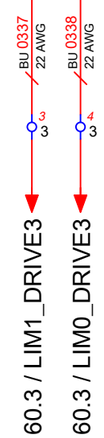


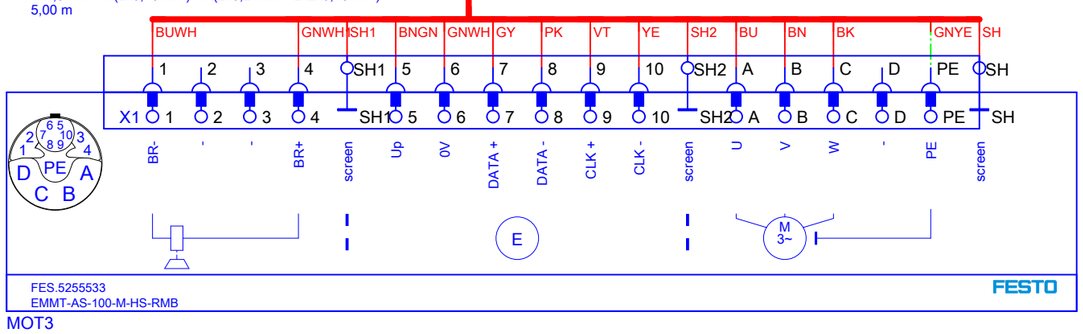


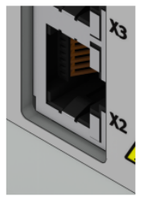












X2	EnDat encoder	Hiperface encoder
Pin 1	SCLK	COS
Pin 2	#SCLK	#COS
Pin 3	VCC-IN	SIN
Pin 4	DATA	DATA
Pin 5	#DATA	#DATA
Pin 6	#VCC-IN	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

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

Project status		xxx			FESTO CORPORATION		CMMT-AS-3:X6A,X6B,X2,X1C,X9B	EN &EFS
			Date	21.05.2021 CA0SMO				= A1
			Edit by	16.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		Material no.: 23442860	+ O1
			Appr.				Project no.: CA_CS.2176940-A	Pg. 30
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337	Pg. 60

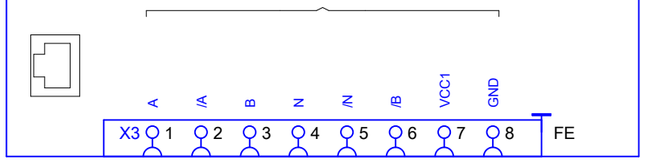
DIN A3 16.11.2021

CMMT-AS-3

FES.5340823
CMMT-AS-C5-11A-P3-EC-S1

FESTO

Encoder interface

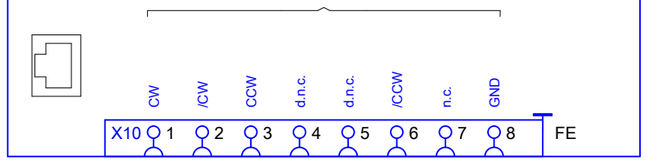


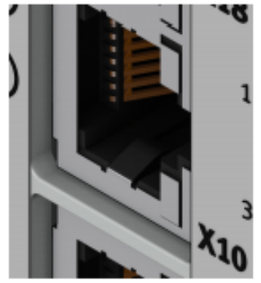
CMMT-AS-3

FES.5340823
CMMT-AS-C5-11A-P3-EC-S1

FESTO

SYNC IN/OUT





X10	Incremental encoder In/ Out	Pulse/direc-tion 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	–	

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	12.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

CMMT-AS-3:X9A,X1A

	EN	&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	31
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021

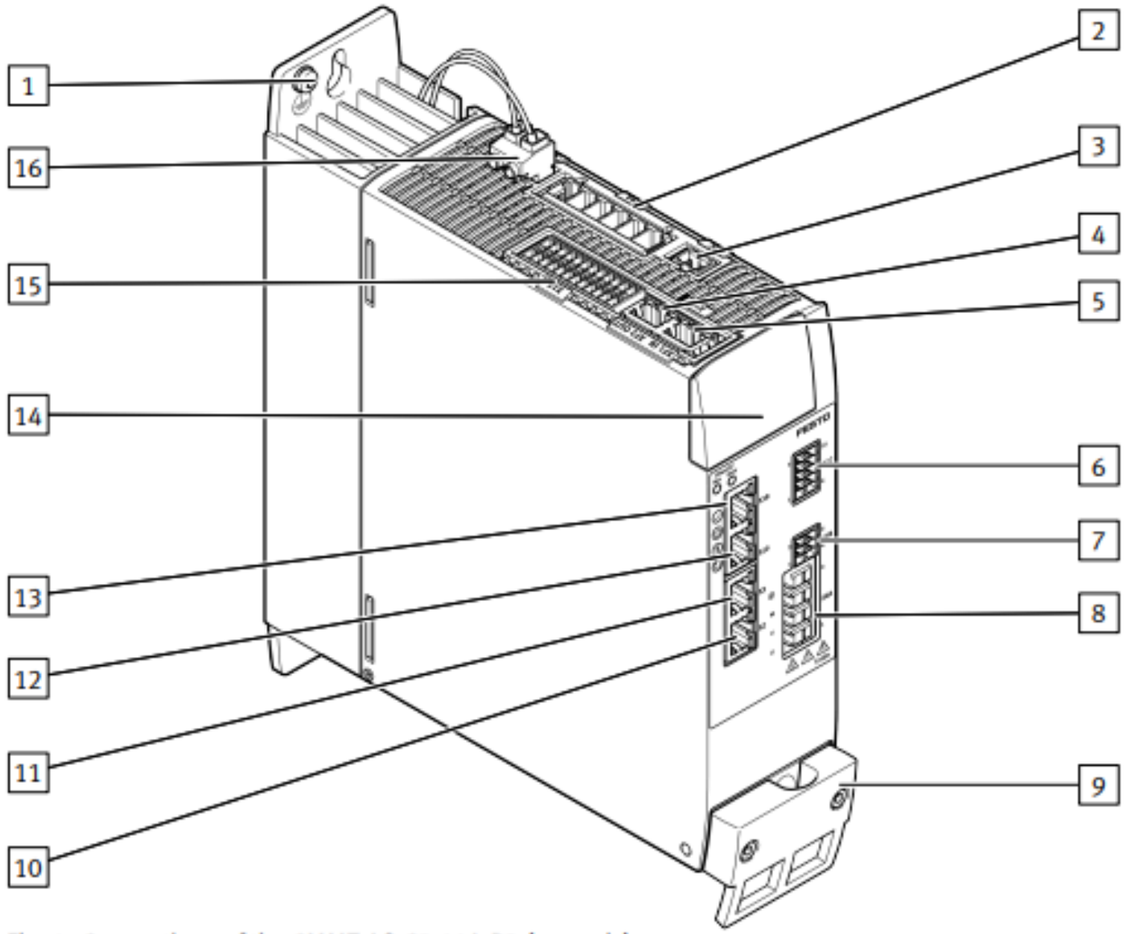


Fig. 4: Connections of the CMMT-AS-C2-11A-P3 (example)

1 PE connection, housing
2 [X9A] Mains and DC link circuit connection
3 [X9C] Logic voltage
4 [XF2 OUT] RTE interface port 2
5 [XF1 IN] RTE interface port 1
6 [X1C] inputs/outputs for the axis
7 [X6B] motor auxiliary connection
8 [X6A] motor phase connection
9 Shield clamp of motor cable
10 [X2] encoder connection 1
11 [X3] encoder connection 2
12 [X10] device synchronisation
13 [X18] standard Ethernet
14 [X5] connection for operator unit (behind the blind plate)
15 [X1A] I/O interface
16 [X9B] connection for braking resistor

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	19.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

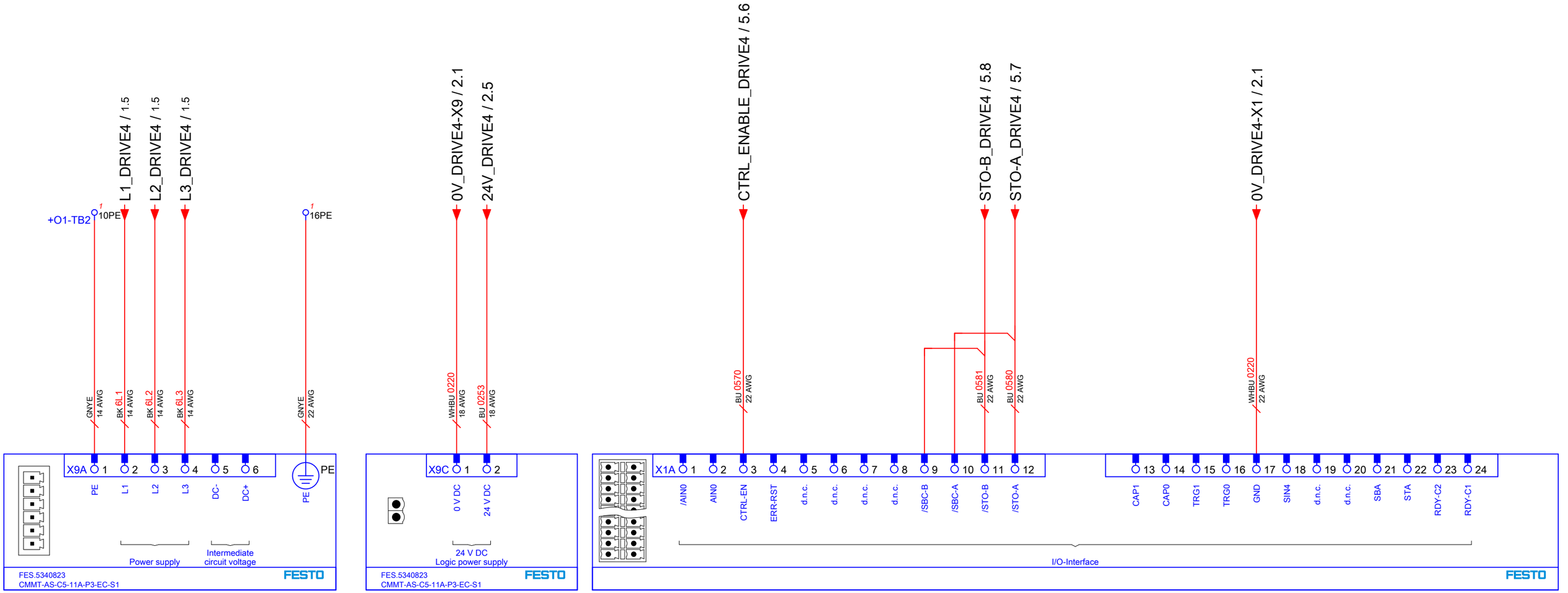
FMCP-3P-CE-4CMMT-CPX-E

FESTO

Overview

EN		&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	32
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021



CMMT-AS-4
/33.2
/33.3
/34.0
/34.2
/34.4
/34.5
/34.6
/35.1
/35.4
/50.5
/51.1

CMMT-AS-4
/33.0

CMMT-AS-4

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 (Ready)
Pin 12	#STO-A	Control input Safe Torque Off, channel A	Pin 24	RDY-C1	

Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	27.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

CMMT-AS-4:X9A,X1A

EN &EFS

Material no.: 23442860

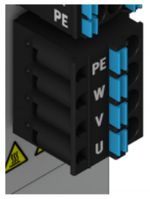
= A1

+ O1

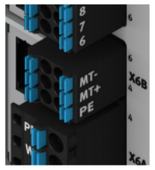
Project no.: CA_CS.2176940-A Pg. 33

Productionorder: 001330706337 Pg. 60

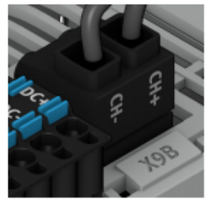
DIN A3 16.11.2021



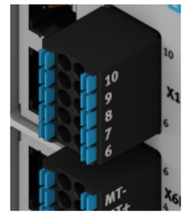
X6A – motor phase connection			
Min. cable cross section	[mm²]	0.75	
Max. conductor cross section	[mm²]	1.5	
Pin 4	PE	Protective earthing, motor	
Pin 3	W	Third motor phase	
Pin 2	V	Second motor phase	
Pin 1	U	First motor phase	



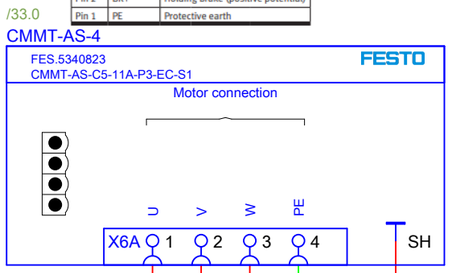
X6B – motor auxiliary connection			
Min. cable cross section	[mm²]	0.25	
Max. conductor cross section	[mm²]	0.75	
Pin 6	MT–	Motor temperature (negative potential)	
Pin 5	MT+	Motor temperature (positive potential)	
Pin 4	PE	Protective earth	
Pin 3	BR–	Holding brake (negative potential)	
Pin 2	BR+	Holding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

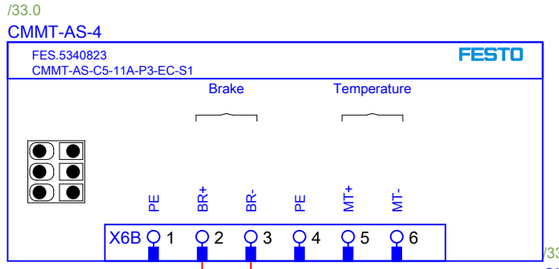


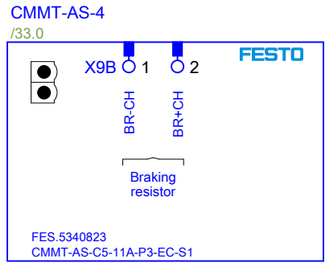
X9B – braking resistor		
Min. cable cross section	[mm²]	0.25
Max. conductor cross section	[mm²]	2.5
Pin 1	CH-	Braking resistor negative Connection
Pin 2	CH+	Braking resistor positive Connection

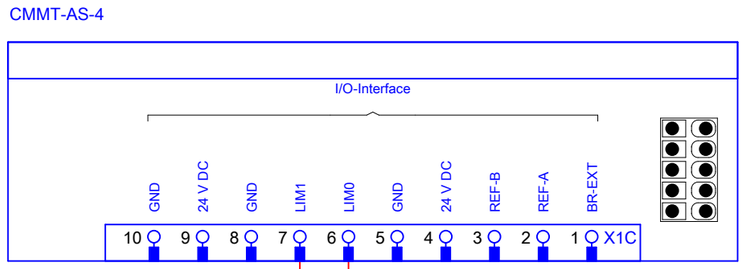


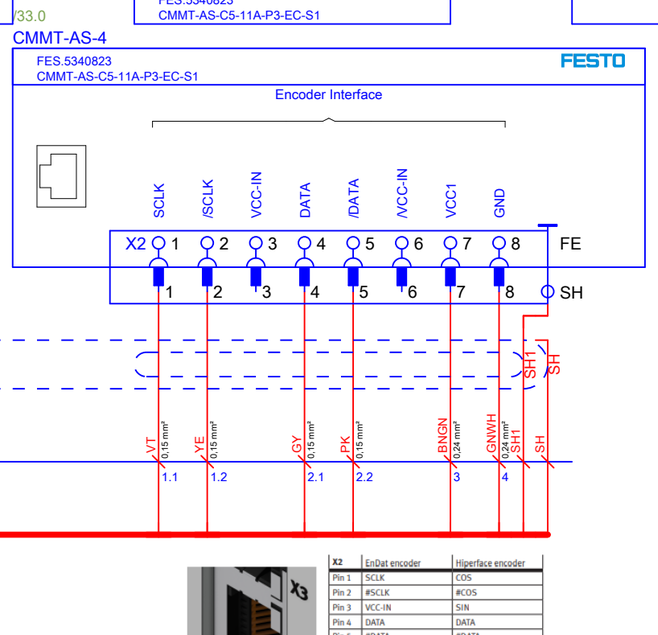
X1C – inputs and outputs for the axis		
Min. cable cross section [mm²]		0.25
Max. conductor cross section [mm²]		0.75
Pin 1	BR-EXT	Output for connection of an external clamping unit (high-side switch, low test pulses at #SBC-B are transferred to BR-EXT)
Pin 2	REF-A	Digital input for reference switch (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)







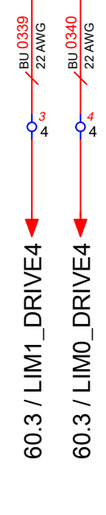




X2	EnDat encoder	Hiperface encoder
Pin 1	SCLK	COS
Pin 2	#SCLK	#COS
Pin 3	VCC-IN	SIN
Pin 4	DATA	DATA
Pin 5	#DATA	#DATA
Pin 6	#VCC-IN	#SIN
Pin 7	VCC1	VCC1
Pin 8	GND	GND

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



Project status		xxx			FESTO CORPORATION	CMMT-AS-4:X6A,X6B,X2,X1C,X9B	EN &EFS
			Date	21.05.2021 CA0SMO			= A1
			Edit by	16.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		Material no.: 23442860 + O1
			Appr.				Project no.: CA_CS.2176940-A Pg. 34
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337 Pg. 60

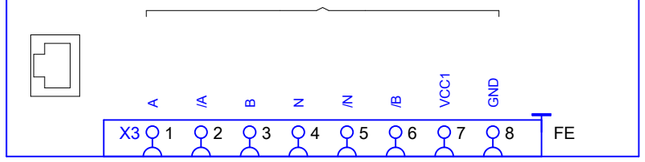
16.11.2021 DIN A3

CMMT-AS-4

FES.5340823
CMMT-AS-C5-11A-P3-EC-S1

FESTO

Encoder interface

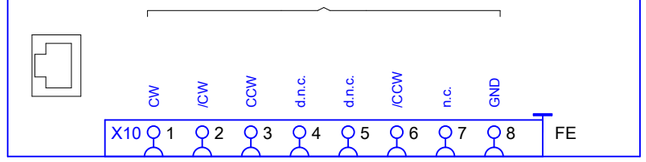


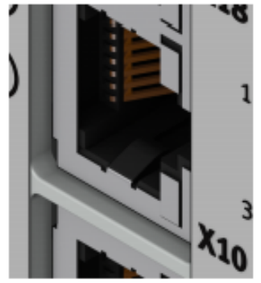
CMMT-AS-4

FES.5340823
CMMT-AS-C5-11A-P3-EC-S1

FESTO

SYNC IN/OUT





X10	Incremental encoder In/ Out	Pulse/direc-tion 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

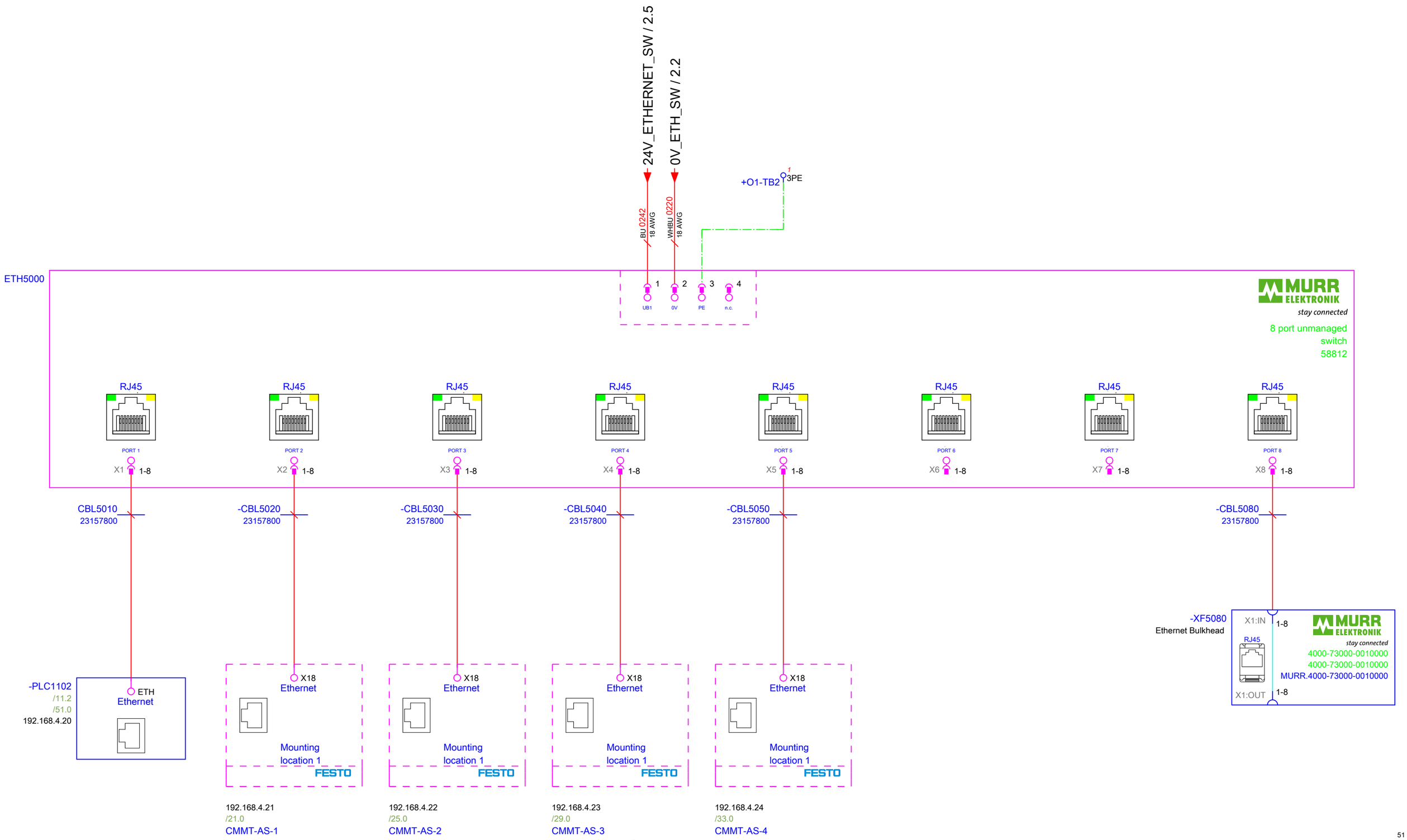
X18 – Standard Ethernet (parameterisation interface)		
Pin 1	TX+	Transmitted data+
Pin 2	TX-	Transmitted data-
Pin 3	RX+	Received data+
Pin 4	–	Not connected
Pin 5	–	
Pin 6	RX-	Received data-
Pin 7	–	Not connected
Pin 8	–	

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	–	

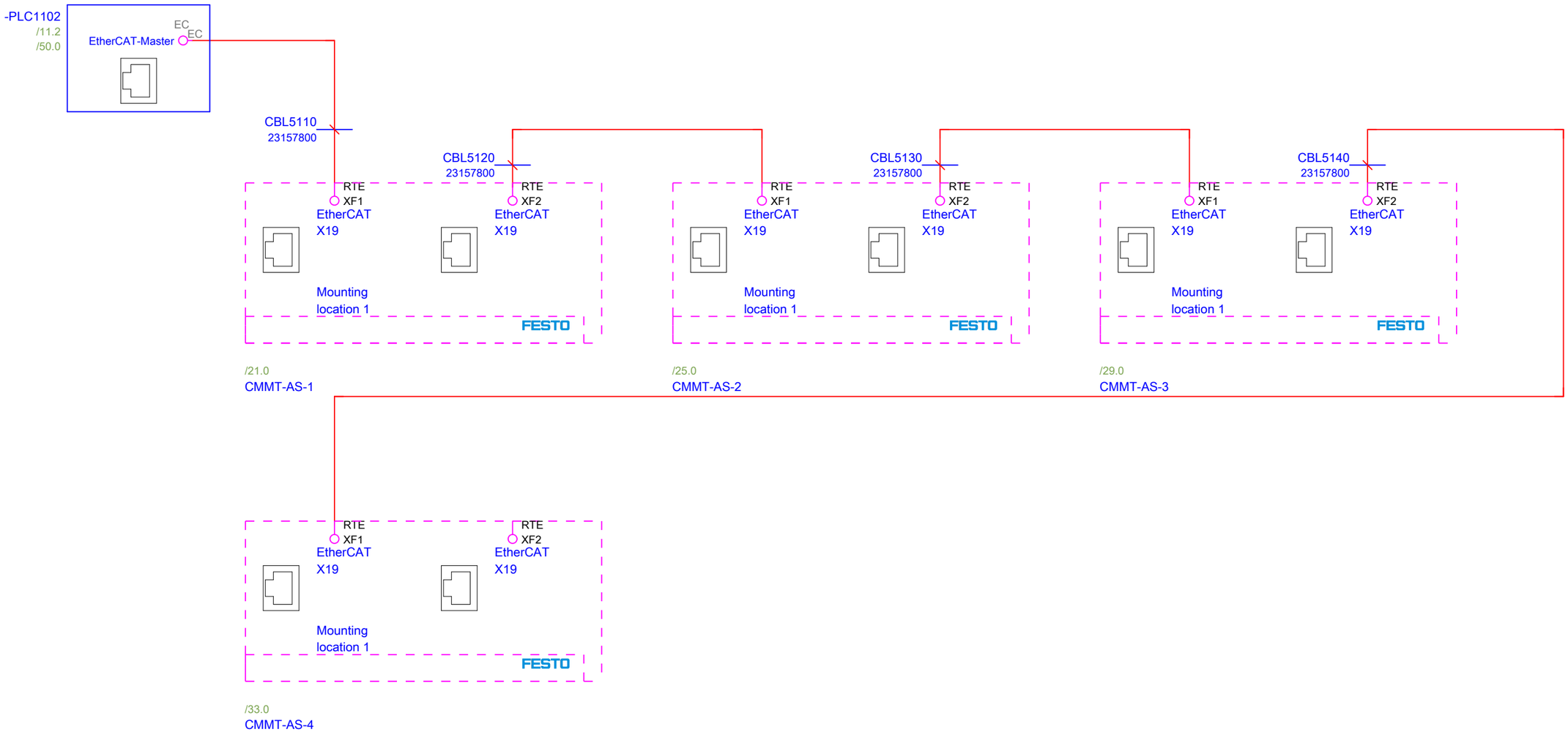
Project status		xxx			FESTO CORPORATION	CMMT-AS-4:X9A,X1A	EN &EFS
			Date	21.05.2021 CA0SMO			Material no.: 23442860 = A1
			Edit by	13.10.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		+ O1
			Appr.				Project no.: CA_CS.2176940-A Pg. 35
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337 Pg. 60

DIN A3 16.11.2021

Optional Ethernet Switch



Project status		xxx			FESTO CORPORATION		Ethernet Connection	EN &EFS
			Date	21.05.2021 CA0SMO				= A1
			Edit by	27.10.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		Material no.: 23442860	+ O1
			Appr.				Project no.: CA_CS.2176940-A Pg. 50	
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337 Pg. 60	DIN A3 16.11.2021



Project status	xxx				
			Date	21.05.2021	CA0SMO
			Edit by	21.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

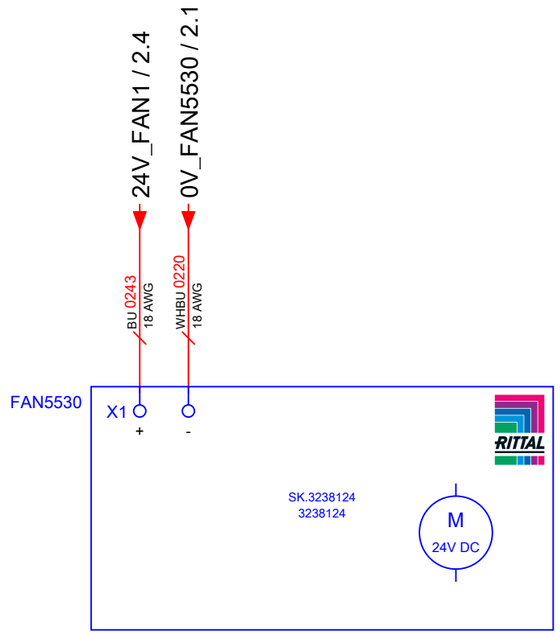
FMCP-3P-CE-4CMMT-CPX-E

FESTO

ETHERCAT Connection

	EN	&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	51
Productionorder:	001330706337	Pg.	60

16.11.2021 DIN A3



Project status		xxx			
			Date	21.05.2021	CA0SMO
			Edit by	27.10.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

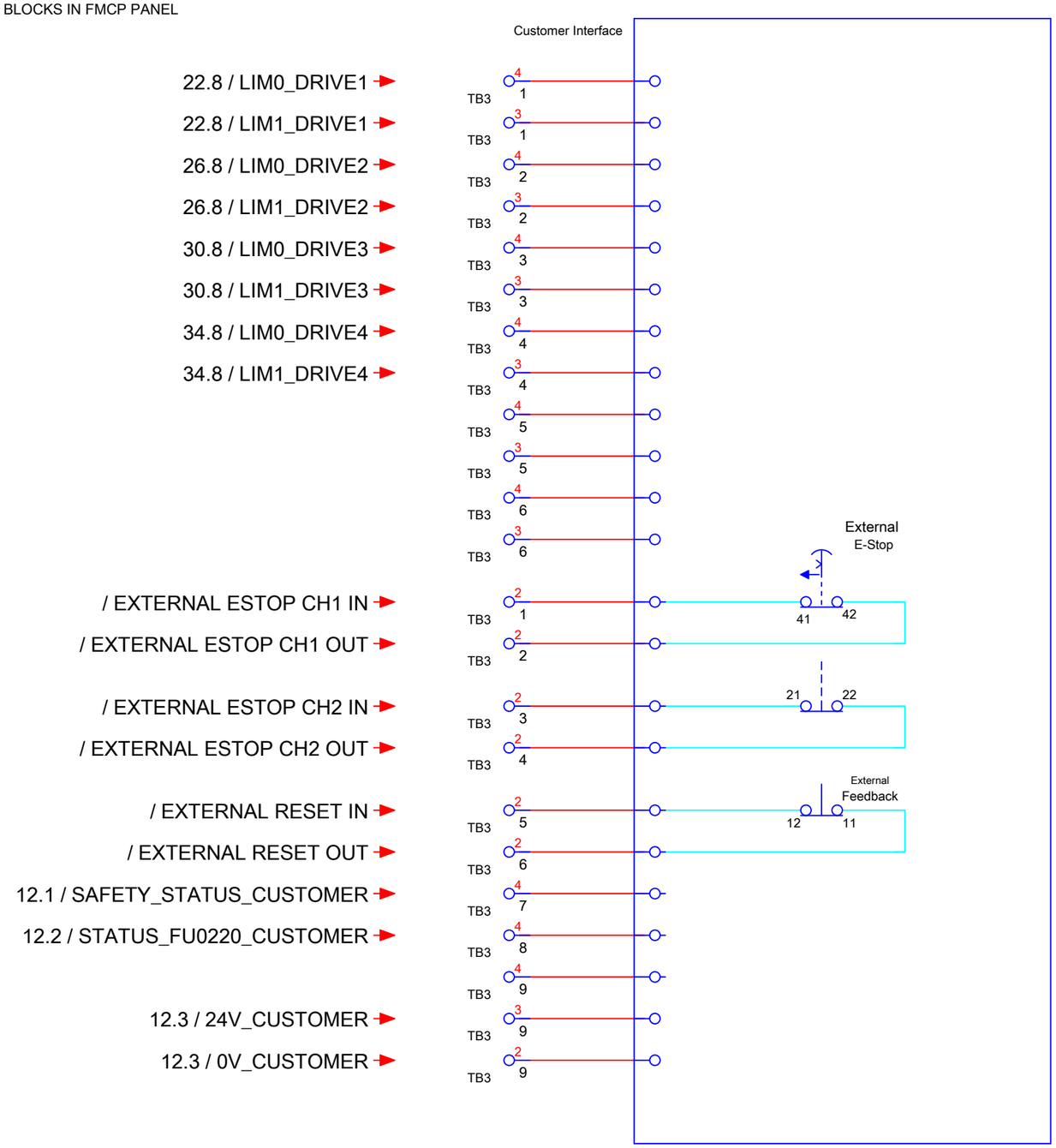
FESTO

FAN Connection

EN		&EFS	
Material no.:	23442860	= A1	
		+ O1	
Project no.:	CA_CS.2176940-A	Pg.	55
Productionorder:	001330706337	Pg.	60

DIN A3 16.11.2021

TERMINAL BLOCKS IN FMCP PANEL



Check Page 5 for Safety Interface.
Terminal Bank 3 for Customer Interface .
This page is a quick guide for the customer to interact with FMCP
The terminal blocks and other components in this page are duplicated and shown in relevant pages in the document

Project status		xxx			FESTO CORPORATION		Customer Interface	EN &EFS
			Date	21.05.2021 CA0SMO				= A1
			Edit by	16.11.2021 ca0smo	FMCP-3P-CE-4CMMT-CPX-E		Material no.: 23442860	+ O1
			Appr.				Project no.: CA_CS.2176940-A	Pg. 60
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 001330706337	Pg. 60

DIN A3 16.11.2021

Terminal diagram

Type number / Manufacturer	Connection design / -number	Cable name (external)	Cable type	Target designation	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation	Cable type	Cable name (internal)	Connection design / -number	Page / column
				Terminal strip =A1+O1-TB1												
							1	1			2PE:7	-TB2				&EFS/2.3

Project status	xxx			FESTO CORPORATION	
		Date	21.05.2021	CA0SMO	
		Edit by	08.11.2021	ca0smo	FMCP-3P-CE-4CMMT-CPX-E
		Appr.			
Modification / Date / Name		Standard	DIRECTIVE 2014/35/EU		

FESTO

Terminal diagram =A1+O1-TB1

EN	&EMA		
Material no.: 23442860	= A1		
	+ O1		
Project no.: CA_CS.2176940-A		Pg.	1
Productionorder: 001330706337		Pg.	3.3

DIN A3 16.11.2021

Terminal diagram

Terminal strip =A1+O1-TB2

Type number	Manufacturer	Connection design / -number	14 AWG	22 AWG	18 AWG	Cable name (external)	Cable type	Target designation (external)	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation (internal)	Cable type	18 AWG	14 AWG	Connection design / -number	Page / column
AMC 2.5	WEI		GNYE			-PSU0210			-1	7	1	1PE									&EFS/2.0
		0220		WHBU		-CMMT-AS-1			X1A:17	6	2	1	1		-2	-PSU0210			WHBU	**0220**	&EFS/2.0
										5	3	1	2		OUT:3	-FU0220		BU		**0242**	&EFS/2.4
		0570		BU		-CMMT-AS-1			X1A:3	4	4	1	3		14	-SR0510		BU		**0570**	&EFS/5.5
AMC 2.5	WEI					-TB1			1	7	1	2PE									&EFS/2.0
		0220			WHBU	-CMMT-AS-1			X9C:1	6	2	2	1		A2	-SR0510					&EFS/2.0
										5	3	2	2		A1	-SR0510		BU		**0242**	&EFS/2.4
		0570		BU		-CMMT-AS-2			X1A:3	4	4	2	3								&EFS/5.5
AMC 2.5	WEI					-ETH5000			3	7	1	3PE									&EFS/50.5
		0220		WHBU		-CMMT-AS-2			X1A:17	6	2	3	1		0V	-FU0220			WHBU	**0220**	&EFS/2.0
										5	3	3	2		13	-SR0510		BU		**0242**	&EFS/2.4
		0570		BU		-CMMT-AS-3			X1A:3	4	4	3	3								&EFS/5.6
AMC 2.5	WEI		GNYE			-PSU0210			PE	7	1	4PE									&EFS/2.1
		0220			WHBU	-CMMT-AS-2			X9C:1	6	2	4	1								&EFS/2.0
										5	3	4	2		47	-SR0510		BU		**0242**	&EFS/2.4
		0570		BU		-CMMT-AS-4			X1A:3	4	4	4	3								&EFS/5.6
AMC 2.5	WEI									7	1	5PE									
		0220		WHBU		-CMMT-AS-3			X1A:17	6	2	5	1								&EFS/2.1
										5	3	5	2		57	-SR0510		BU		**0242**	&EFS/2.4
										4	4	5	3								&EFS/5.6
AMC 2.5	WEI									7	1	6PE									
		0220			WHBU	-CMMT-AS-3			X9C:1	6	2	6	1								&EFS/2.1
										5	3	6	2		61	-SR0510		BU		**0242**	&EFS/2.5
										4	4	6	3								&EFS/5.6
AMC 2.5	WEI		GNYE			-CMMT-AS-1			X9A:1	7	1	7PE									&EFS/21.0
		0220		WHBU		-CMMT-AS-4			X1A:17	6	2	7	1		X1:-	-FAN5530		WHBU		**0220**	&EFS/2.1
		0242			BU	-TB3			9:2	5	3	7	2								&EFS/2.5
		0580		BU		-CMMT-AS-1			X1A:12	4	4	7	3		48	-SR0510		BU		**0580**	&EFS/5.6
AMC 2.5	WEI		GNYE			-CMMT-AS-2			X9A:1	7	1	8PE									&EFS/25.0
		0220			WHBU	-CMMT-AS-4			X9C:1	6	2	8	1								&EFS/2.1
										5	3	8	2		1	-ETH5000		BU		**0242**	&EFS/2.5
		0580		BU		-CMMT-AS-2			X1A:12	4	4	8	3								&EFS/5.7
AMC 2.5	WEI		GNYE			-CMMT-AS-3			X9A:1	7	1	9PE									&EFS/29.0
										6	2	9	1								&EFS/2.1
										5	3	9	2								
		0580		BU		-CMMT-AS-3			X1A:12	4	4	9	3								&EFS/5.7

Project status	xxx				
		Date	21.05.2021	CA0SMO	
		Edit by	16.11.2021	ca0smo	
		Appr.			
Modification	Date / Name	Standard	DIRECTIVE 2014/35/EU		

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

Terminal diagram =A1+O1-TB2

EN &EMA

Material no.: 23442860

= A1

\+ O1

Project no.: CA_CS.2176940-A Pg. 2

Productionorder: 001330706337 Pg. 3.3

16.11.2021 DIN A3

Terminal diagram

Terminal strip =A1+O1-TB2

Type number	Manufacturer	Connection design / -number	14 AWG	18 AWG	22 AWG	Cable name (external)	Cable type	Target designation (external)	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation (internal)	Cable type	18 AWG	22 AWG	Connection design / -number	Page / column
AMC 2.5	WEI		GNYE			-CMMT-AS-4			X9A:1	7	1	10PE									&EFS/33.0
										6	2	10	1								&EFS/2.2
		0552		RD		-PB1			42	2	3	10	5		S12	-SR0510			BU	**0552**	&EFS/5.1
		0580			BU	-CMMT-AS-4			X1A:12	4	4	10	3								&EFS/5.7
AMC 2.5	WEI									7	1	11PE									
										6	2	11	1								&EFS/2.2
		0562		WH		-PB1			22	2	3	11	5		S22	-SR0510			BU	**0562**	&EFS/5.1
										4	4	11	3								&EFS/5.7
AMC 2.5	WEI									7	1	12PE									
										6	2	12	1								&EFS/2.2
										5	3	12	2								
										4	4	12	3								&EFS/5.7
AMC 2.5	WEI				GNYE	-CMMT-AS-1			X9A:PE	7	1	13PE									&EFS/21.2
										6	2	13	1		XD:2	-PLC1102		WHBU		**0220**	&EFS/2.2
										5	3	13	2								
		0581			BU	-CMMT-AS-1			X1A:11	4	4	13	3		58	-SR0510		BU		**0581**	&EFS/5.8
AMC 2.5	WEI				GNYE	-CMMT-AS-2			X9A:PE	7	1	14PE									&EFS/25.2
										6	2	14	1		2	-ETH5000		WHBU		**0220**	&EFS/2.2
										5	3	14	2								
		0581			BU	-CMMT-AS-2			X1A:11	4	4	14	3								&EFS/5.8
AMC 2.5	WEI				GNYE	-CMMT-AS-3			X9A:PE	7	1	15PE									&EFS/29.2
										6	2	15	1								&EFS/2.3
										5	3	15	2								
		0581			BU	-CMMT-AS-3			X1A:11	4	4	15	3								&EFS/5.8
AMC 2.5	WEI				GNYE	-CMMT-AS-4			X9A:PE	7	1	16PE									&EFS/33.2
										6	2	16	1								&EFS/2.3
										5	3	16	2								
		0581			BU	-CMMT-AS-4			X1A:11	4	4	16	3								&EFS/5.8
AMC 2.5	WEI									7	1	17PE									
		0220		WHBU		-TB3			9:1	6	2	17	1								&EFS/2.3
										5	3	17	2								
										4	4	17	3								&EFS/5.8
AMC 2.5	WEI									7	1	18PE									
		0220		WHBU		-TB3			29:1	6	2	18	1								&EFS/2.3
										5	3	18	2								

Project status	xxx				
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

Terminal diagram =A1+O1-TB2

EN | &EMA

Material no.: 23442860 | = A1 | + O1

Project no.: CA_CS.2176940-A | Pg. 2.1

Productionorder: 001330706337 | Pg. 3.3

DIN A3 16.11.2021

Terminal diagram

Type number / Manufacturer	Connection design / -number	Cable name (external)	Cable type	Target designation	Connection	Terminal strip =A1+O1-TB2 — Level (Connection external / Connection internal)	Jumper	Connection	Target designation	Cable type	Cable name (internal)	Connection design / -number	Page / column
						4 4 1 18 3							&EFS/5.9

Project status	xxx				
		Date	21.05.2021	CA0SMO	
		Edit by	08.11.2021	ca0smo	
		Appr.			
Modification / Date / Name		Standard	DIRECTIVE 2014/35/EU		

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

Terminal diagram =A1+O1-TB2

EN	&EMA		
Material no.: 23442860	= A1		
	+ O1		
Project no.: CA_CS.2176940-A		Pg.	2.2
Productionorder: 001330706337		Pg.	3.3

DIN A3 16.11.2021

Terminal diagram

Terminal strip =A1+O1-TB3

Type number	Manufacturer	Connection design / -number	22 AWG	Cable name	Cable type	Target designation	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation	Cable type	Cable name	18 AWG	22 AWG	Connection design / -number	Page / column
				external												internal				
AMC 2.5	WEI							7	1	1PE										
		0550	BU		-PB2		41	1	2	1	6		S11	-SR0510				BU	**0550**	&EFS/5.1
								5	3	1	2		7	-CMMT-AS-1				BU	**0333**	&EFS/22.8
								4	4	1	3		6	-CMMT-AS-1				BU	**0334**	&EFS/22.8
AMC 2.5	WEI							7	1	2PE										
					-PB2		42	6	2	2	1		41	-PB1			BK		**0551**	&EFS/5.1
								5	3	2	2		7	-CMMT-AS-2				BU	**0335**	&EFS/26.8
								4	4	2	3		6	-CMMT-AS-2				BU	**0336**	&EFS/26.8
AMC 2.5	WEI							7	1	3PE										
		0560	BU		-PB2		21	1	2	3	6		S21	-SR0510				BU	**0560**	&EFS/5.1
								5	3	3	2		7	-CMMT-AS-3				BU	**0337**	&EFS/30.8
								4	4	3	3		6	-CMMT-AS-3				BU	**0338**	&EFS/30.8
AMC 2.5	WEI							7	1	4PE										
					-PB2		22	6	2	4	1		21	-PB1			GN		**0561**	&EFS/5.1
								5	3	4	2		7	-CMMT-AS-4				BU	**0339**	&EFS/34.8
								4	4	4	3		6	-CMMT-AS-4				BU	**0340**	&EFS/34.8
AMC 2.5	WEI							7	1	5PE										
		0541	BU		-S1		12	1	2	5	6		X1	-SR0510				BU	**0541**	&EFS/5.3
								5	3	5	2									
								4	4	5	3									
AMC 2.5	WEI							7	1	6PE										
		0542	BU		-S1		11	6	2	6	1		X2	-SR0510				BU	**0542**	&EFS/5.3
								5	3	6	2									
								4	4	6	3									
								6	2	6	1									
AMC 2.5	WEI							7	1	7PE										&EFS/12.1
								1	2	7	6									
								2	3	7	5									
								4	4	7	3		X0:0	-DI1104				BU	**0590**	&EFS/12.1
													62				BU			
AMC 2.5	WEI							7	1	8PE										&EFS/12.2
								6	2	8	1									&EFS/12.2
								5	3	8	2									&EFS/12.2
								4	4	8	3		X1:0	-DI1104				BU	**0280**	&EFS/12.2
													14					BU		
AMC 2.5	WEI							7	1	9PE										&EFS/12.3

2.2 3.1

Project status	xxx				
		Date	21.05.2021	CA0SMO	
		Edit by	16.11.2021	ca0smo	
		Appr.			
Modification	Date / Name	Standard	DIRECTIVE 2014/35/EU		

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

Terminal diagram =A1+O1-TB3

		EN	&EMA
Material no.:	23442860	=	A1
		+	O1
Project no.:	CA_CS.2176940-A	Pg.	3
Productionorder:	001330706337	Pg.	3.3

16.11.2021 DIN A3

Terminal diagram

Terminal strip =A1+O1-TB3

Type number	Manufacturer	Connection design / -number	Cable name (external)	Cable type (external)	Target designation (external)	Connection (external)	Connection external	Level	Terminal	Connection internal	Jumper	Connection (internal)	Target designation (internal)	Cable name (internal)	Cable type (internal)	22 AWG	18 AWG	Connection design / -number	Page / column
							6	2	9	1		17:6	-TB2				WHBU	**0220**	&EFS/12.3
							5	3	9	2		7:5	-TB2				BU	**0242**	&EFS/12.3
							4	4	9	3		X2	-DI1104			BU		**1230**	&EFS/12.3
AMC 2.5	WEI						7	1	10PE										&EFS/12.4
							6	2	10	1									&EFS/12.4
							5	3	10	2									&EFS/12.4
							4	4	10	3		X3:0	-DI1104			BU		**1240**	&EFS/12.4
AMC 2.5	WEI						7	1	11PE										&EFS/12.5
							6	2	11	1									&EFS/12.5
							5	3	11	2									&EFS/12.5
							4	4	11	3		X4:0	-DI1104			BU		**1250**	&EFS/12.5
AMC 2.5	WEI						7	1	12PE										&EFS/12.7
							6	2	12	1									&EFS/12.6
							5	3	12	2									&EFS/12.6
							4	4	12	3		X5:0	-DI1104			BU		**1260**	&EFS/12.6
AMC 2.5	WEI						7	1	13PE										&EFS/12.8
							6	2	13	1									&EFS/12.7
							5	3	13	2									&EFS/12.7
							4	4	13	3		X6:0	-DI1104			BU		**1270**	&EFS/12.8
AMC 2.5	WEI						7	1	14PE										&EFS/12.9
							6	2	14	1									&EFS/12.9
							5	3	14	2									&EFS/12.8
							4	4	14	3		X7:0	-DI1104			BU		**1280**	&EFS/12.9
AMC 2.5	WEI						7	1	15PE										&EFS/13.1
							6	2	15	1									&EFS/13.1
							5	3	15	2									&EFS/13.0
							4	4	15	3		X0:1	-DI1104			BU		**1310**	&EFS/13.1
AMC 2.5	WEI						7	1	16PE										&EFS/13.2
							6	2	16	1									&EFS/13.2
							5	3	16	2									&EFS/13.2
							4	4	16	3		X0:1	-DI1104			BU		**1320**	&EFS/13.2
AMC 2.5	WEI						7	1	17PE										&EFS/13.3
							6	2	17	1									&EFS/13.3
							5	3	17	2									&EFS/13.3
							4	4	17	3		X2:1	-DI1104			BU		**1330**	&EFS/13.3
AMC 2.5	WEI						7	1	18PE										&EFS/13.4

Project status	xxx				
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

Terminal diagram =A1+O1-TB3

EN &EMA

Material no.: 23442860

= A1

+ O1

Project no.: CA_CS.2176940-A Pg. 3.1

Productionorder: 001330706337 Pg. 3.3

16.11.2021 DIN A3

Terminal diagram

Terminal strip =A1+O1-TB3

Type number	Manufacturer	Connection design / -number	Cable name (ext.)	Cable type (ext.)	Target designation (ext.)	Connection (ext.)	Connection external	Level	Terminal	Connection internal	Jumper	Connection (int.)	Target designation (int.)	Cable type (int.)	Cable name (int.)	18 AWG	22 AWG	Connection design / -number	Page / column
							6	2	18	1									&EFS/13.4
							5	3	18	2									&EFS/13.4
							4	4	18	3		X3:1	-DI1104				BU	**1340**	&EFS/13.4
AMC 2.5	WEI						7	1	**19PE**										&EFS/13.5
							6	2	19	1									&EFS/13.5
							5	3	19	2									&EFS/13.5
							4	4	19	3		X4:1	-DI1104				BU	**1350**	&EFS/13.5
AMC 2.5	WEI						7	1	**20PE**										&EFS/13.7
							6	2	20	1									&EFS/13.6
							5	3	20	2									&EFS/13.6
							4	4	20	3		X5:1	-DI1104				BU	**1360**	&EFS/13.6
AMC 2.5	WEI						7	1	**21PE**										&EFS/13.8
							6	2	21	1									&EFS/13.7
							5	3	21	2									&EFS/13.7
							4	4	21	3		X6:1	-DI1104				BU	**1370**	&EFS/13.8
AMC 2.5	WEI						7	1	**22PE**										&EFS/13.9
							6	2	22	1									&EFS/13.9
							5	3	22	2									&EFS/13.8
							4	4	22	3		X7:1	-DI1104				BU	**1380**	&EFS/13.9
AMC 2.5	WEI						7	1	**23PE**										&EFS/14.0
							6	2	23	1									&EFS/14.0
							5	3	23	2		OUT:2	-FU0220			BU		**0241**	&EFS/14.1
							4	4	23	3		X0:0	-DO1103				BU	**1410**	&EFS/14.1
AMC 2.5	WEI						7	1	**24PE**										&EFS/14.1
							6	2	24	1									&EFS/14.1
							5	3	24	2		-XD:0	-DO1103			BU		**0241**	&EFS/14.2
							4	4	24	3		X0:1	-DO1103				BU	**1420**	&EFS/14.2
AMC 2.5	WEI						7	1	**25PE**										&EFS/14.2
							6	2	25	1									&EFS/14.2
							5	3	25	2									&EFS/14.3
							4	4	25	3		X1:0	-DO1103				BU	**1430**	&EFS/14.3
AMC 2.5	WEI						7	1	**26PE**										&EFS/14.3
							6	2	26	1									&EFS/14.4
							5	3	26	2									&EFS/14.4
							4	4	26	3		X1:1	-DO1103				BU	**1440**	&EFS/14.4
AMC 2.5	WEI						7	1	**27PE**										&EFS/14.4

3.1 3.3

Project status	xxx				
			Date	21.05.2021	CA0SMO
			Edit by	16.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

Terminal diagram =A1+O1-TB3

EN	&EMA		
Material no.: 23442860	= A1		
	+ O1		
Project no.: CA_CS.2176940-A		Pg.	3.2
Productionorder: 001330706337		Pg.	3.3

16.11.2021 DIN A3

Terminal diagram

Terminal strip =A1+O1-TB3

Type number	Manufacturer	Connection design / -number	Cable name (external)	Cable type	Target designation	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation	Cable type	Cable name (internal)	18 AWG	22 AWG	Connection design / -number	Page / column
							6	2	27	1									&EFS/14.5
							5	3	27	2									&EFS/14.5
							4	4	27	3		X2:0	-DO1103				BU	**1450**	&EFS/14.5
AMC 2.5	WEI						7	1	28PE										&EFS/14.5
							6	2	28	1									&EFS/14.6
							5	3	28	2									&EFS/14.6
							4	4	28	3		X2:1	-DO1103				BU	**1460**	&EFS/14.6
AMC 2.5	WEI						7	1	29PE										&EFS/14.6
							6	2	29	1		18:6	-TB2			WHBU		**0220**	&EFS/14.7
							5	3	29	2									&EFS/14.7
							4	4	29	3		X3:0	-DO1103				BU	**1470**	&EFS/14.7
AMC 2.5	WEI						7	1	30PE										&EFS/14.8
							6	2	30	1									&EFS/14.8
							5	3	30	2									&EFS/14.8
							4	4	30	3		X3:1	-DO1103				BU	**1480**	&EFS/14.8
AMC 2.5	WEI						7	1	31PE										
							6	2	31	1									
							5	3	31	2									
							4	4	31	3									
AMC 2.5	WEI						7	1	32PE										
							6	2	32	1									
							5	3	32	2									
							4	4	32	3									

Project status	xxx				
			Date	21.05.2021	CA0SMO
			Edit by	08.11.2021	ca0smo
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

FESTO CORPORATION

FMCP-3P-CE-4CMMT-CPX-E

FESTO

Terminal diagram =A1+O1-TB3

EN | &EMA

Material no.: 23442860

= A1

\+ O1

Project no.: CA_CS.2176940-A Pg. 3.3

Productionorder: 001330706337 Pg. 3.3

DIN A3 16.11.2021