FESTO

mailto:

Phone:
Fax:

2.9.4

Plant designation	FMCP-UR Panel
Customer order no.	SAP CUSTOMER ORDER NO
Festo order number	FESTO order number
Material / Project no	23474667 / CA_CS.2193770

Customer

Name	ROBOTIQ INC.
Plant	Customer plant
Street	966 CHEMIN OLIVIER, SUITE #500
Code postal: / location	Customer ZI Customer City PCode

Type of project	Project type		
Responsible for project	LOP/ZFA		
Project name	CA_CS.2193770_Robotiq		
Created	04.03.2022	/	Technical designer
Edit	10.03.2023	/	ca0zfa
Approved		/	
Revision 0	25.01.2023	/	ca0zfa
	New Version with Hammond Enclosure . created on 2023		
Number of pages	53		

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.

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Table of contents

System	Mounting location 1	Document name	Page	Page description	Revision	Date	Edited by
		&MAA	1	Title page /cover sheet		25.01.2023	ca0zfa
		&MAB	1	Table of contents	00G. 25.08.2022 ca0zfa	10.03.2023	ca0zfa
		&MAB	2	Table of contents	00G. 25.08.2022 ca0zfa	10.03.2023	ca0zfa
		&MDB	1	Structure identifier overview	07.02.2023 ca0zfa	07.02.2023	ca0zfa
		&MDB	2	Structure identifier overview	07.02.2023 ca0zfa	07.02.2023	ca0zfa
		&MDB	3	Structure identifier overview	07.02.2023 ca0zfa	07.02.2023	ca0zfa
		&MPC	1	Summarized parts list	00G. 25.08.2022 ca0zfa	07.02.2023	ca0zfa
		&MPC	1.1	Summarized parts list	00C. 07.04.2022 ca0zfa	25.01.2023	ca0zfa
		&MPC	2	Item parts list	00G. 25.08.2022 ca0zfa	07.02.2023	ca0zfa
		&MPC	2.1	Item parts list		25.01.2023	ca0zfa
		&MPC	2.2	Item parts list	00A. 31.03.2022 ca0zfa	25.01.2023	ca0zfa
		&MPC	2.3	Item parts list		25.01.2023	ca0zfa
		&MEC	1	Technical notes		25.01.2023	ca0zfa
		&MEC	2	CECC Overview		25.01.2023	ca0zfa
		&MEC	3	CMMT-AS Overview	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
		&MEC	4	Safety Controller Overview	00B. 05.04.2022 ca0zfa	25.01.2023	ca0zfa
		&MEC	5	Safety Installation		25.01.2023	ca0zfa
		&MEC	6	UR Panel Interface	10.03.2023 ca0zfa	10.03.2023	ca0zfa
		&MTB	1	Construction design		25.01.2023	ca0zfa
		&MTL	1	Control Panel Layout	10.03.2023 ca0zfa	10.03.2023	ca0zfa
		&EFA	1	Plug overview	07.02.2023 ca0zfa	07.02.2023	ca0zfa
		&EMA	1	Plug diagram =+	07.02.2023 ca0zfa	07.02.2023	ca0zfa
		&EMA	1.1	Plug diagram =+	07.02.2023 ca0zfa	07.02.2023	ca0zfa
A1	O1	&EFA	1	Cable overview	07.02.2023 ca0zfa	10.03.2023	ca0zfa
	O1	&EFA	2	Terminal strip overview	07.02.2023 ca0zfa	10.03.2023	ca0zfa
	O1	&EFA	3	Plug overview	07.02.2023 ca0zfa	10.03.2023	ca0zfa
	O1	&EFS	1	AC Voltage Supply	00C. 07.04.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	2	DC Voltage Supply	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa

DRAFT for revision

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00G.	25.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00F.	02.08.2022	ca0zfa	Edit by	10.03.2023	ca0zfa
00E.	07.04.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Table of contents

		EN	&MAB
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	1
Productionorder:	2347667	Pg.	2

DIN A3 10.03.2023

Table of contents

System	Mounting location 1	Document name	Page	Page description	Revision	Date	Edited by
A1	O1	&EFS	3	Safety Controller Connnection	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	3.1	Safety Controller Configuration	00A. 31.03.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	4	PLC1 Connection : X1,X2,X3	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	5	PLC1 Connection : X4,X5	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	6	PLC1 Connection : X6,X7,X8,X9,X10		25.01.2023	ca0zfa
	O1	&EFS	7	PLC1 Connection : X11,X12,X13		25.01.2023	ca0zfa
	O1	&EFS	8	PLC1 Connection : X14,X15,X16		25.01.2023	ca0zfa
	O1	&EFS	9	PLC1 Connection : X17		25.01.2023	ca0zfa
	O1	&EFS	10	PLC1 Connection : X18,X19		25.01.2023	ca0zfa
	O1	&EFS	11	PLC1 Connection : X20		25.01.2023	ca0zfa
	O1	&EFS	12	PLC1 Connection : X21,X22		25.01.2023	ca0zfa
	O1	&EFS	13	PLC1 Connection : X23,X24,X25		25.01.2023	ca0zfa
	O1	&EFS	14	PLC1 Connection : X26,X27,X28		25.01.2023	ca0zfa
	O1	&EFS	20	CMMT1 Connection : X9A,X9B	00G. 25.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	21	CMMT1 Connection : X1A		25.01.2023	ca0zfa
	O1	&EFS	22	CMMT1 Connection : XF1,XF2	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	23	CMMT1 Connection : X1C,X3,X10,X18	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EFS	24	CMMT1 Connection : X2,X6A,X6B		25.01.2023	ca0zfa
	O1	&EFS	25	EtherNet Switch Connection	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&MFS	1	Pneumatic circuit diagram DIN A3		25.01.2023	ca0zfa
	O1	&EMA	1	Terminal diagram	00E. 07.04.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EMA	2	Terminal diagram	00E. 07.04.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EMA	2.1	Terminal diagram	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EMA	3	Terminal diagram	00F. 02.08.2022 ca0zfa	25.01.2023	ca0zfa
	O1	&EMA	4	Plug diagram =A1+O1-XD1	07.02.2023 ca0zfa	10.03.2023	ca0zfa

DRAFT for revision

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Summarized parts list

Quantity	Order number	Type number	Designation	Σ Length [m]	Manufacturer
1	1SCA104811R1001	OT16F3	OT16F3 switch-disconnector	0	ABB
1	OXS6X250		SHAFT for selector handle	0	ABB
1	OHBS2AJ	OHBS2AJ	HANDLE	0	ABB
5	5054513	NEKM-C6-C16-D	Assortment of plugs	0	Festo
2	8066677	NEBB-M12G5-P-5-LE5	Connecting cable	10	Festo
2	8066676	NEBB-M12G5-P-2.5-LE5	Connecting cable	5	Festo
1	5251374	NEBM-M23G15-EH-2.5-Q7N-R3LEG14	Motor cable	2,5	Festo
1	8143164	CMMT-AS-C4-3A-MP-S1	Servo drive	0	Festo
1	5255448	EMMT-AS-80-L-HS-RMB	Servo motor	0	Festo
15	4407603	CECC-X-M1	control unit	0	Festo
1	1336615	CACR-LE2-100-W500	Braking resistance	0	Festo
1	4325822	NEKM-C6-C16-S	Assortment of plugs	0	Festo
1	HF0424413	HF0424413	Filter Fan,21.2CFM,4.42X4.44 In,24VDC,Plastic,Black,Polyester Fiber,HF Series	0	HOFFMAN
1	HG0400403	HG0400403	Vent Black	0	HOFFMAN
1	FS1A-C115	FS1A-C115	Safety Controller	0	Idec
1	10416	10416	MEF EMC-FILTER 1-PHASE 1-STAGE	0	Murrelektronik
1	0916603	UT 6-TMC M 0,5A	FUSE ELEMENT 1P 0,5A M	0	Phoenix Contact
2	0916605	UT 6-TMC M 2A	FUSE ELEMENT 1P 2A	0	Phoenix Contact
1	0916604	UT 6-TMC M 1A	FUSE ELEMENT 1P 1A M	0	Phoenix Contact
1	1085039	FL SWITCH 1005N	Industrial Ethernet Switch	0	Phoenix Contact
1	2903149	TRIO-PS-2G/1AC/24DC/10	Power supply unit	0	Phoenix Contact
20	3036042	ST 2,5-3L	Multi-level terminal block	0	Phoenix Contact
2	3209604	PTTBS 2,5	Double-level terminal block	0	Phoenix Contact
1	3044128	UT 4-PE	PE conductor terminal	0	Phoenix Contact
4	3044665	UTTB 2,5-PE	Protective conductor double-level terminal block	0	Phoenix Contact
1	1425186	SI-RND-R1A	Service socket with RJ45 (socket/socket), 8-pos. metal, CAT6A connection, with protective cover	0	Phoenix Contact

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Summarized parts list

Quantity	Order number	Type number	Designation	Σ Length [m]	Manufacturer
1	4798.9200	4798.9200	C20 AC Inletl	0	SCHURTER AG
1	4798.9200	4798.9200	C20 AC Inlet	0	SCHURTER AG
2	BR2C6UC	BR2C6UC	Circuit Breaker 2 Poles 6A	0	Weidmueller
1	BR2C4AC	BR2C4AC	CIRCUIT BREAKER 4A 2 POLE BRANCH RATED	0	Weidmuller Canada (NFPA)

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00C.	07.04.2022	ca0zfa	Date	04.03.2022	Technical designer
00B.	05.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
00A.	31.03.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Summarized parts list

EN		&MPC	
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	1.1
Productionorder:	2347667	Pg.	2.3

DIN A3 10.03.2023

Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
-?XD1A =A1+O1&EFS/21.2	2	5054513 NEKM-C6-C16-D	Assortment of plugs		Festo	
-?XD6A =A1+O1&EFS/24.1	1	5054513 NEKM-C6-C16-D	Assortment of plugs		Festo	
-CB1 =A1+O1&EFS/1.1	1	BR2C4AC BR2C4AC	CIRCUIT BREAKER 4A 2 POLE BRANCH RATED		Weidmuller Canada (NFPA)	
-CB2 =A1+O1&EFS/1.4	1	BR2C6UC BR2C6UC	Circuit Breaker 2 Poles 6A		Weidmueller	
-CB3 =A1+O1&EFS/1.6	1	BR2C6UC BR2C6UC	Circuit Breaker 2 Poles 6A		Weidmueller	
-CB4 =A1+O1&EFS/2.3	1	0916603 UT 6-TMC M 0,5A	FUSE ELEMENT 1P 0,5A M		Phoenix Contact	
-CB5 =A1+O1&EFS/2.4	1	0916605 UT 6-TMC M 2A	FUSE ELEMENT 1P 2A		Phoenix Contact	
-CB6 =A1+O1&EFS/2.5	1	0916604 UT 6-TMC M 1A	FUSE ELEMENT 1P 1A M		Phoenix Contact	
-CB7 =A1+O1&EFS/2.7	1	0916605 UT 6-TMC M 2A	FUSE ELEMENT 1P 2A		Phoenix Contact	
-CBL0402 =A1+O1&EFS/4.2	1	8066677 NEBB-M12G5-P-5-LE5	Connecting cable	5 m	Festo	
-CBL0404 =A1+O1&EFS/4.4	1	8066677 NEBB-M12G5-P-5-LE5	Connecting cable	5 m	Festo	
-CBL0501 =A1+O1&EFS/5.1	1	8066676 NEBB-M12G5-P-2.5-LE5	Connecting cable	2,5 m	Festo	
-CBL0502 =A1+O1&EFS/5.2	1	8066676 NEBB-M12G5-P-2.5-LE5	Connecting cable	2,5 m	Festo	
-CBL2401 =A1+O1&EFS/24.1	1	5251374 NEBM-M23G15-EH-2.5-Q7N-R3LEG14	Motor cable	2,5 m	Festo	
-CMMT1-X9A =A1+O1&EFS/20.0	1	8143164 CMMT-AS-C4-3A-MP-S1	Servo drive		Festo	

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00G.	25.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00B.	05.04.2022	ca0zfa	Edit by	07.02.2023	ca0zfa
00A.	31.03.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Item parts list

EN	&MPC		
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	2
Productionorder:	2347667	Pg.	2.3

10.03.2023 DIN A3

Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
-DS1 =A1+O1&EFS/1.1	1	1SCA104811R1001 OT16F3	OT16F3 switch-disconnector		ABB	
-DS1 =A1+O1&EFS/1.1	1	OXS6X250	SHAFT for selector handle		ABB	
-DS1 =A1+O1&EFS/1.1	1	OHBS2AJ OHBS2AJ	HANDLE		ABB	
-EMC1 =A1+O1&EFS/1.1	1	10416 10416	MEF EMC-FILTER 1-PHASE 1-STAGE		Murrelektronik	
-ETH2520 =A1+O1&EFS/25.2	1	1085039 FL SWITCH 1005N	Industrial Ethernet Switch		Phoenix Contact	
-FAN1 =A1+O1&EFS/2.3	1	HF0424413 HF0424413	Filter Fan,21.2CFM,4.42X4.44 In,24VDC,Plastic,Black,Polyester Fiber,HF Series		HOFFMAN	
-FAN1 =A1+O1&EFS/2.3	1	HG0400403 HG0400403	Vent Black		HOFFMAN	
-MA1 =A1+O1&EFS/24.1	1	5255448 EMMT-AS-80-L-HS-RMB	Servo motor		Festo	
-PLC1-X1 =A1+O1&EFS/4.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X2 =A1+O1&EFS/4.2	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X4 =A1+O1&EFS/5.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X5 =A1+O1&EFS/5.5	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X6 =A1+O1&EFS/6.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X7 =A1+O1&EFS/6.2	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X8 =A1+O1&EFS/6.4	1	4407603 CECC-X-M1	control unit		Festo	

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status	xxx				ROBOTIQ INC.	FESTO	Item parts list	EN	&MPC	10.03.2023
			Date	04.03.2022 Technical designer					=	
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel			Material no.: 23474667	+	
			Appr.					Project no.: CA_CS.2193770	Pg. 2.1	DIN A3
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 2347667	Pg. 2.3	

Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
-PLC1-X12 =A1+O1&EFS/7.4	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X14 =A1+O1&EFS/8.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X15 =A1+O1&EFS/8.4	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X20 =A1+O1&EFS/11.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X21 =A1+O1&EFS/12.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X23 =A1+O1&EFS/13.0	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X25 =A1+O1&EFS/13.7	1	4407603 CECC-X-M1	control unit		Festo	
-PLC1-X27 =A1+O1&EFS/14.4	1	4407603 CECC-X-M1	control unit		Festo	
PS1 =A1+O1&EFS/2.3	1	2903149 TRIO-PS-2G/1AC/24DC/10	Power supply unit		Phoenix Contact	
-R1 =A1+O1&EFS/20.6	1	1336615 CACR-LE2-100-W500	Braking resistance		Festo	
-REC0100 =A1+O1&EFS/1.0	1	4798.9200 4798.9200	C20 AC Inletl		SCHURTER AG	
 =A1+O1&EFS/1.1	1	4798.9200 4798.9200	C20 AC Inlet		SCHURTER AG	
-SC1 =A1+O1&EFS/3.5	1	FS1A-C115 FS1A-C115	Safety Controller		Idec	
-XD1 =A1+O1&EFS/20.1	1	4325822 NEKM-C6-C16-S	Assortment of plugs		Festo	
-XD12 =A1+O1&EFS/23.0	1	5054513 NEKM-C6-C16-D	Assortment of plugs		Festo	

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC. FMCP-UR Panel	FESTO	Item parts list	EN	&MPC
00A.	31.03.2022	ca0zfa	Date	04.03.2022 Technical designer				Material no.: 23474667	=
			Edit by	25.01.2023 ca0zfa					+
			Appr.					Project no.: CA_CS.2193770	Pg. 2.2
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 2347667	Pg. 2.3

Item parts list

Reference identification Placement	Quantity	Order number Type number	Designation	X-length Length [m]	Manufacturer	Identcode 1 Identcode 2
XF1 =A1+O1&EFS/25.4	1	1425186 SI-RND-R1A	Service socket with RJ45 (socket/socket), 8-pos. metal, CAT6A connection, with protective cover		Phoenix Contact	
 =A1+O1&EFS/24.4	1	5054513 NEKM-C6-C16-D	Assortment of plugs		Festo	

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC. FMCP-UR Panel	FESTO	Item parts list	EN &MPC Material no.: 23474667 = + Project no.: CA_CS.2193770 Pg. 2.3 Productionorder: 2347667 Pg. 2.3
			Date	04.03.2022 Technical designer				
			Edit by	25.01.2023 ca0zfa				
			Appr.					
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				

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	120VAC, 50Hz, ..A
Supply cable	----

Pneumatics

Max. system pressure	na
Operating pressure	na
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)
Neutral / Second phase conductor:	Red (RD)
Protective conductor:	Green/yellow (GNYE)
Control circuit DC (+):	Blue (BU)
Control circuit DC (-):	Whte blue (WBU)

Standards used:

C22.1-12	The Canadian Electrical Code, is a standard published by the Canadian Standards Association pertaining to the installation and maintenance of electrical equipment in Canada.
NFPA 79	Electrical Standard for Industrial Machinery

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.2193770		
Prod. Order / Serial #:	FESTO order number		
Year of Mfg.:	2020		
Main Voltage	120VAC, 50Hz, ..A	FLA	16A
Largest Motor:	3.5A		
SCCR	10Ka	Control Voltage:	24V DC
Panel type:	1	Enclosure Version : v1.0.0	

Terminal Block Numbering

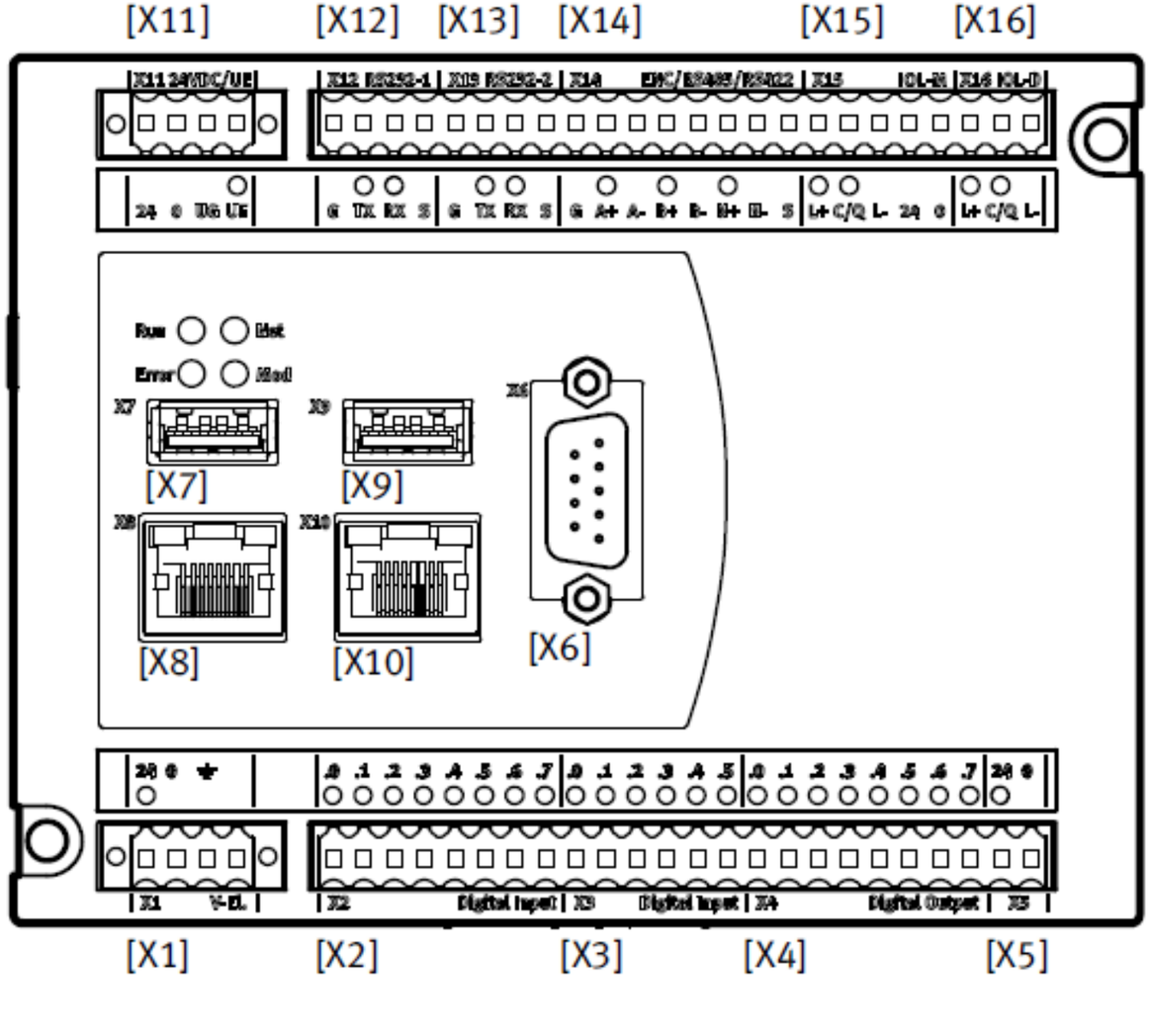
TB(X) (Z) (Y)

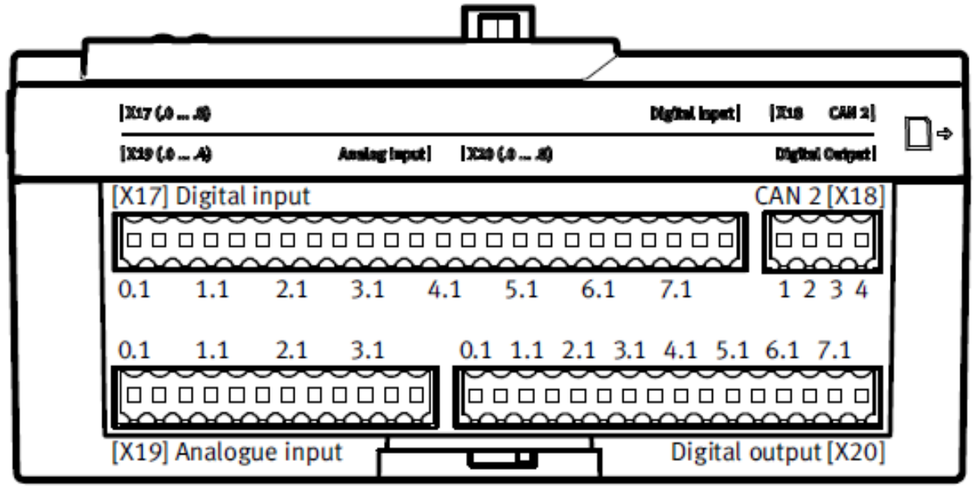
X: Terminal Bank number.
Y: Terminal Block number.
Z: Level.

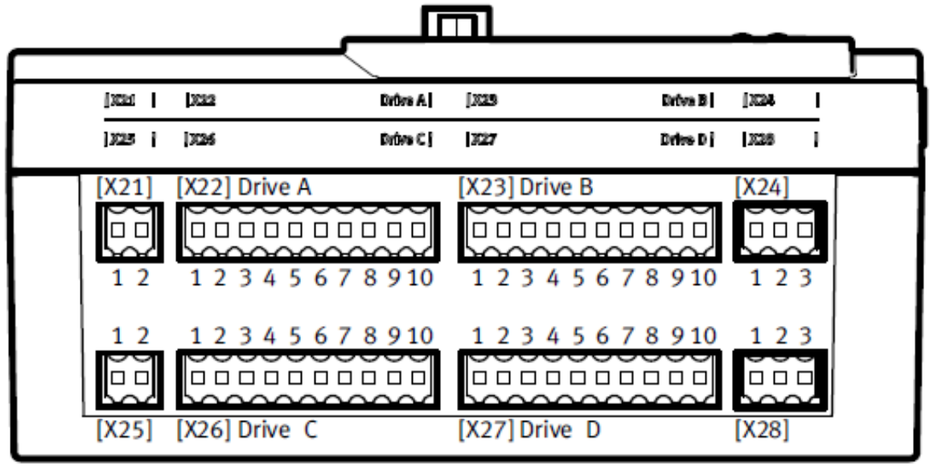
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.		Technical notes	EN &MEC
			Date	04.03.2022 Technical designer				=
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel			+
			Appr.					Material no.: 23474667
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Project no.: CA_CS.2193770 Pg. 1
								Productionorder: 2347667 Pg. 6

10.03.2023 DIN A3







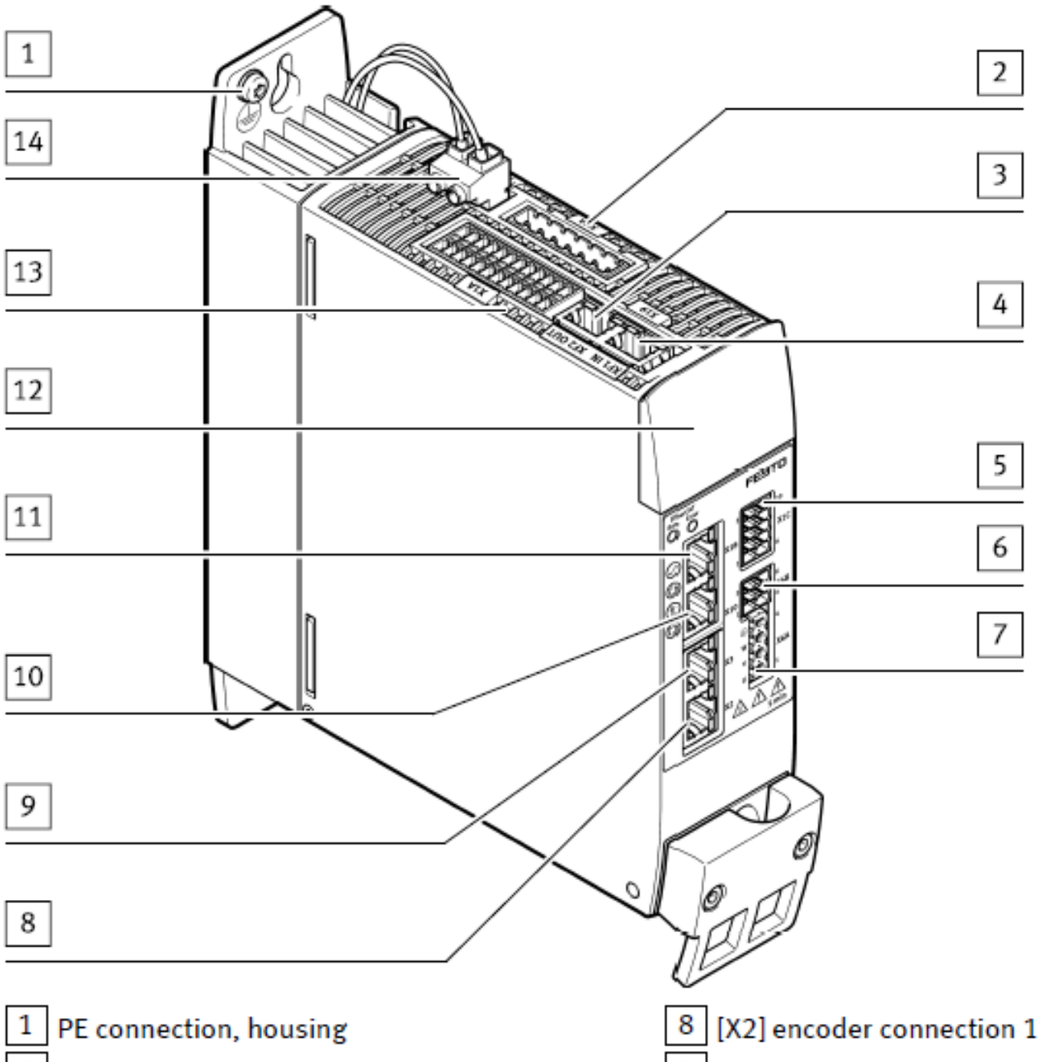
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.		CECC Overview	EN &MEC
			Date	04.03.2022 Technical designer				=
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel			Material no.: 23474667 +
			Appr.					Project no.: CA_CS.2193770 Pg. 2
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 2347667 Pg. 6

10.03.2023 DIN A3

0	1	2	3	4	5	6	7	8	9

Overview of connection technology



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

Connections of the CMMT-AS-...-3A

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00F.	02.08.2022	ca0zfa	Date	04.03.2022	Technical designer
			Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

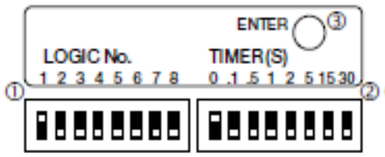
CMMT-AS Overview

	EN	&MEC	
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	3
Productionorder:	2347667	Pg.	6

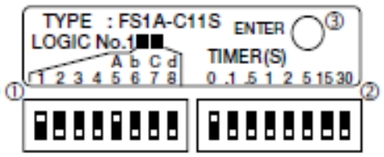
DIN A3 10.03.2023

Configuration Switches

• FS1A-C01S



• FS1A-C11S



① Logic Switch ② Timer Switch ③ Enter button

Logic Switch ①

FS1A-C01S

Eight DIP switches are provided for selecting a logic by moving a switch upward. For details, see user's manual "Chapter 5 Logic." Only one logic switch can be selected.

DIP Switch	1	2	3	4	5	6	7	8
Logic	001	002	003	004	005	006	007	008

FS1A-C11S

Eight DIP switches are provided for selecting a logic by moving one or two switch(es) upward. For details, see user's manual "Chapter 5 Logic."

DIP Switch	1	2	3	4	5	6	7	8
Logic	101	102	103	104	105	106	107	108

1 + A	1 + b	1 + C	1 + d	2 + A	2 + b	2 + C	2 + d
11A	11b	11C	11d	12A	12b	12C	12d

3 + A	3 + b	3+ C	3+ d	4 + A	4 + b	4 + C	4 + d
13A	13b	13C	13d	14A	14b	14C	14d

Timer Switch ②

Eight DIP switches are provided for selecting an off-delay timer value, by moving a switch upward. Only one timer switch can be selected.

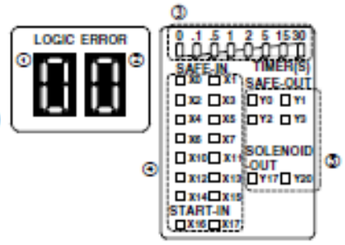
Switch No.	Timer Value	Description
1	0	No off-delay (safety outputs shut down immediately)
2	.1	Off-delay timer 0.1s
3	.5	Off-delay timer 0.5s
4	1	Off-delay timer 1s
5	2	Off-delay timer 2s
6	5	Off-delay timer 5s
7	15	Off-delay timer 15s
8	30	Off-delay timer 30s

Enter Button ③

The enter button is used to activate the configuration of logic and timer switches. Error LED will blink for 1 to 5 seconds after pressing the enter button. Releasing the button during blinking activates the setting. The blinking LED becomes ON if the button is pressed for more than 5 seconds, and the setting becomes invalid even after the button is released. For setting the switches and enter button, use the setting tool supplied with the SafetyOne.

LEDs

① Logic LED (green)
② Error LED (red)
③ Timer LED (green)
④ Input LED (orange)
⑤ Output LED (orange)



• Logic LED ①

Type	LED	Status	Description
FS1A-C01S	1, 2, 3, 4, 5, 6, 7, 8	ON	The selected logic is in Run or Protection state
		Blink	The selected logic is in Configuration state
FS1A-C11S	1, 2, 3, 4, 5, 6, 7, 8, A, b, C, d	ON	The selected logic is in Run or Protection state (Ex. Logic 14A: 4→A→4→A→4→...)
		Blink	The selected logic is in Configuration state (Ex. Logic 14A: 4→A→OFF→A→4→OFF...)
FS1A-C01S/ C11S	E	Blink	The selected logic has Configuration error (logic not selected, or multiple logics are selected)
	Random	ON/Blink	Initializing (Initial state)
	OFF	OFF	Error (Stop state)

• Error LED ②

Type	LED	Status	Description
FS1A-C01S / FS1A-C11S	1	ON	Input monitor error (Protection state)
	2	ON	Wiring error at safety input or an error in safety input circuits
	3	ON	Wiring error at start input or an error in start input circuit
	4	ON	Wiring error at safety output or an error in safety output circuit
	5	ON	Muting lamp error (disconnection) (FS1A-C01S: logic 4 only) (FS1A-C11S: logic 11d only)
	6	ON	Power supply error or internal power supply circuit error
	7	ON	Internal error, power supply error, or internal power supply circuit error
	9	ON	EMC disturbance
	C	ON	Configuration procedure is in progress (Configuration state)
		Blink	Configuration is valid (Note) (Configuration state)
	Random	ON/Blink	Initializing (Initial state)
	OFF	OFF	Normal operation (Run state)

Note: Blinks for 1 to 5 seconds after the enter button is pressed. Releasing the button during blinking activates the setting. The blinking LED becomes ON if the button is pressed for more than 5 seconds, and the setting becomes invalid even after the button is released.

• Timer LED ③

Type	LED	Status	Description
FS1A-C01S / FS1A-C11S	0	ON	No off-delay (safety outputs shut down immediately)
	.1	ON	Off-delay timer 0.1s
	.5	ON	Off-delay timer 0.5s
	1	ON	Off-delay timer 1s
	2	ON	Off-delay timer 2s
	5	ON	Off-delay timer 5s
	15	ON	Off-delay timer 15s
	30	ON	Off-delay timer 30s
	Each LED	Blink	Selected timer value (Configuration state)
	Random	ON/Blink	Initializing (Initial state)
	All LEDs	OFF	Timer value is not selected or the SafetyOne is in Stop state

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00B.	05.04.2022	ca0zfa	Date	04.03.2022	Technical designer
	05.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Safety Controller Overview

EN	&MEC		
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	4
Productionorder:	2347667	Pg.	6

10.03.2023 DIN A3

⚠ WARNING!

Risk of injury from electric shock.

Contact with live parts at the power connections [X6A], [X9A] and [X9B] can result in severe injuries or death.

- Do not pull out power supply plugs while live.
- Before touching, wait at least 5 minutes after switching off the load voltage to allow the intermediate circuit to discharge.

⚠ WARNING!

Risk of injury from electric shock in the event of incomplete insulation at the power connections [X6A], [X9A] and [X9B].

Before operating, plugging in or unplugging the operator unit CDSB or a connector from a hot-plug-capable interface, the following points must be fulfilled:

- The conducting lines at the device are completely insulated.
- The protective earthing (PE) and the shield connection are correctly connected to the device.
- The housing is free of damage.

⚠ WARNING!

Danger of burns through hot escaping gases and hot surfaces.

In case of error, incorrect wiring or incorrect polarity of the connections [X9A], [X9B] and [X6A], internal components can be overloaded. High temperatures can develop and hot gases can be released.

- Have an authorised electrician perform the installation according to the documentation.

⚠ WARNING!

Risk of injury due to overheating and electric shock with faulty live components

Closing the branch-circuit protective device with faulty live components may cause fire or electric shock.

- The opening of the branch-circuit protective device may be an indication that a fault current has been interrupted. To reduce the risk of fire or electric shock, current-carrying parts and other components of the controller should be examined and replaced if damaged. If burnout of the current element of an overload relay occurs, the complete overload relay must be replaced.

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

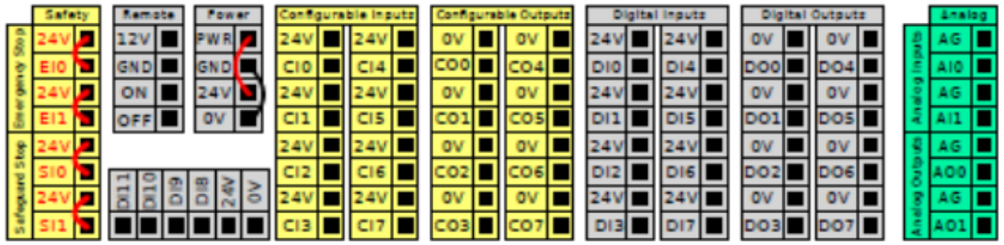
DANGER:

1. Never connect safety signals to a PLC which is not a safety PLC with the correct safety level. Failure to follow this warning could result in serious injury or death as the safety functions could be overridden. It is important to keep safety interface signals separated from the normal I/O interface signals.
2. All safety-related signals are constructed redundantly (two independent channels). Keep the two channels separate so that a single fault cannot lead to loss of the safety function.
3. Some I/Os inside the Control Box can be configured for either normal or safety-related I/O. Read and understand the complete section 5.4.

DANGER:

1. Make sure all equipment not rated for water exposure remain dry. If water is allowed to enter the product, lockout-tagout all power and then contact your local Universal Robots service provider for assistance.
2. Only use the original cables supplied with the robot only. Do not use the robot for applications where the cables are subject to flexing. Contact your local Universal Robots service if longer or flexible cables are needed.
3. Negative connections are referred to as Ground (GND) and are connected to the casing of the robot and the Control Box. All mentioned GND connections are only for powering and signalling. For PE (Protective Earth) use the M6-size screw connections marked with earth symbols inside the Control Box. The grounding conductor shall have at least the current rating of the highest current in the system.
4. Use caution when installing interface cables to the robot I/O. The metal plate in the bottom is intended for interface cables and connectors. Remove the plate before drilling holes. Make sure that all shavings are removed before reinstalling the plate. Remember to use correct gland sizes.

The illustration below shows the layout of electrical interface groups inside the Control Box.



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
	10.03.2023	ca0zfa	Date	04.03.2022	Technical designer
			Edit by	10.03.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

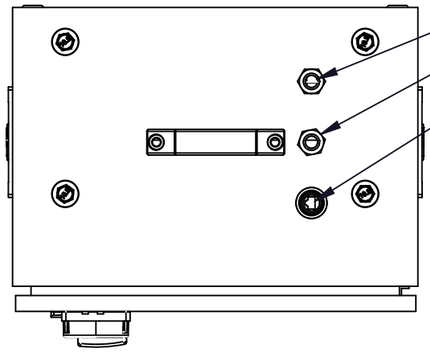
FESTO

UR Panel Interface

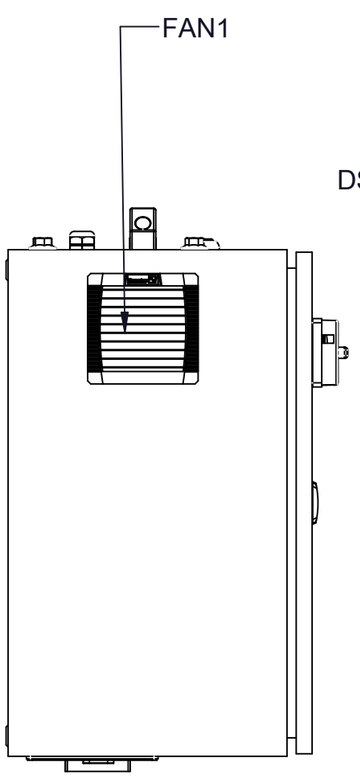
		EN	&MEC
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	6
Productionorder:	2347667	Pg.	6

DIN A3 10.03.2023

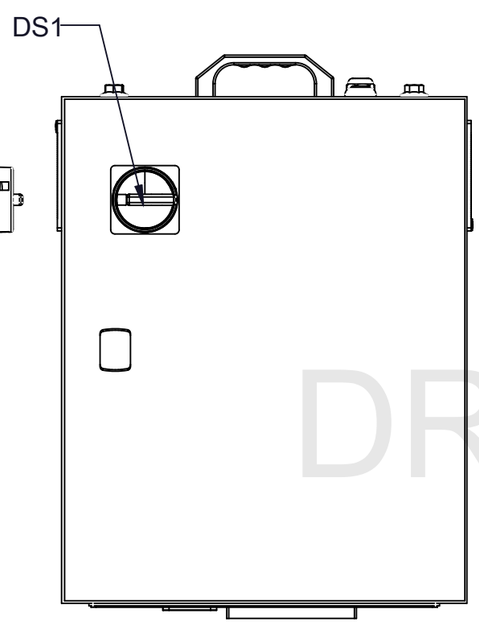
REV.	DESCRIPTION	DATE	NAME



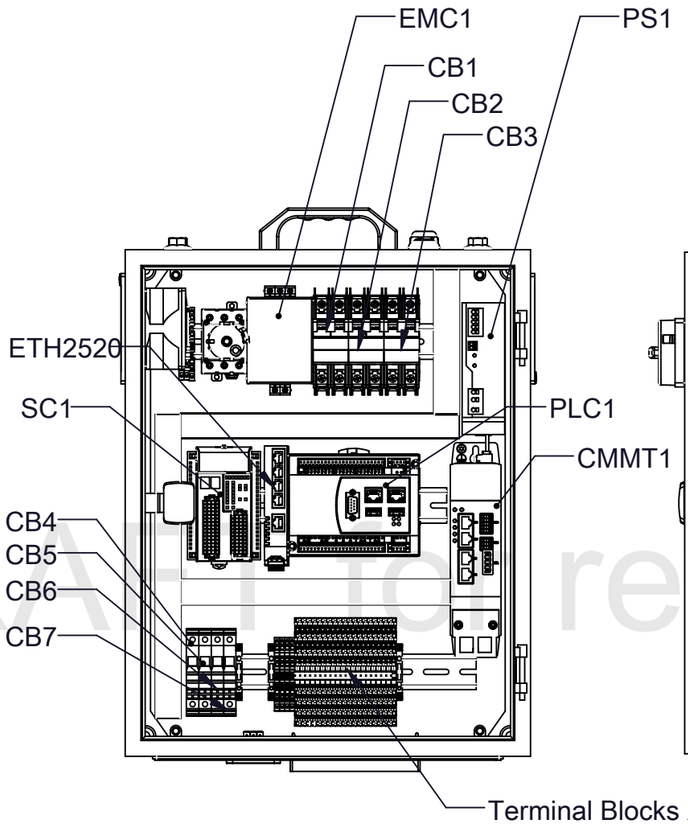
Top View



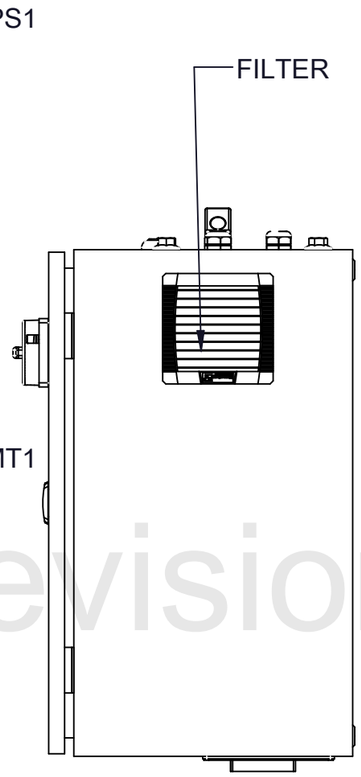
Left View



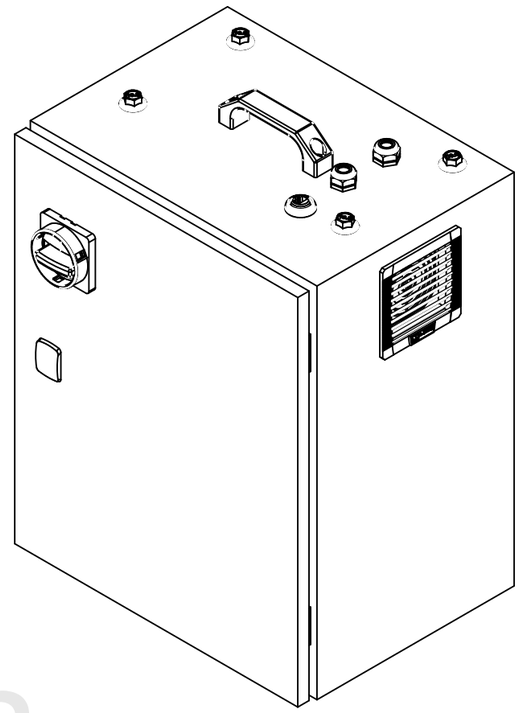
Front View Door Closed

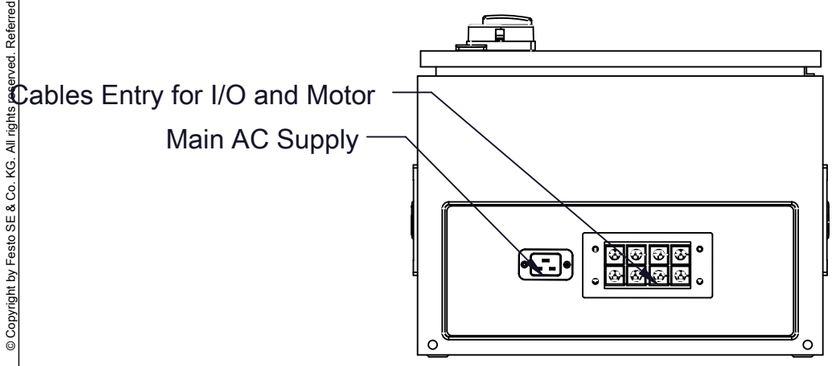


Front View Door Open



Right View





Bottom View

DRAFT for revision

GEN TOL. FOR LINEAR DIMENSIONS (EXC OF ISO 2768-1)				
> 0.5-6	>6-30	> 30-120	> 120-400	>400-1000
+/-0.1	+/- 0.2	+/-0.3	+/-0.5	+/-0.8

- ° BREAK ALL SHARP EDGES AND CORNERS
- ° PARTS TO BE DELIVERED CLEANED OF ALL MACHINING FLUIDS AND OILS
- ° MARKDWG # ON PART AS SHOWN ON DWG
- ° SURFACE FINISH: 12.5 (3.2)

Disclaimer: The designs, information and data contained herein are property of Festo Inc. The information herein shall not be disclosed, used or duplicated in whole or in part for any purposes whatsoever without prior written consent of Festo Inc. Receipt of this document shall be deemed to be in acceptance of the conditions specified herein. Unauthorized copies of this document should be reported to and returned to Festo Inc.

MATERIAL

FINISH

DO NOT SCALE DRAWING

FESTO
5300 Explorer Drive, Mississauga ON L4W 5G4
TEL: (905) 624-4600

	NAME	DATE
DRAWN	ca0zfa	2023-02-07

DWG # [DESC.]
CA_CS2193770_ASSY

ADDITIONAL INFO

SCALE: 1:6 SHEET 1 OF 1

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
	10.03.2023	ca0zfa	Date	04.03.2022	Technical designer
	10.03.2023	ca0zfa	Edit by	10.03.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

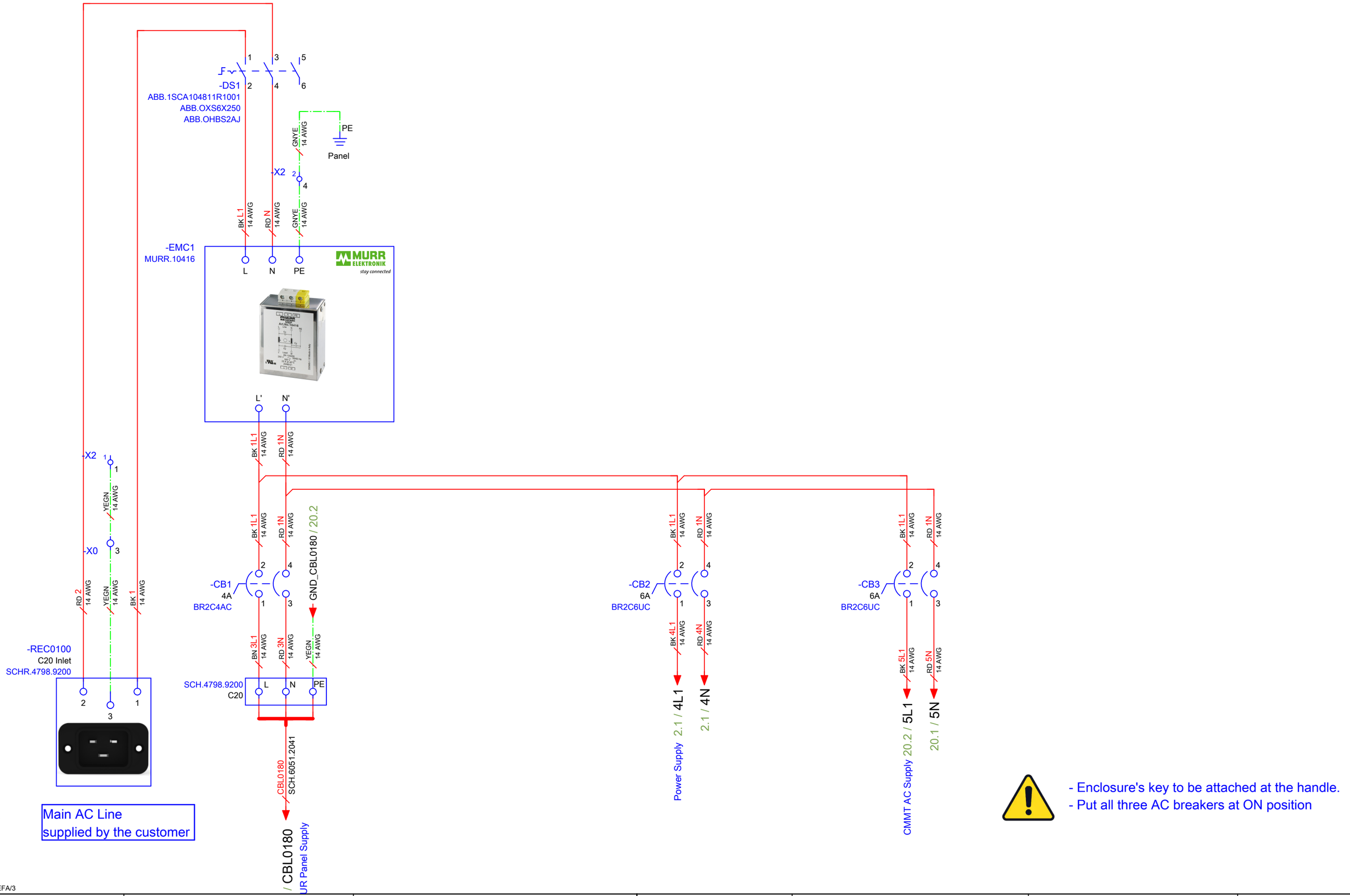
FESTO

Control Panel Layout

	EN	&MTL	
Material no.:	23474667	=	
		+	
Project no.:	CA_CS.2193770	Pg.	1
Productionorder:	2347667	Pg.	1

10.03.2023

DIN A3



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

&EFA/3

2

Project status		xxx			
00C.	07.04.2022	ca0zfa	Date	04.03.2022	Technical designer
00B.	05.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

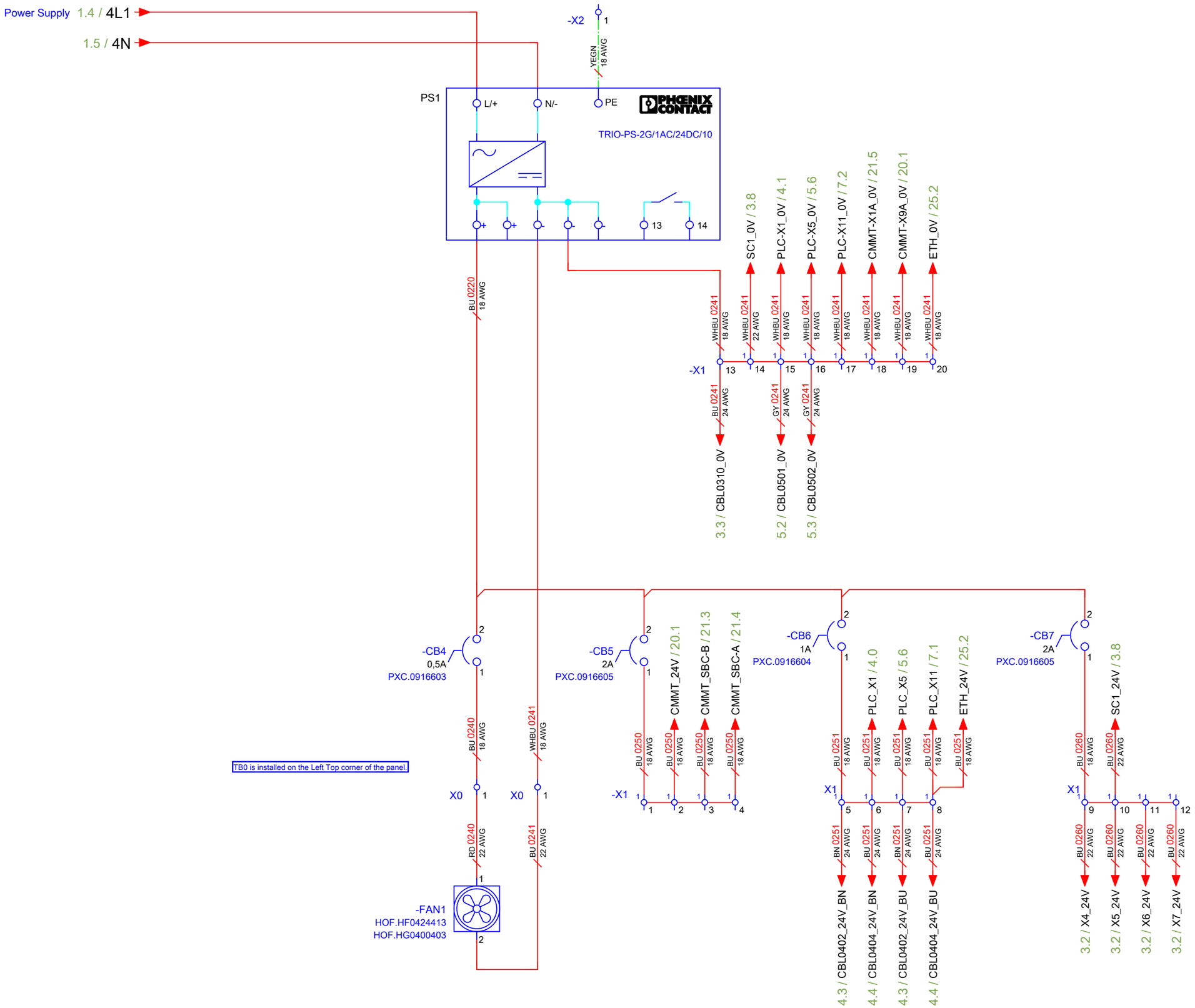
FMCP-UR Panel

FESTO

AC Voltage Supply

	EN	&EFS	
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	1
Productionorder:	2347667	Pg.	25

DIN A3 10.03.2023



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00F.	02.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00E.	07.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
00C.	07.04.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

DC Voltage Supply

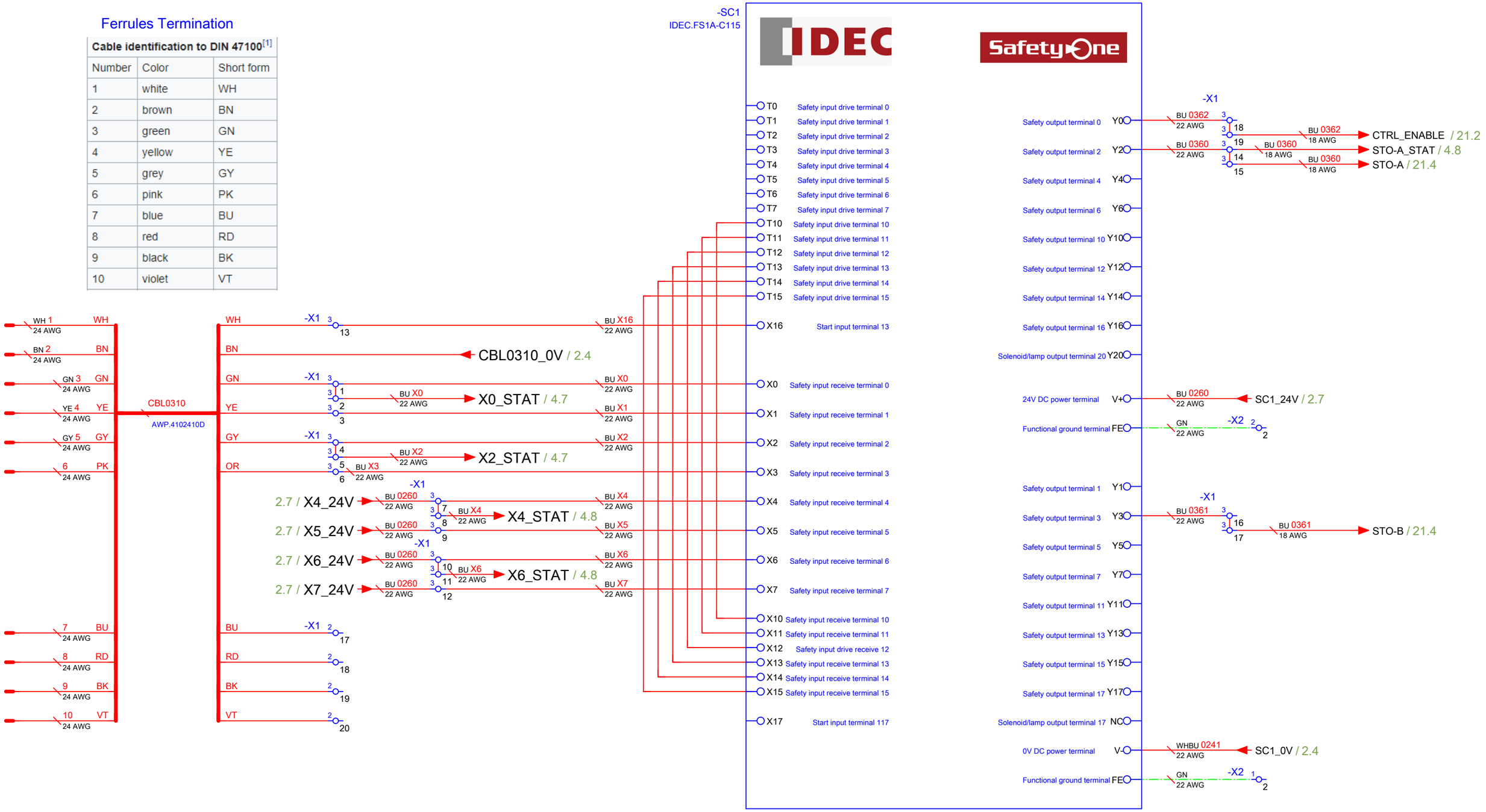
	EN	&EFS	
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	2
Productionorder:	2347667	Pg.	25

DIN A3 10.03.2023

0	1	2	3	4	5	6	7	8	9

Ferrules Termination

Cable identification to DIN 47100[1]		
Number	Color	Short form
1	white	WH
2	brown	BN
3	green	GN
4	yellow	YE
5	grey	GY
6	pink	PK
7	blue	BU
8	red	RD
9	black	BK
10	violet	VT



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

- CBL0310 need to be extended 1m. outside the FMCP Panel.
- Safety Controller DIP Switch configuration ins on page 3.1
- Use File # Palletizer safety V1 (X-400005-B).psx to programm the Safety Controller

Project status		xxx			ROBOTIQ INC.	Safety Controller Connnection	EN &EFS
00F.	02.08.2022	ca0zfa	Date	04.03.2022 Technical designer			= A1
00E.	07.04.2022	ca0zfa	Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		Material no.: 23474667 + O1
00C.	07.04.2022	ca0zfa	Appr.				Project no.: CA_CS.2193770 Pg. 3
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 2347667 Pg. 25

10.03.2023 DIN A3

0	1	2	3	4	5	6	7	8	9

FS1A-C11S Logic 11A

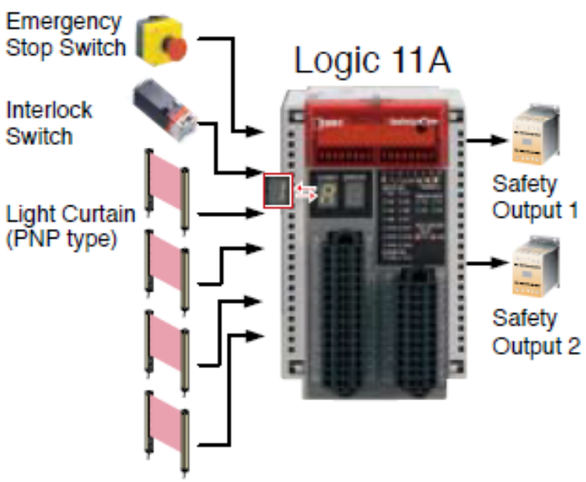
The logic for apparatus with openings

Output Line: 2
2 dual safety outputs of different operations

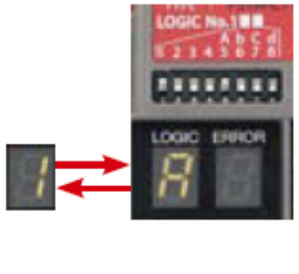
Category 4

Logic 11A is used for safeguarding measures of machine tools and robots, which use safety equipment such as light curtains with dual solid state outputs. Safety outputs are dual channel outputs. Two dual channel direct opening inputs and four dual channel safety inputs can be connected. Safety output 2 has an off-delay timer.

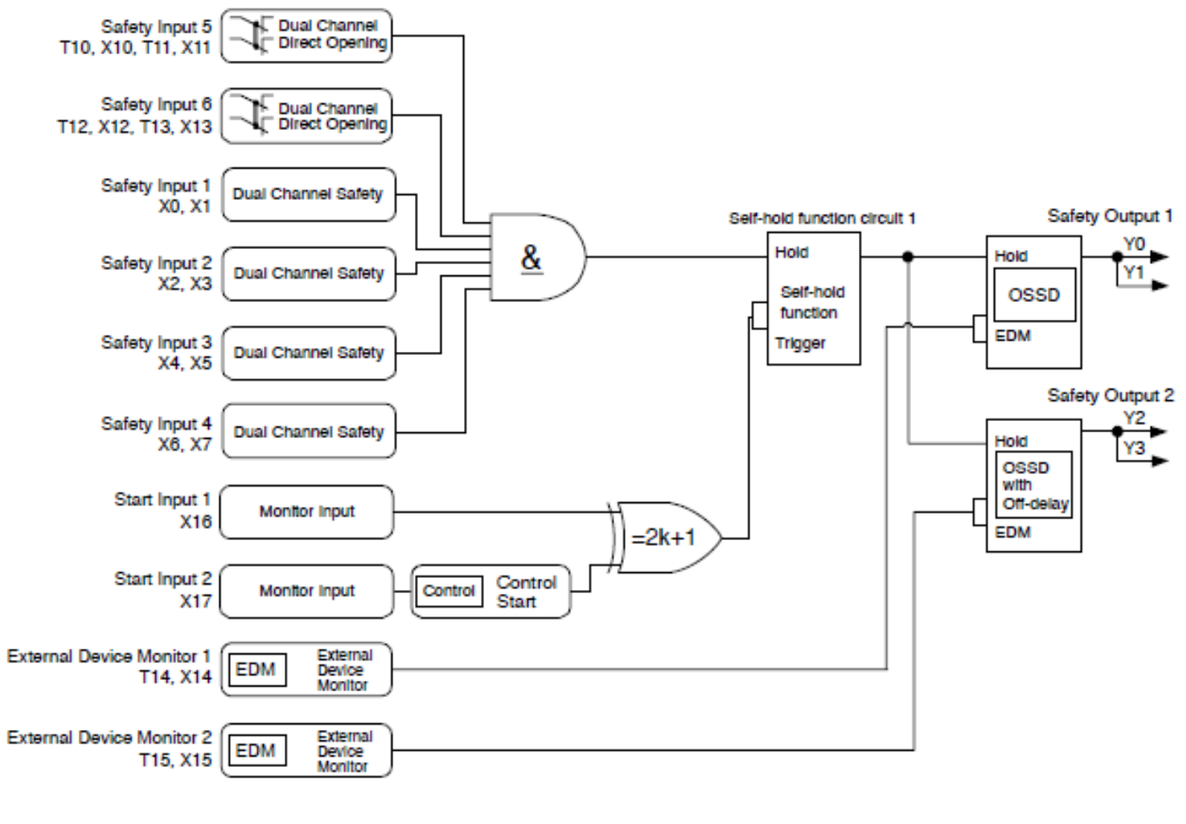
• Wiring Example



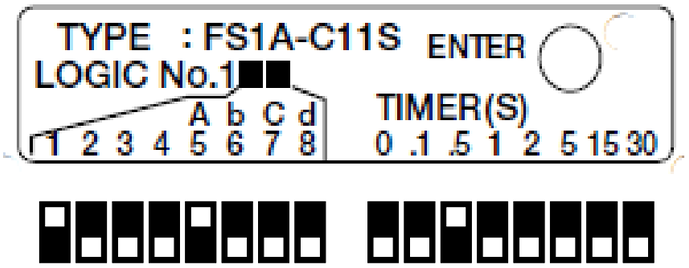
• DIP Switch and LED Display



• Logic Chart



DIP Switch Setting :



Logic : Swich No.1+A Up
Timer : Timer value 0.5s Switch No.3 Up

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00A.	31.03.2022	ca0zfa	Date	04.03.2022	Technical designer
	31.03.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

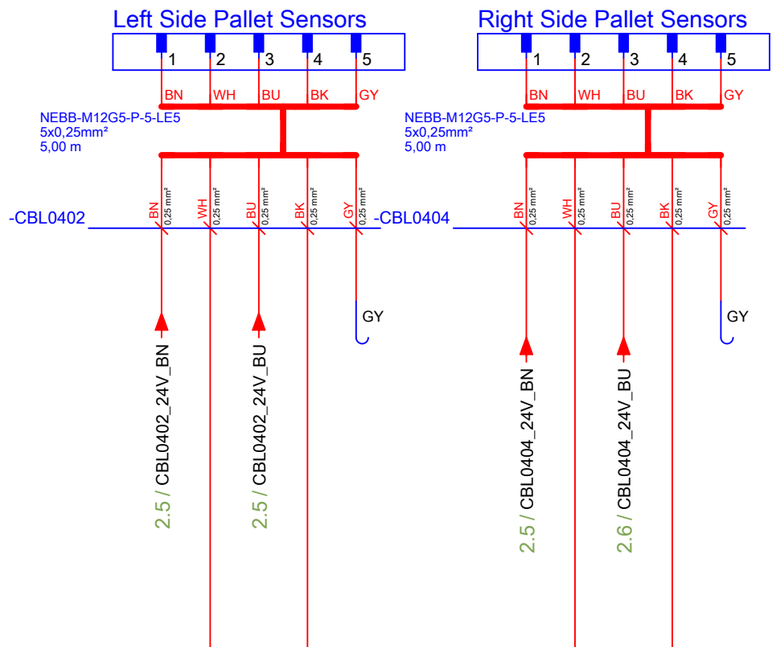
FESTO

Safety Controller Configuration

EN		&EFS	
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	3.1
Productionorder:	2347667	Pg.	25

DIN A3 10.03.2023

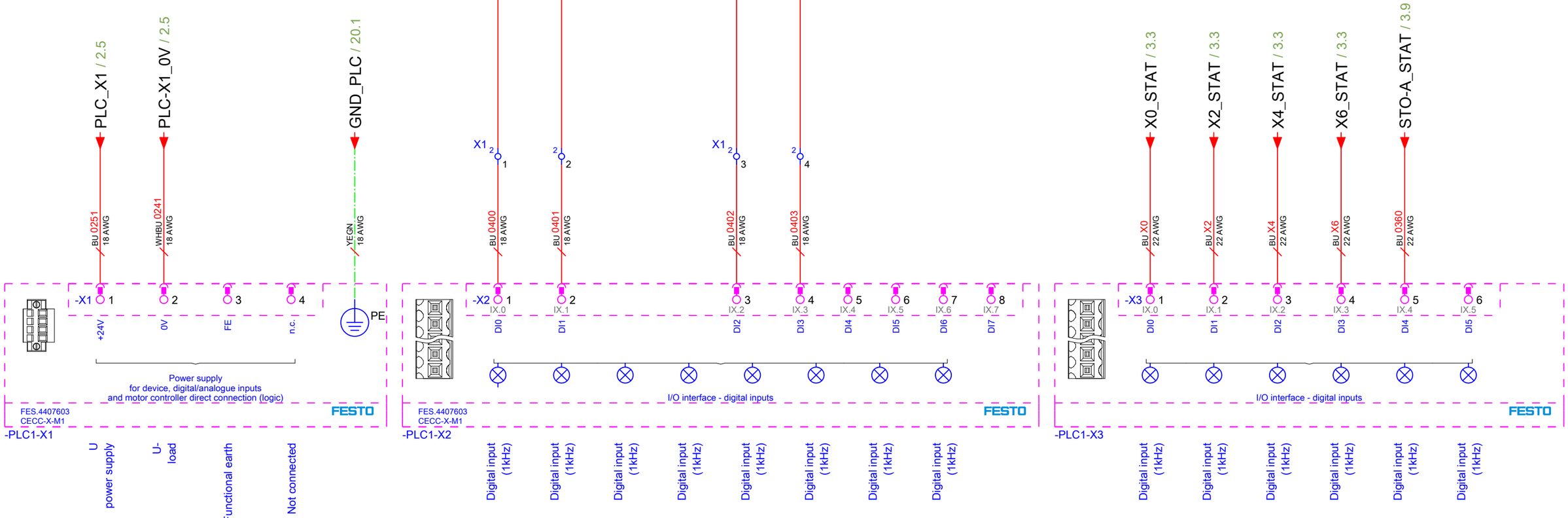
Cables will be fed therought the cable entry at the bottom of the panel



Important before shipping the panel, make sure :

- Update PLC firmware to version 3.6.1-756dd0bc7c28M.20190426.16939.
- Configure IP Address of the CECC-X-M1 to be 172.17.101.10

- Grey wires are not used and should be removed.
- Shorten pallet sensors M12 cable (CBL0402, CBL0404) from 2.5m to 1.3m
- The outside part of the cables need to be labelled as "Left Side Pallet Sensor " and "Right Side Pallet Sensor " as shown above



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00F.	02.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00E.	07.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
00C.	07.04.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

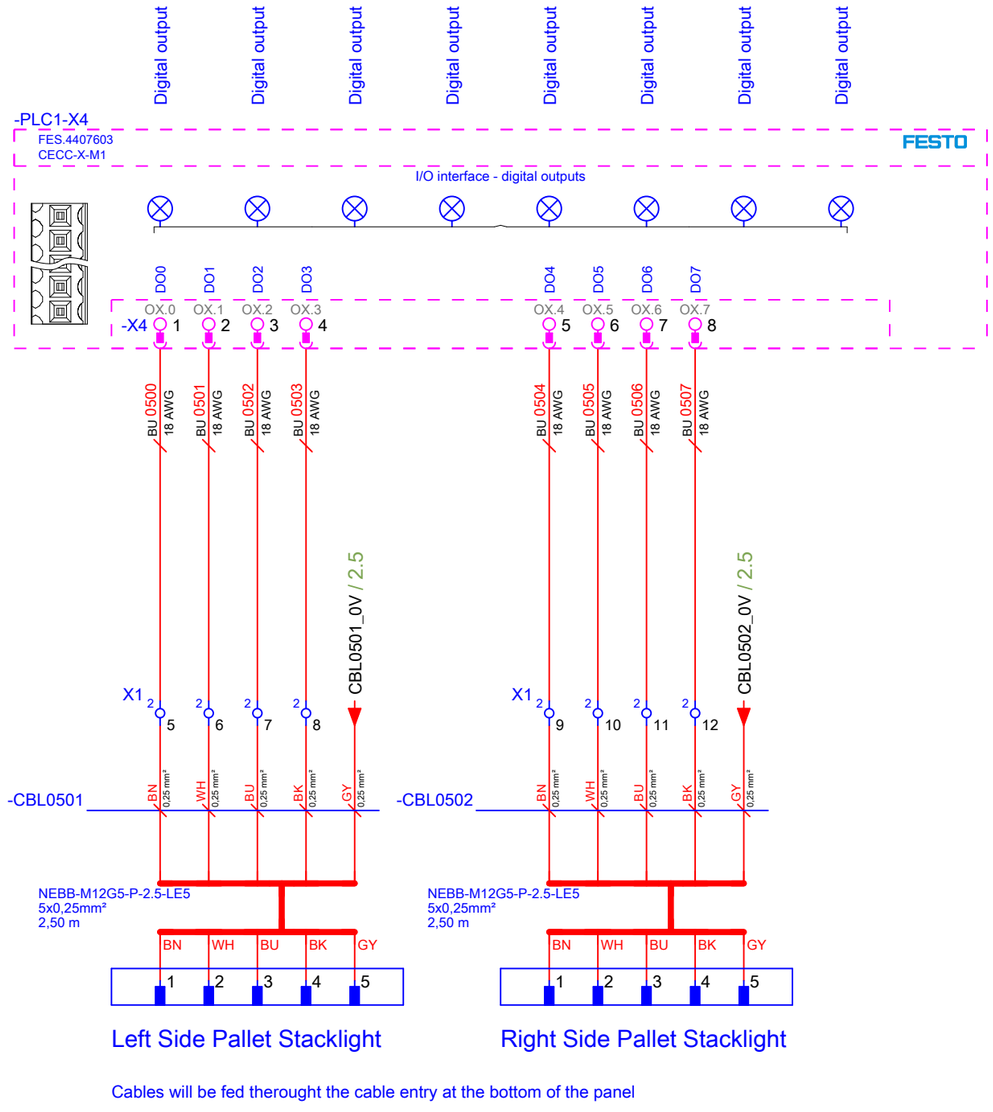
FMCP-UR Panel

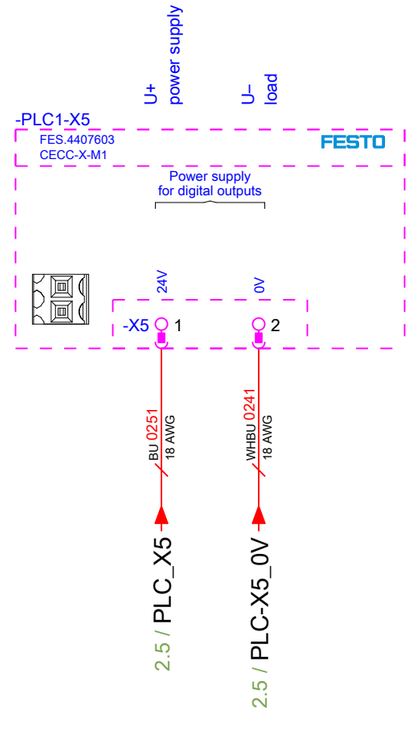
FESTO

PLC1 Connection : X1,X2,X3

		EN	&EFS
Material no.:	23474667	=	A1
		+	O1
Project no.:	CA_CS.2193770	Pg.	4
Productionorder:	2347667	Pg.	25

DIN A3 10.03.2023





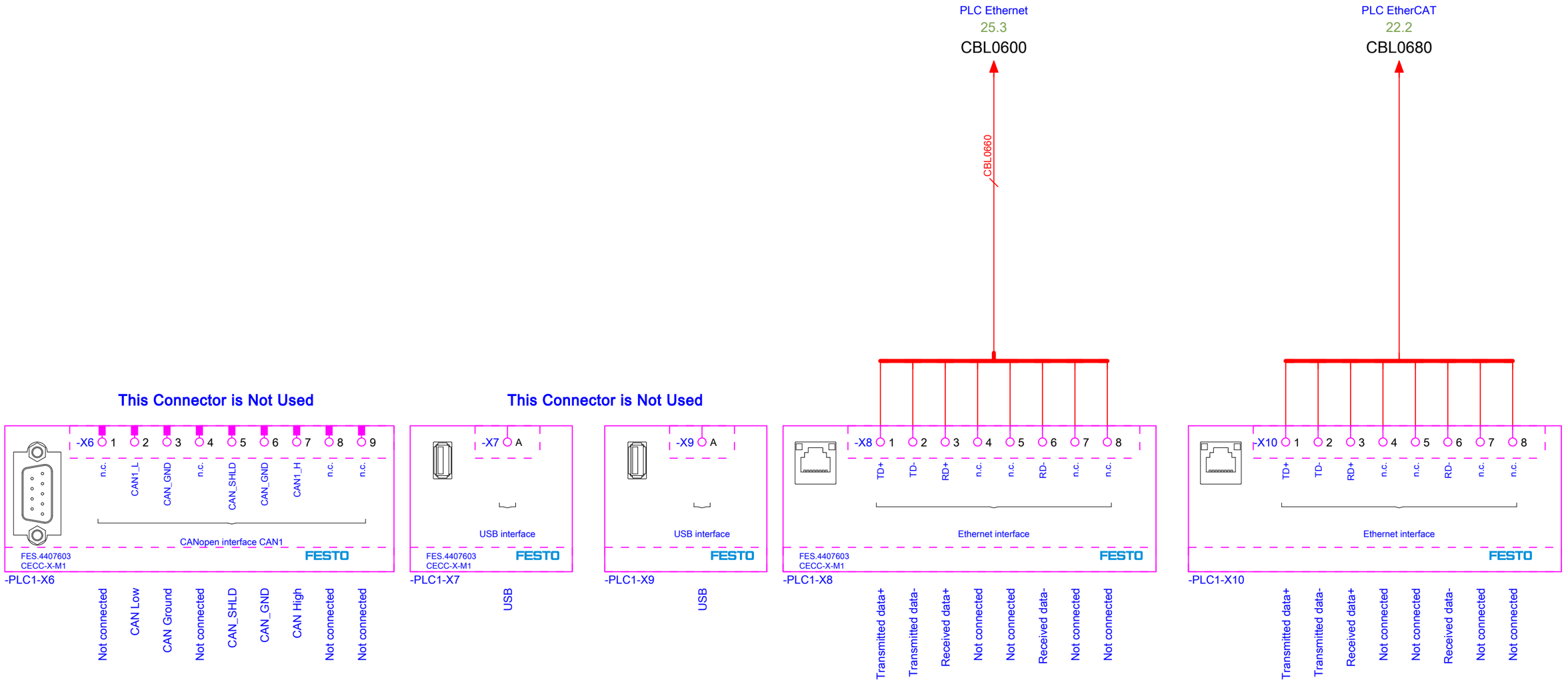
Cables will be fed therought the cable entry at the bottom of the panel

- The outside part of the cables need to be labelled as "Left Side Pallet Stacklight " and "Right Side Pallet Stacklight" as shown above

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.	PLC1 Connection : X4,X5	EN &EFS
00F.	02.08.2022	ca0zfa	Date	04.03.2022 Technical designer			= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		Material no.: 23474667 + O1
			Appr.				Project no.: CA_CS.2193770 Pg. 5
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 2347667 Pg. 25

DIN A3 10.03.2023



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

5 7

Project status		xxx			ROBOTIQ INC.	PLC1 Connection : X6,X7,X8,X9,X10	EN &EFS
			Date	04.03.2022 Technical designer			Material no.: 23474667 = A1
			Edit by	25.01.2023 ca0zfa			+ O1
			Appr.		FMCP-UR Panel		Project no.: CA_CS.2193770 Pg. 6
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 2347667 Pg. 25

DIN A3 10.03.2023

0	1	2	3	4	5	6	7	8	9

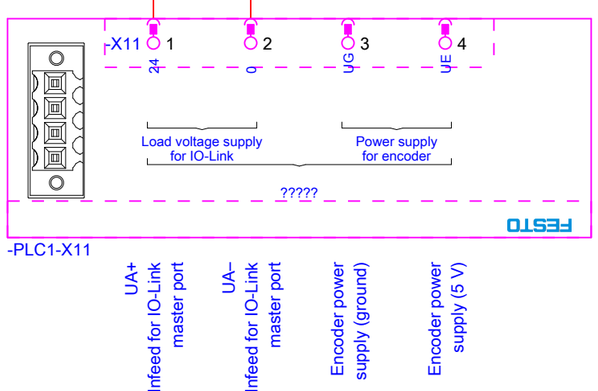
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

PLC_X11 / 2.6

PLC-X11_0V / 2.5

BU 0251 18 AWG

WHBU 0241 18 AWG



-PLC1-X11

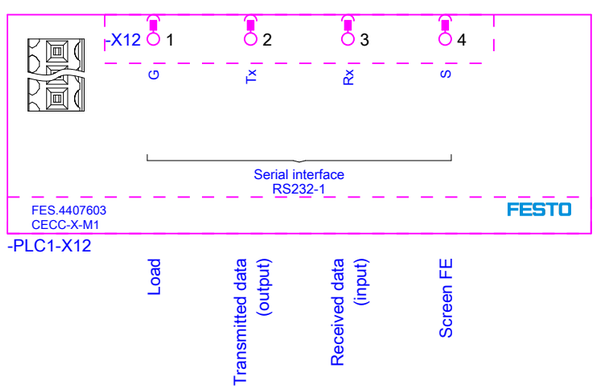
UA+ Infeed for IO-Link master port

UA– Infeed for IO-Link master port

Encoder power supply (ground)

Encoder power supply (5 V)

This Connector is Not Used



-PLC1-X12

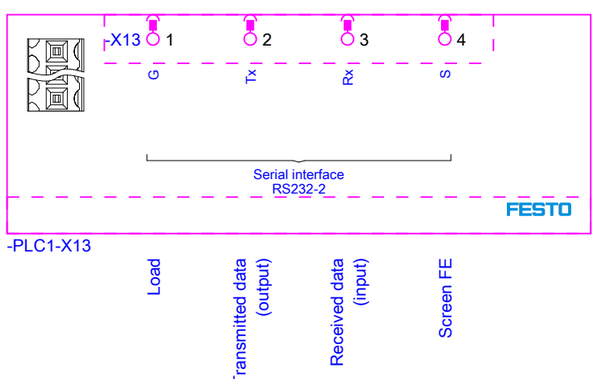
Load

Transmitted data (output)

Received data (input)

Screen FE

This Connector is Not Used



-PLC1-X13

Load

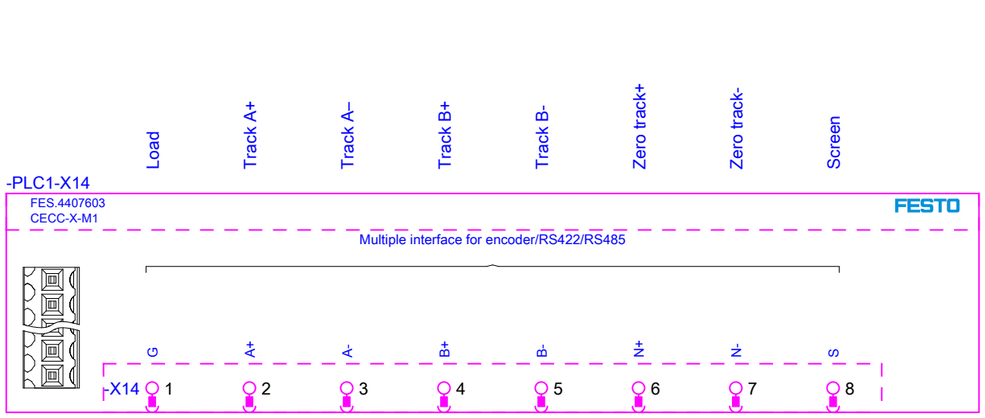
Transmitted data (output)

Received data (input)

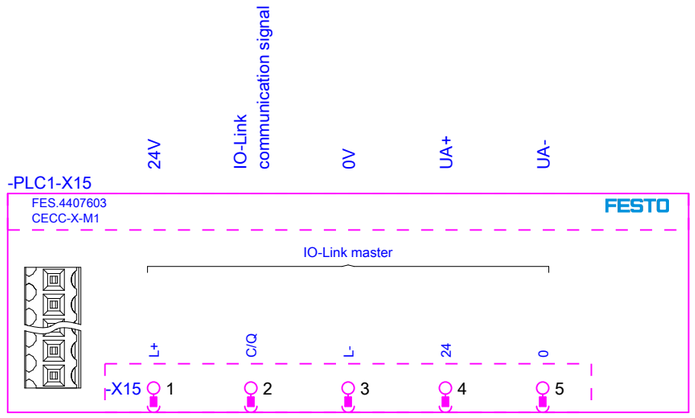
Screen FE

Project status		xxx			ROBOTIQ INC.		PLC1 Connection : X11,X12,X13	EN &EFS
			Date	04.03.2022 Technical designer				= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel	FESTO	Material no.: 23474667	+ O1
			Appr.				Project no.: CA_CS.2193770	Pg. 7
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 2347667	Pg. 25

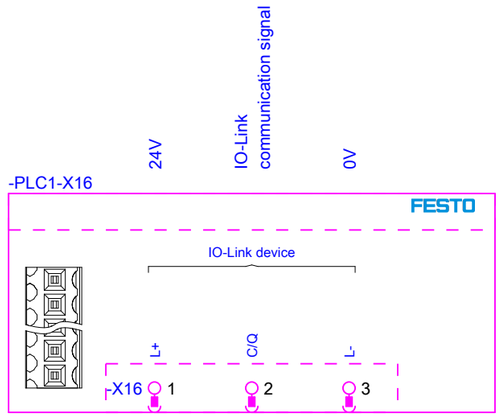
DIN A3 10.03.2023



This Connector is Not Used



This Connector is Not Used



This Connector is Not Used

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

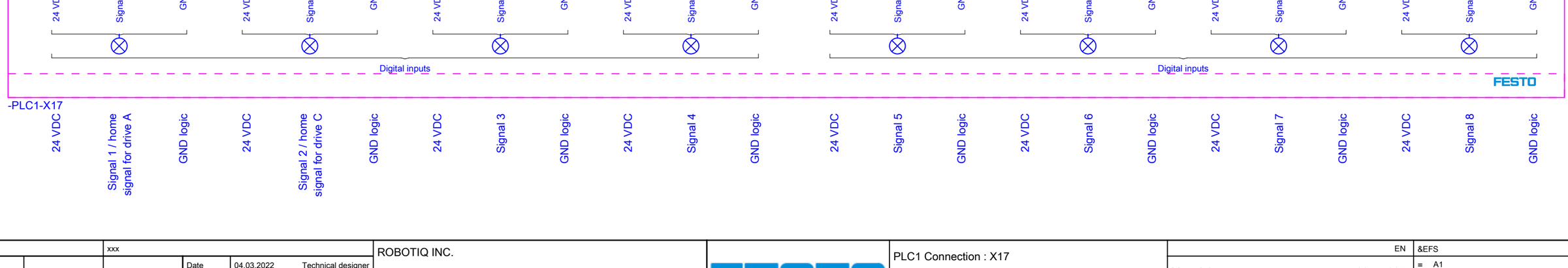
Project status		xxx			ROBOTIQ INC.	PLC1 Connection : X14,X15,X16	EN &EFS
			Date	04.03.2022 Technical designer			= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		+ O1
			Appr.				Material no.: 23474667
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Project no.: CA_CS.2193770 Pg. 8
							Productionorder: 2347667 Pg. 25

DIN A3 10.03.2023

0	1	2	3	4	5	6	7	8	9

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

This Connector is Not Used



8 10

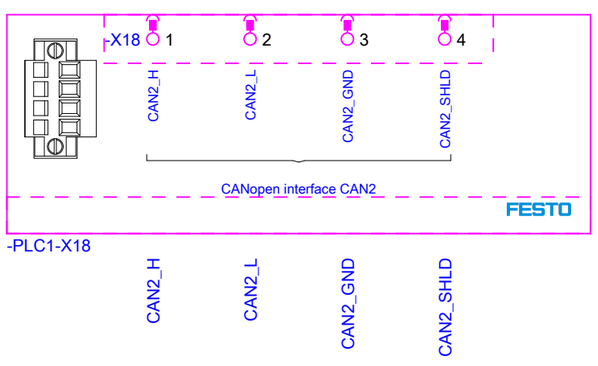
Project status		xxx			ROBOTIQ INC.		PLC1 Connection : X17	EN	&EFS
			Date	04.03.2022 Technical designer				Material no.: 23474667	= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel				+ O1
			Appr.					Project no.: CA_CS.2193770	Pg. 9
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 2347667	Pg. 25

DIN A3 10.03.2023

0	1	2	3	4	5	6	7	8	9

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

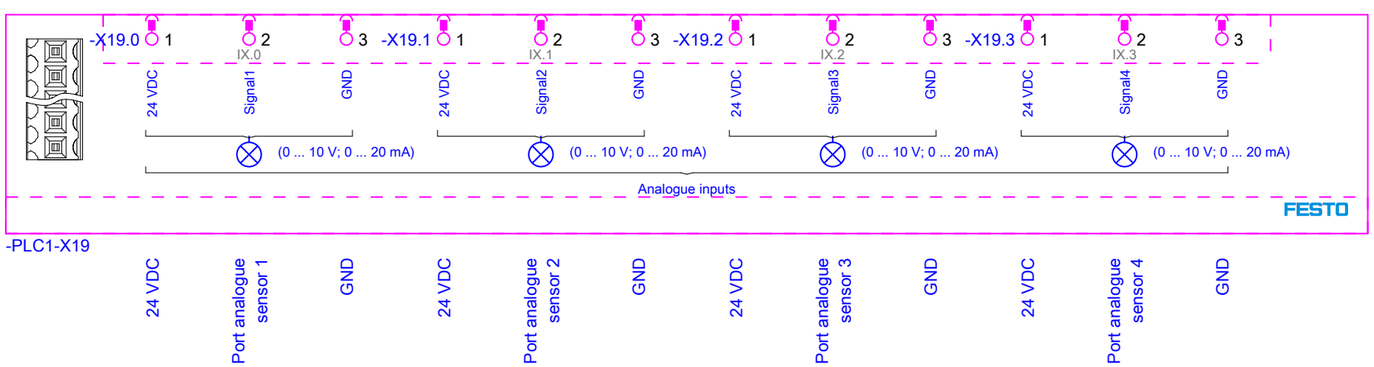
This Connector is Not Used



-PLC1-X18

CAN2_H
CAN2_L
CAN2_GND
CAN2_SHLD

This Connector is Not Used



-PLC1-X19

24 VDC
Port analogue sensor 1
GND
24 VDC
Port analogue sensor 2
GND
24 VDC
Port analogue sensor 3
GND
24 VDC
Port analogue sensor 4
GND

Project status		xxx			
			Date	04.03.2022	Technical designer
			Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

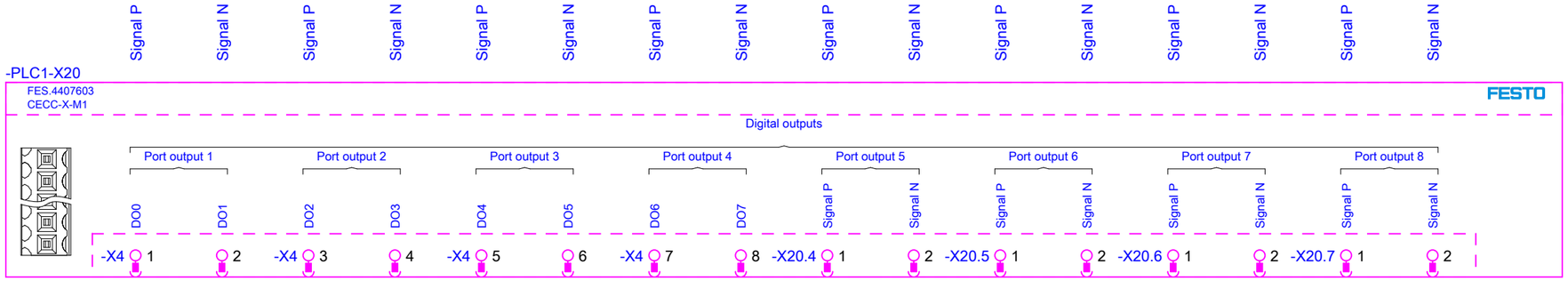
FMCP-UR Panel

FESTO

PLC1 Connection : X18,X19

	EN	&EFS	
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	10
Productionorder:	2347667	Pg.	25

DIN A3 10.03.2023

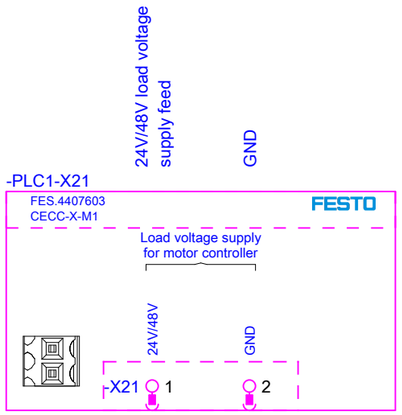


This Connector is Not Used

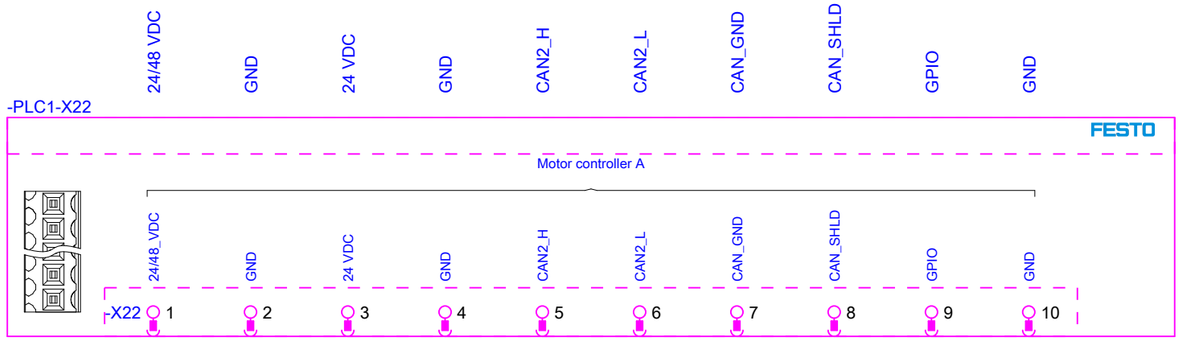
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.	PLC1 Connection : X20	EN &EFS
			Date	04.03.2022 Technical designer			= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		Material no.: 23474667
			Appr.				+ O1
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Project no.: CA_CS.2193770 Pg. 11
							Productionorder: 2347667 Pg. 25

10.03.2023 DIN A3



This Connector is Not Used

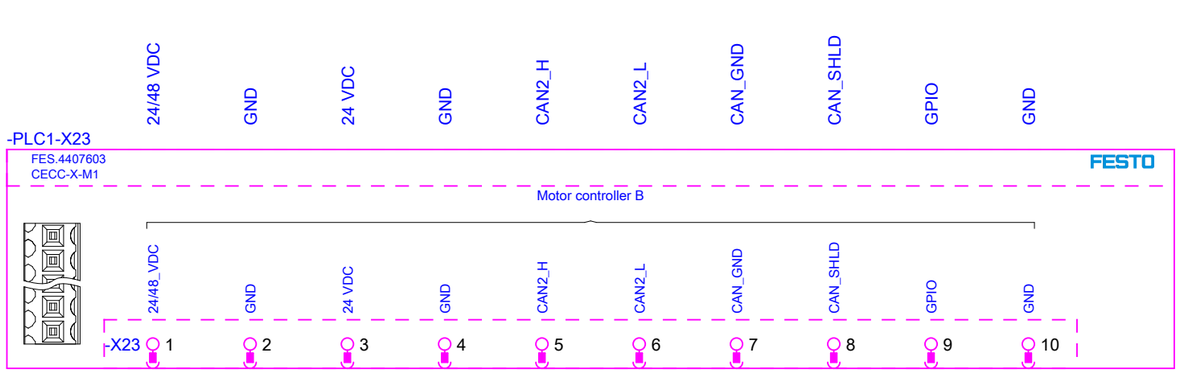


This Connector is Not Used

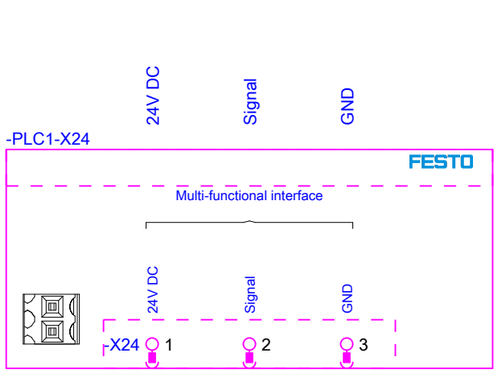
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.	FESTO	PLC1 Connection : X21,X22	EN	&EFS
			Date	04.03.2022 Technical designer				Material no.: 23474667	= A1
			Edit by	25.01.2023 ca0zfa					+ O1
			Appr.		FMCP-UR Panel			Project no.: CA_CS.2193770	Pg. 12
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU				Productionorder: 2347667	Pg. 25

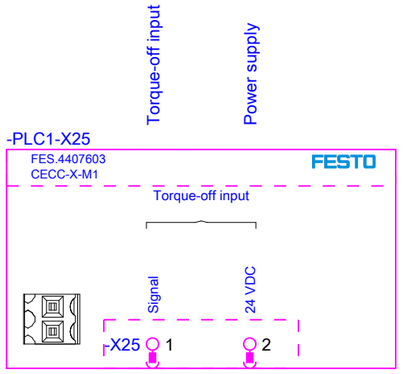
DIN A3 10.03.2023



This Connector is Not Used



This Connector is Not Used

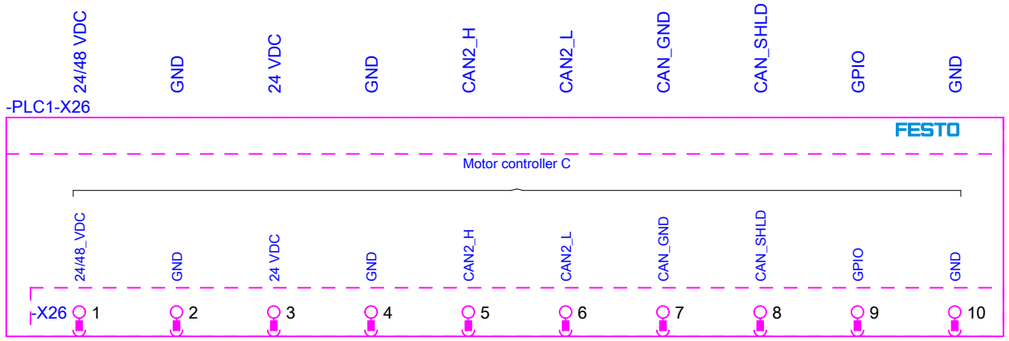


This Connector is Not Used

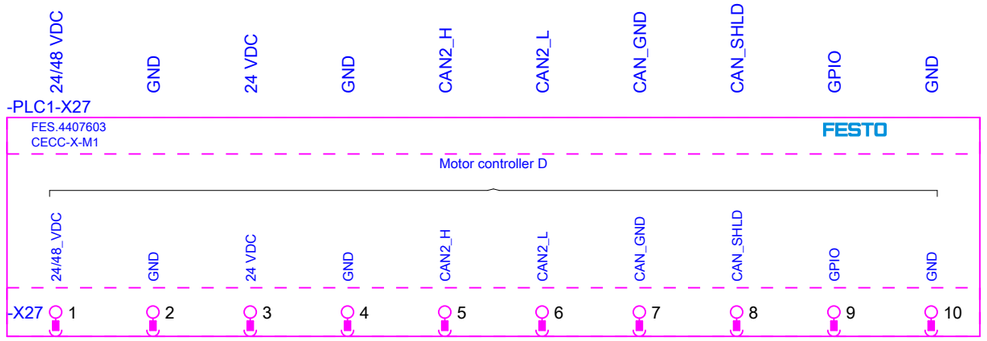
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.	PLC1 Connection : X23,X24,X25	EN &EFS
			Date	04.03.2022 Technical designer			= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		Material no.: 23474667
			Appr.				+ O1
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Project no.: CA_CS.2193770 Pg. 13
							Productionorder: 2347667 Pg. 25

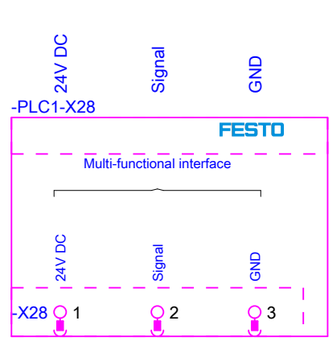
DIN A3 10.03.2023



This Connector is Not Used



This Connector is Not Used



This Connector is Not Used

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

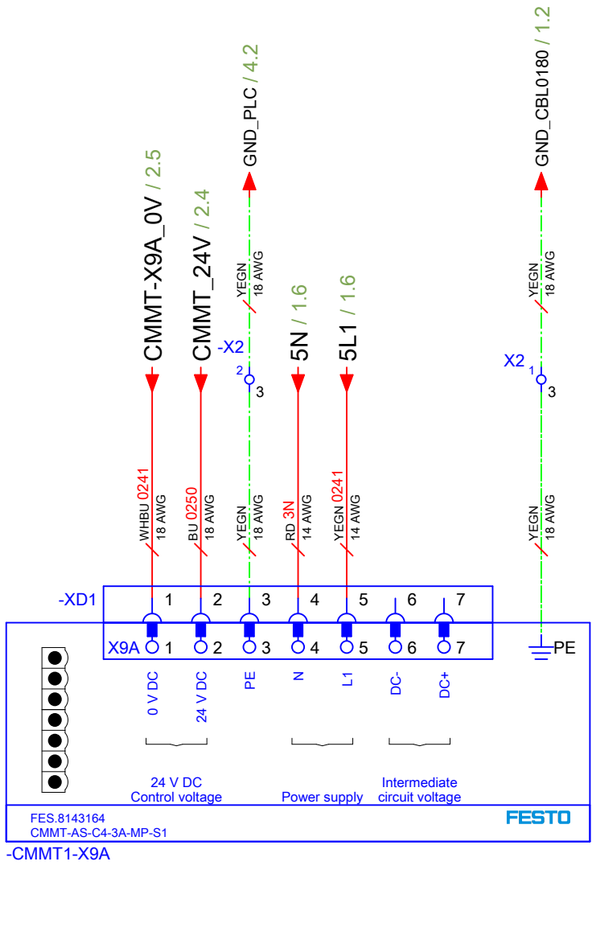
Project status		xxx			ROBOTIQ INC.	PLC1 Connection : X26,X27,X28	EN &EFS
			Date	04.03.2022 Technical designer			= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		+ O1
			Appr.				Material no.: 23474667
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Project no.: CA_CS.2193770 Pg. 14
							Productionorder: 2347667 Pg. 25

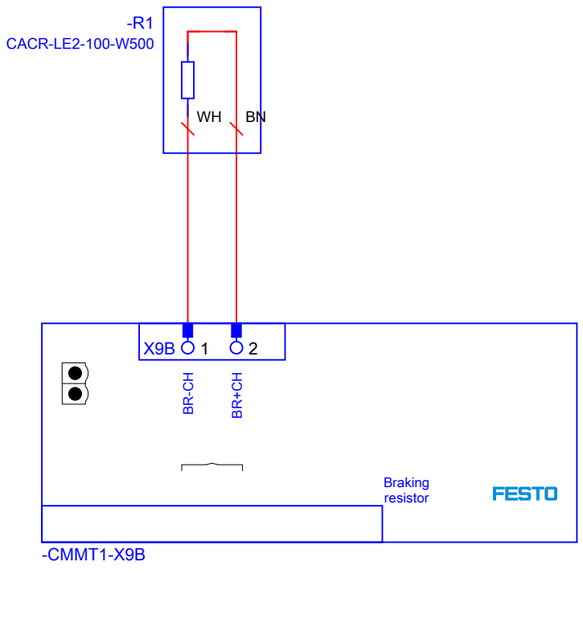
DIN A3 10.03.2023

0	1	2	3	4	5	6	7	8	9

Important before shipping the panel, make sure :

- Update Controller firmware to latest version V031.07.10
- Configure IP Address of the CMMT-AS-C4-3A-MP-S1 to be 172.17.101.11





© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

14

21

Project status		xxx			
00G.	25.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00F.	02.08.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
00E.	07.04.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

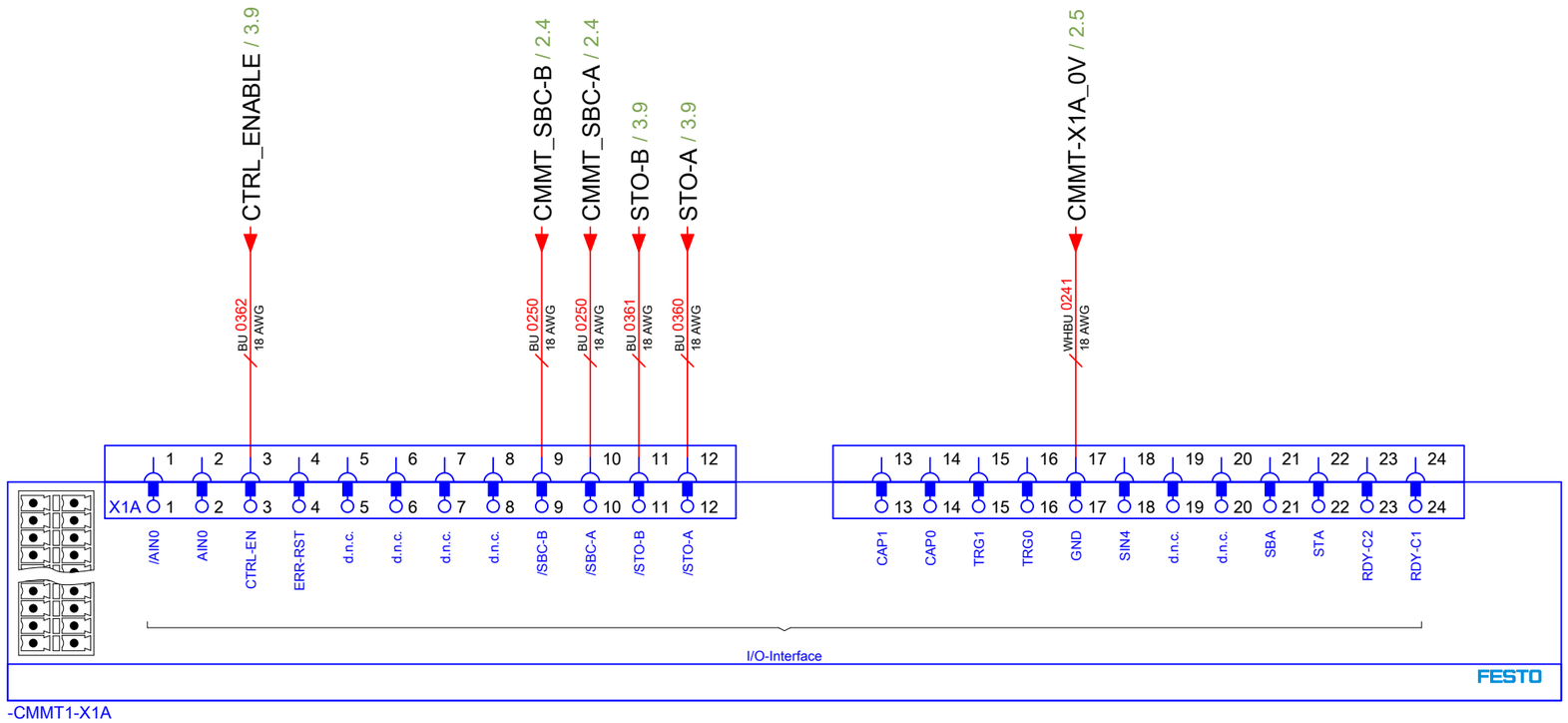
FESTO

CMMT1 Connection : X9A,X9B

EN	&EFS		
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	20
Productionorder:	2347667	Pg.	25

10.03.2023

DIN A3



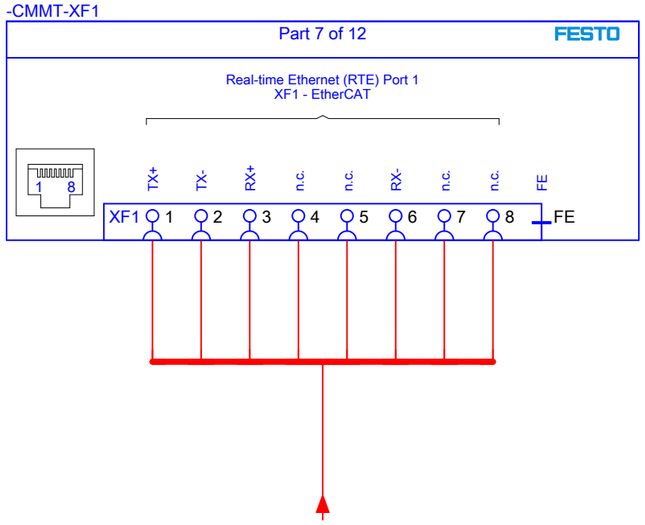
© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.		CMMT1 Connection : X1A
			Date	04.03.2022 Technical designer			
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		
			Appr.				
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			

EN	&EFS		
Material no.: 23474667	= A1		
	+ O1		
Project no.: CA_CS.2193770		Pg.	21
Productionorder: 2347667		Pg.	25

10.03.2023 DIN A3

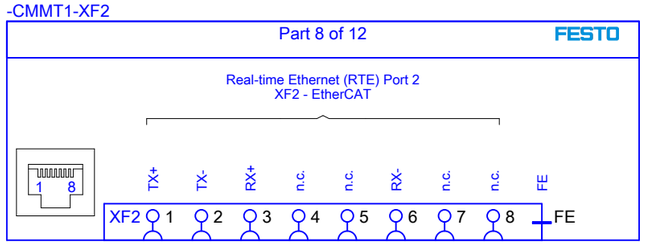
-CMMT-XF1



CBL0680

6.8

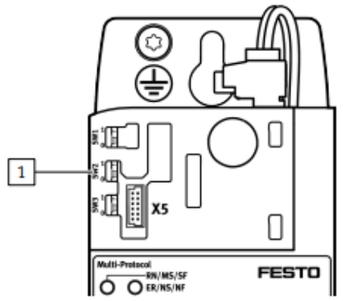
-CMMT1-XF2



This Connector is Not Used

Set bus protocol

The CMMT-AS-...-MP product variant supports several bus protocols.
The following options are available for setting the protocol:
- automatic detection by the CMMT-AS-...-MP
- Configuration in the CMMT-AS plug-in
- direct specification via SW1 to SW3



1 Switches SW1, SW2, SW3

Switches SW1, SW2, SW3 with the CMMT-AS-...-MP

i

Protocols supported by the firmware version used ➔ Manual/online help plug-in, software, function, fieldbus, device profile.

Protocol	Size 3	Size 2	Size 1
Auto (detection or parameterisation)	0	0	0
PROFINET	0	0	1
EtherCAT	0	1	0
EtherNet/IP	0	1	1

Switch setting bus protocol

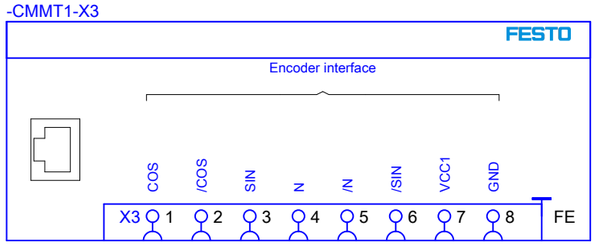
The switches can be adjusted with a small slotted head screwdriver.
The switch position is evaluated once when the device is started.

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.	CMMT1 Connection : XF1,XF2	EN &EFS
00F.	02.08.2022	ca0zfa	Date	04.03.2022 Technical designer			= A1
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		Material no.: 23474667 + O1
			Appr.				Project no.: CA_CS.2193770 Pg. 22
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			Productionorder: 2347667 Pg. 25

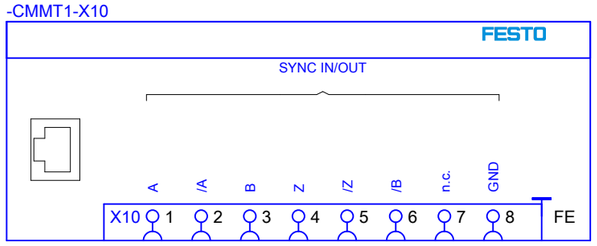
10.03.2023 DIN A3

-CMMT1-X3



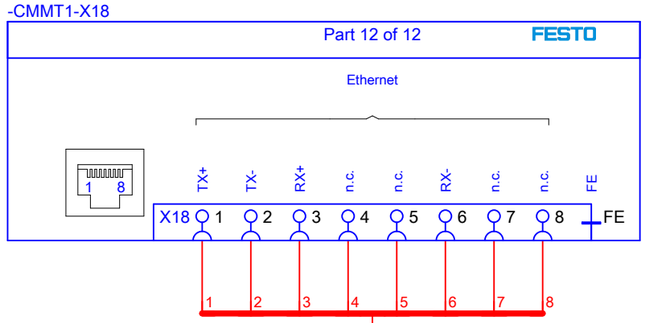
This Connector is Not Used

-CMMT1-X10



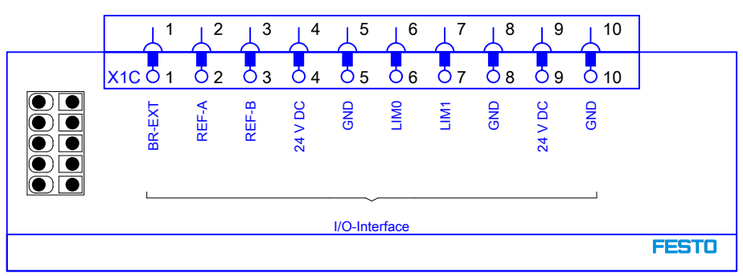
This Connector is Not Used

-CMMT1-X18



CBL2380
25.3
CMMT ETHERNET

This Connecotr is Not Used



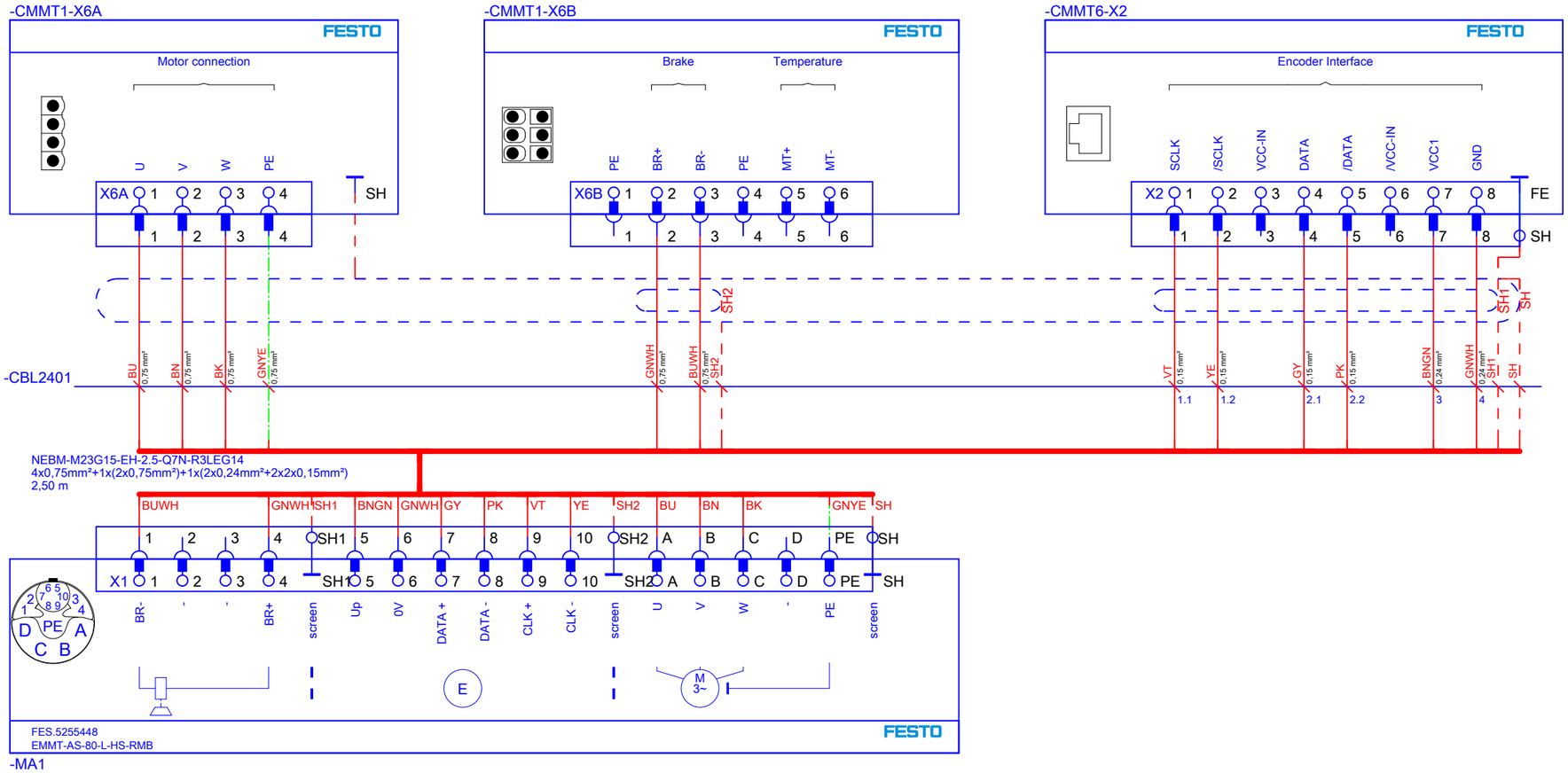
-CMMT7-X1C

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			ROBOTIQ INC.	CMMT1 Connection : X1C,X3,X10,X18
00F.	02.08.2022	ca0zfa	Date	04.03.2022 Technical designer		
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel	
			Appr.			
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU		

EN	&EFS		
Material no.: 23474667	= A1		
	+ O1		
Project no.: CA_CS.2193770		Pg.	23
Productionorder: 2347667		Pg.	25

DIN A3 10.03.2023



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

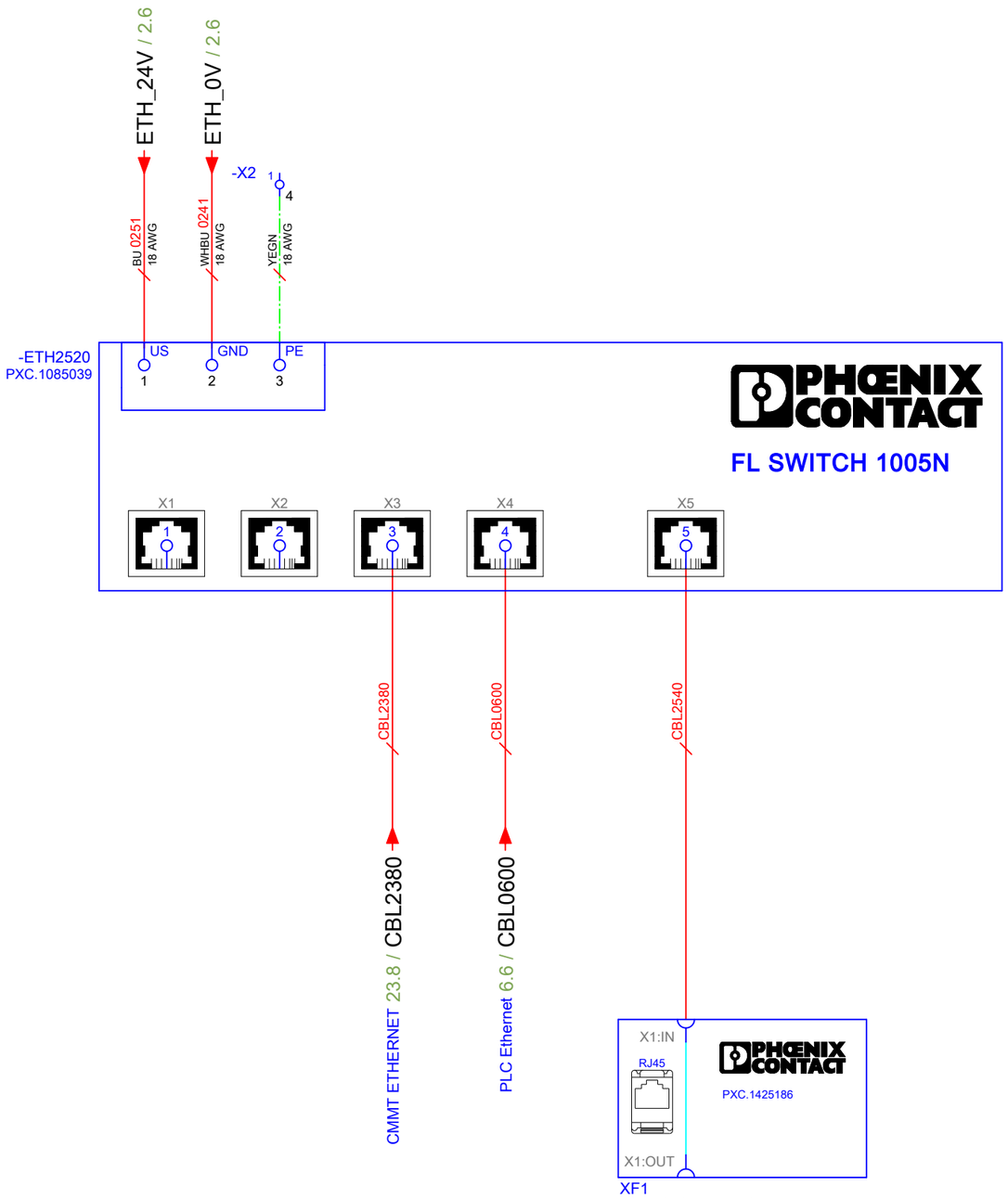
23

25

Project status		xxx			ROBOTIQ INC.		CMMT1 Connection : X2,X6A,X6B
			Date	04.03.2022 Technical designer			
			Edit by	25.01.2023 ca0zfa	FMCP-UR Panel		
			Appr.				
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU			

EN	&EFS		
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	24
Productionorder:	2347667	Pg.	25

10.03.2023 DIN A3



© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00F.	02.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00C.	07.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

EtherNet Switch Connection

EN	&EFS		
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	25
Productionorder:	2347667	Pg.	25

DIN A3 10.03.2023

Terminal diagram

Type number	Manufacturer	Connection design / -number	22 AWG	14 AWG	Cable name	Cable type	Target designation	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation	Cable name	Cable type	14 AWG	18 AWG	Connection design / -number	Page / column
					external		Terminal strip =A1+O1-X0									internal					
PTTBS 2,5	PXC	**0240**	RD				-FAN1	1	3	**2**	1 **1**	2		1	-CB4				BU	**0240**	&EFS/2.3
		0241	BU				-FAN1	2	4	**1**	**1**	1		-	-PS1				WHBU	**0241**	&EFS/2.3
PTTBS 2,5	PXC								3	**2**	**2**	2									
									4	**1**	**2**	1									
UT 4-PE	PXC			YEGN			-REC0100	3			**3**			1:4	-X2			YEGN			&EFS/1.0

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00E.	07.04.2022	ca0zfa	Date	04.03.2022	Technical designer
			Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Terminal diagram

EN	&EMA		
Material no.: 23474667	= A1		
	+ O1		
Project no.: CA_CS.2193770		Pg.	1
Productionorder: 2347667		Pg.	4

DIN A3 10.03.2023

Terminal diagram

Type number	Manufacturer	Connection design / -number	18 AWG	22 AWG					-CBL0502 NEBB-M12G5-P-2.5-LE5	-CBL0501 NEBB-M12G5-P-2.5-LE5	-CBL0404 NEBB-M12G5-P-5-LE5	-CBL0402 NEBB-M12G5-P-5-LE5	Cable name / Cable type	external Target designation	Connection	Terminal strip =A1+O1-X1 Level	Terminal	Jumper	Connection	internal Target designation	Cable name / Cable type	-CBL0402 NEBB-M12G5-P-5-LE5	-CBL0404 NEBB-M12G5-P-5-LE5				18 AWG	22 AWG	Connection design / -number	Page / column
ST 2,5-3L	PXC															3	1		X0	-SC1						BU	**X0**	&EFS/3.2
												WH			2	2	1		-X2:1	-PLC1-X2					BU		**0400**	&EFS/4.3
																1	1		1	-CB5					BU		**0250**	&EFS/2.4
ST 2,5-3L	PXC															3	2		-X3:1	-PLC1-X3						BU	**X0**	&EFS/3.2
		0401	BU											-PLC1-X2	-X2:2	2	2		4		BK							&EFS/4.3
																1	2		2:2	-XD1					BU		**0250**	&EFS/2.4
ST 2,5-3L	PXC															3	3		X1	-SC1						BU	**X1**	&EFS/3.2
											WH				2	2	3		-X2:3	-PLC1-X2					BU		**0402**	&EFS/4.4
		0250	BU												9:9	1	3											&EFS/2.4
ST 2,5-3L	PXC															3	4		X2	-SC1						BU	**X2**	&EFS/3.2
											BK				4	2	4		-X2:4	-PLC1-X2					BU		**0403**	&EFS/4.5
		0250	BU												10:10	1	4											&EFS/2.4
ST 2,5-3L	PXC															3	5		-X3:2	-PLC1-X3						BU	**X2**	&EFS/3.2
										BN					1	2	5		-X4:1	-PLC1-X4					BU		**0500**	&EFS/5.1
		0251	BU											-CB6	1	1	5		1		BN						**0251**	&EFS/2.5
ST 2,5-3L	PXC															3	6		X3	-SC1						BU	**X3**	&EFS/3.2
										WH					2	2	6		-X4:2	-PLC1-X4					BU		**0501**	&EFS/5.1
		0251	BU											-PLC1-X1	-X1:1	1	6		1			BU					**0251**	&EFS/2.5
ST 2,5-3L	PXC	**0260**		BU										-X1	9:6	3	7		X4	-SC1						BU	**X4**	&EFS/3.3
										BU					3	2	7		-X4:3	-PLC1-X4					BU		**0502**	&EFS/5.1
		0251	BU											-PLC1-X5	-X5:1	1	7		3		BN						**0251**	&EFS/2.5
ST 2,5-3L	PXC															3	8		-X3:3	-PLC1-X3						BU	**X4**	&EFS/3.3
										BK					4	2	8		-X4:4	-PLC1-X4					BU		**0503**	&EFS/5.2
		0251	BU											-PLC1-X11	-X11:1	1	8		3			BU					**0251**	&EFS/2.6
			BU											-ETH2520														
ST 2,5-3L	PXC	**0260**		BU										-X1	10:6	3	9		X5	-SC1						BU	**X5**	&EFS/3.3
									BN						1	2	9		-X4:5	-PLC1-X4					BU		**0504**	&EFS/5.3
		0260		BU										-X1	7:4	1	9		1	-CB7					BU		**0260**	&EFS/2.7
ST 2,5-3L	PXC	**0260**		BU										-X1	11:6	3	10		X6	-SC1						BU	**X6**	&EFS/3.3
									WH						2	2	10		-X4:6	-PLC1-X4					BU		**0505**	&EFS/5.3
		0260		BU										-X1	9:4	1	10		V+	-SC1						BU	**0260**	&EFS/2.7
ST 2,5-3L	PXC															3	11		-X3:4	-PLC1-X3						BU	**X6**	&EFS/3.3
									BU						3	2	11		-X4:7	-PLC1-X4					BU		**0506**	&EFS/5.3
		0260		BU										-X1	10:4	1	11											&EFS/2.7
ST 2,5-3L	PXC	**0260**		BU										-X1	12:6	3	12		X7	-SC1						BU	**X7**	&EFS/3.3
									BK						4	2	12		-X4:8	-PLC1-X4					BU		**0507**	&EFS/5.3

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00E.	07.04.2022	ca0zfa	Date	04.03.2022	Technical designer
			Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Terminal diagram

EN	&EMA	
Material no.: 23474667	= A1	
	+ O1	
Project no.: CA_CS.2193770	Pg.	2
Productionorder: 2347667	Pg.	4

DIN A3 10.03.2023

Terminal diagram

Terminal strip
=A1+O1-X1

Type number	Manufacturer	Connection design / -number	22 AWG	18 AWG							-CBL0502	Cable name	external	Connection	Level	Terminal	Jumper	Connection	internal	Cable name	-CBL0501					18 AWG	22 AWG	Connection design / -number	Page / column
											NEBB-M12G5-P-2.5-LE5	Cable type	Target designation		Connection external			Connection internal			Target designation	Cable type	NEBB-M12G5-P-2.5-LE5								
		0260	BU										-X1	12:4	6	1	12	1											&EFS/2.7
ST 2,5-3L	PXC														4	3	13	3		X16	-SC1						BU	**X16**	&EFS/3.2
															5	2	13	2											
															6	1	13	1		-'	-PS1					WHBU		**0241**	&EFS/2.4
ST 2,5-3L	PXC	**0360**		BU									-PLC1-X3	-X3:5	4	3	14	3		Y2	-SC1						BU	**0360**	&EFS/3.8
															5	2	14	2											
															6	1	14	1		V-	-SC1						WHBU	**0241**	&EFS/2.4
															5	2	15	2											
		0241		WHBU									-PLC1-X1	-X1:2	6	1	15	1		5		GY						**0241**	&EFS/2.5
ST 2,5-3L	PXC														4	3	16	3		Y3	-SC1						BU	**0361**	&EFS/3.8
															5	2	16	2											
		0241									GY			5	6	1	16	1		-X5:2	-PLC1-X5					WHBU		**0241**	&EFS/2.5
ST 2,5-3L	PXC	**0361**		BU										11:11	4	3	17	3											&EFS/3.8
															5	2	17	2											&EFS/3.2
															6	1	17	1		-X11:2	-PLC1-X11					WHBU		**0241**	&EFS/2.5
ST 2,5-3L	PXC														4	3	18	3		Y0	-SC1						BU	**0362**	&EFS/3.8
															5	2	18	2											&EFS/3.2
															6	1	18	1		17:17						WHBU		**0241**	&EFS/2.5
ST 2,5-3L	PXC	**0362**		BU										3:3	4	3	19	3											&EFS/3.8
															5	2	19	2											&EFS/3.2
															6	1	19	1		1:1	-XD1					WHBU		**0241**	&EFS/2.5
ST 2,5-3L	PXC														4	3	20	3											
															5	2	20	2											&EFS/3.2
															6	1	20	1		X6:2	-ETH2520					WHBU		**0241**	&EFS/2.6

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00F.	02.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00E.	07.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
	07.04.2022	ca0zfa	Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Terminal diagram

EN | &EMA

Material no.: 23474667 | = A1 | + O1

Project no.: CA_CS.2193770 | Pg. 2.1

Productionorder: 2347667 | Pg. 4

10.03.2023 DIN A3

Terminal diagram

Type number	Manufacturer	Connection design / -number	18 AWG	14 AWG	Cable name	Cable type	Target designation	Connection	Connection external	Level	Terminal	Connection internal	Jumper	Connection	Target designation	Cable name	Cable type	14 AWG	18 AWG	22 AWG	Connection design / -number	Page / column
					external		Terminal strip =A1+O1-X2									internal						
UTTB 2,5-PE	PXC		YEGN		-PS1			PE	2	2	PE 1	1										&EFS/2.4
				YEGN	-X0			3	4	1	1	3										&EFS/1.0
UTTB 2,5-PE	PXC								2	2	2	1		FE	-SC1					GN		&EFS/3.8
									4	1	2	3		FE	-SC1					GN		&EFS/3.8
UTTB 2,5-PE	PXC		YEGN		-PLC1-X1			PE	2	2	3	1		3:3	-XD1				YEGN			&EFS/20.1
				YEGN	-REC0100			PE	4	1	3	3		X9A:PE	-CMMT1-X9A				YEGN			&EFS/20.2
UTTB 2,5-PE	PXC			GNYE	-EMC1			PE	2	2	4	1		PE				GNYE				&EFS/1.2
									4	1	4	3		X6:3	-ETH2520				YEGN			&EFS/25.2

© Copyright by Festo SE & Co. KG. All rights reserved. Referred to protection notice ISO 16016

Project status		xxx			
00F.	02.08.2022	ca0zfa	Date	04.03.2022	Technical designer
00E.	07.04.2022	ca0zfa	Edit by	25.01.2023	ca0zfa
			Appr.		
Modification	Date	Name	Standard	DIRECTIVE 2014/35/EU	

ROBOTIQ INC.

FMCP-UR Panel

FESTO

Terminal diagram

EN		&EMA	
Material no.:	23474667	= A1	
		+ O1	
Project no.:	CA_CS.2193770	Pg.	3
Productionorder:	2347667	Pg.	4

DIN A3 10.03.2023