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Circuit diagrams Schaltungsunterlagen

designation: CP Lab
 Bezeichnung: CP Lab
 Customer:
 Kunde:
 Plant identifier S7M0T7CP Lab S7-1512SP, HMI TP700 V6.1
 Anlagenkennzeichen
 remark: V6 (HMI V2)
 Bemerkung:
 last Modification: 2022-05-31
 letzte Änderung:
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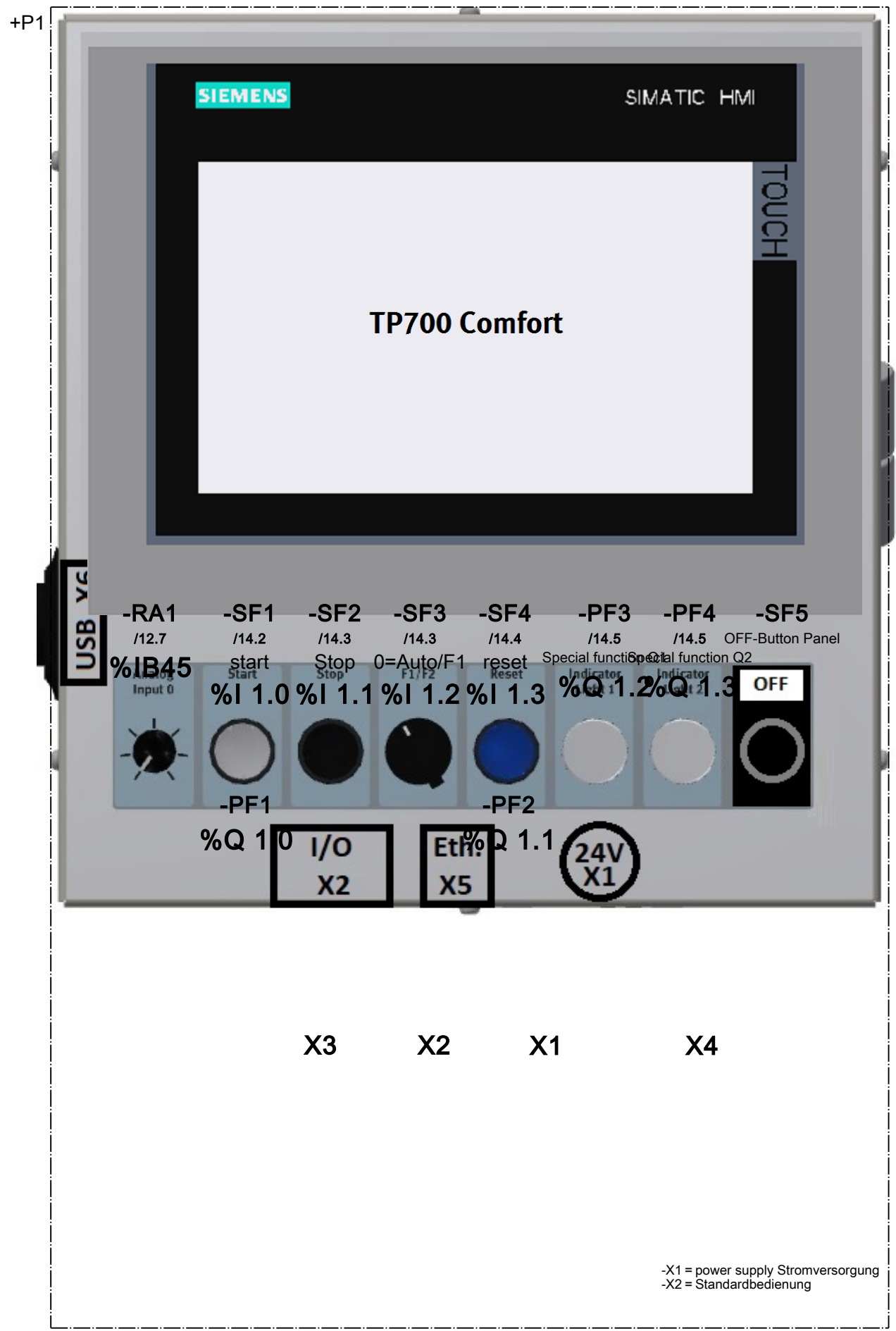
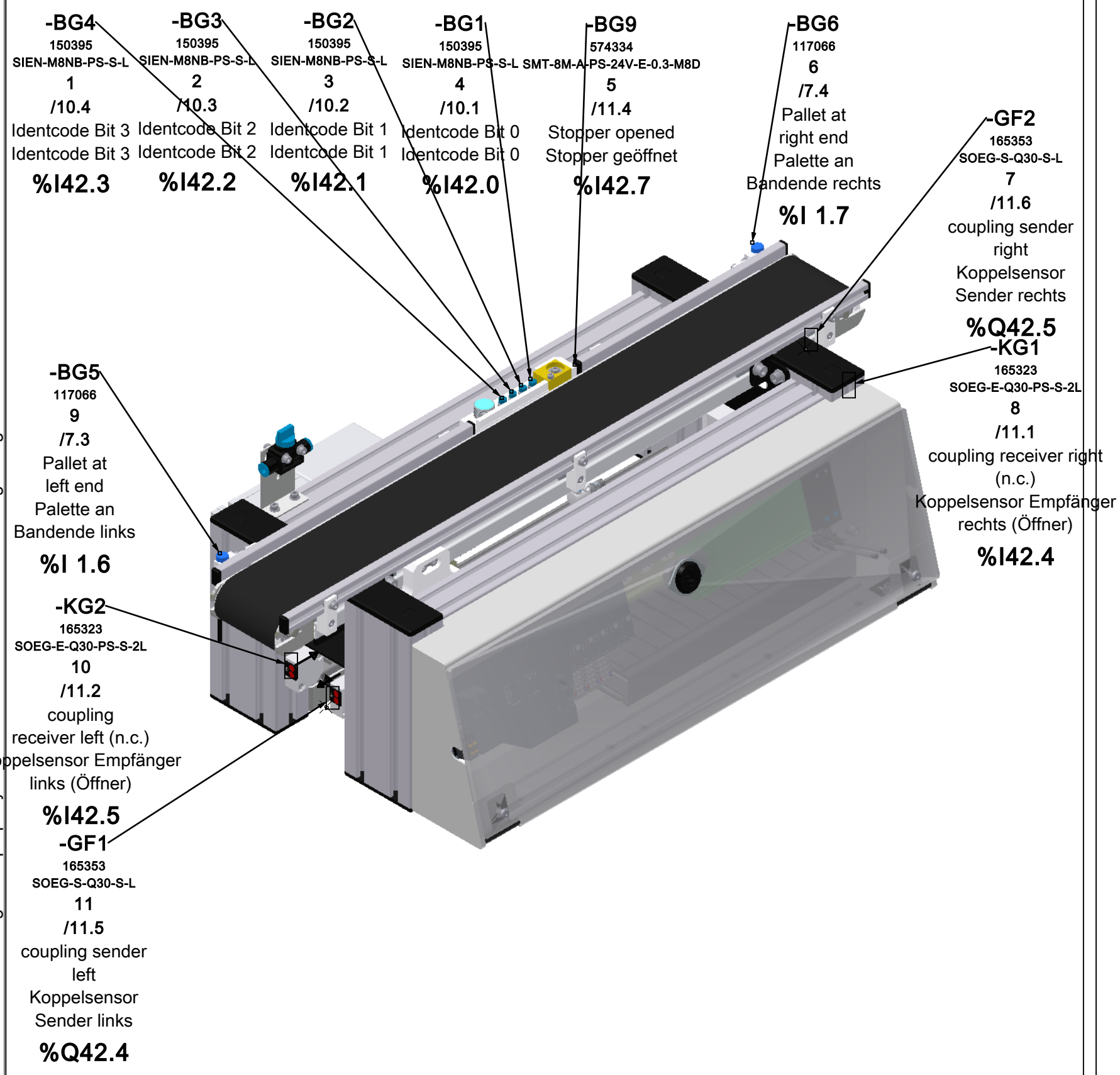
Date	2022-05-31	Festo Didactic SE Reichbergstraße 3 D-73770 Denkendorf		Title page / cover sheet Titel- / Deckblatt	S-Nr.				
Ed. by.	espe				PSP / DPJ	VN	= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1	Page 1
Drw.Nr.	N:				FFDMD10DE	EPL0VZFG7M	\\festo.net\DFS01\INT\Data\EPLAN\DATA_xx\DE\Projects\Didactic\Products\24 CP-L\V6.1\CP Lab V6.1 2022-05-31.elk	+ G1	Conveyor

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=S7M0T7	+G1	15	controlpanel options Bedienfeld Optionen		2020-12-03	espe	
=S7M0T7	+G1	16	pneumatic schematic Pneumatikplan		2020-12-03	espe	

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Drw.Nd.	

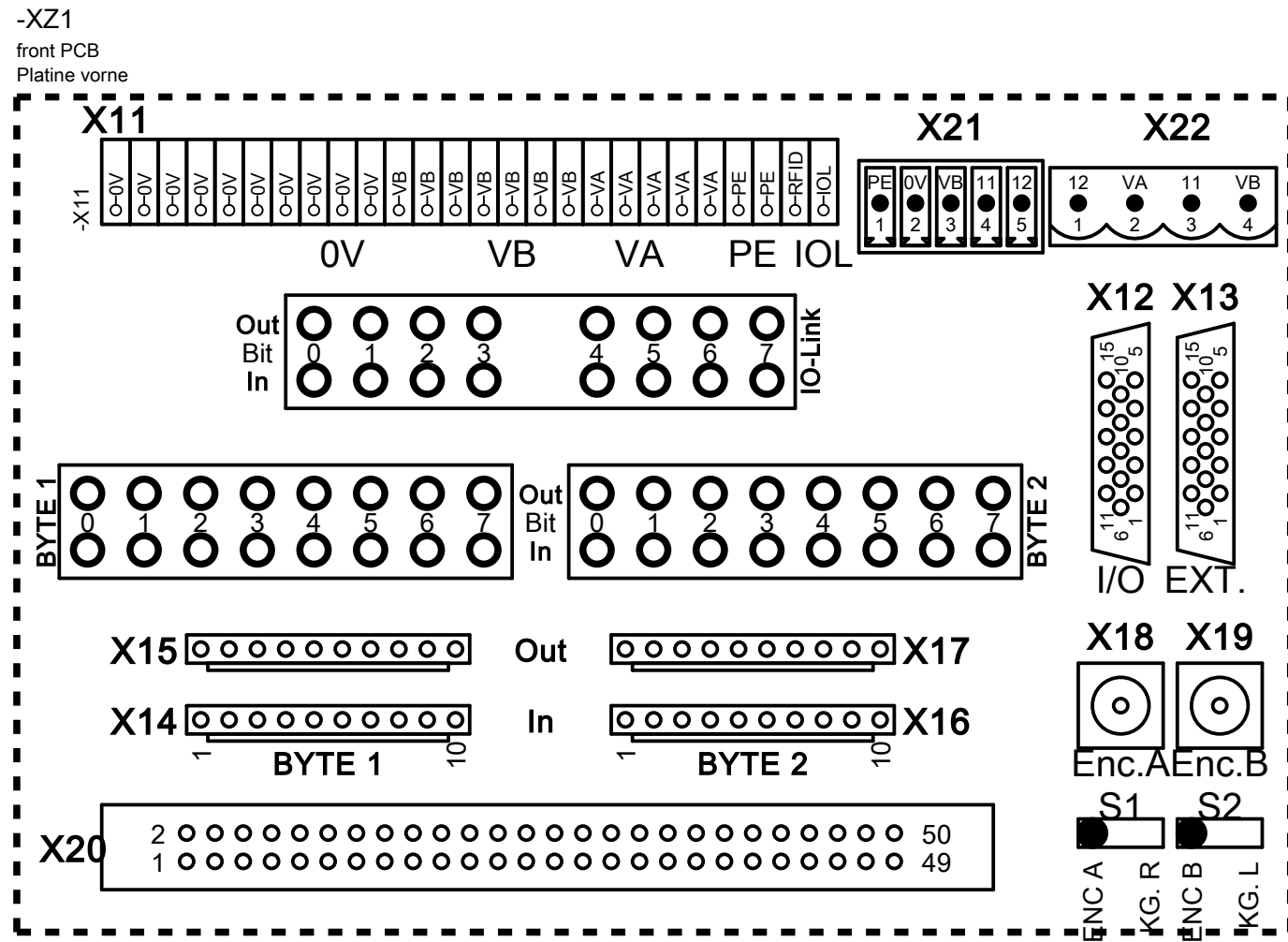
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D-73770 Denkendorf

FESTO Assembly Aufbau

S-Nr.	
PSP / DPJ	VN

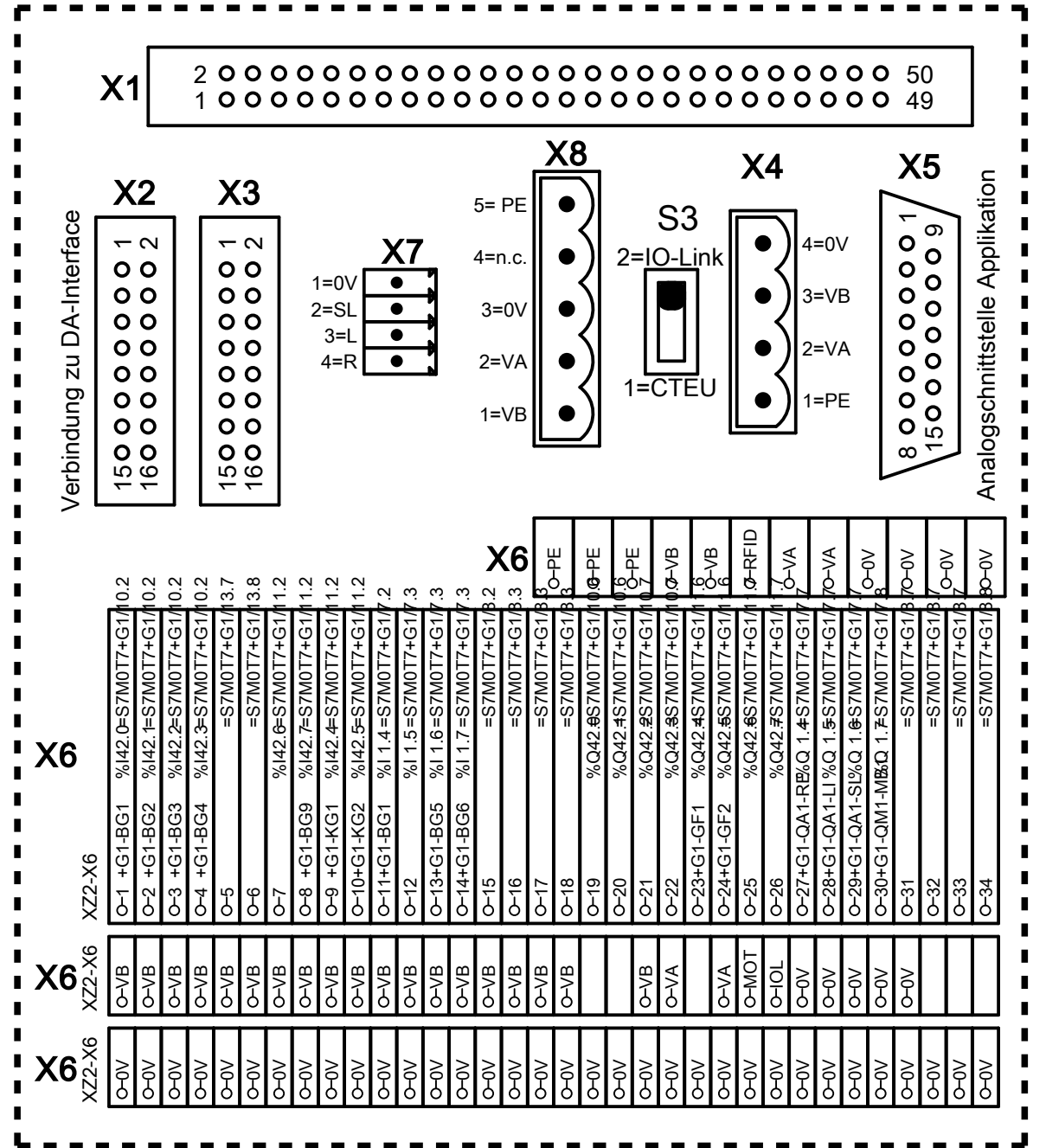
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V3
PCB's Rev 2019-01
Platinen Rev 2019-01



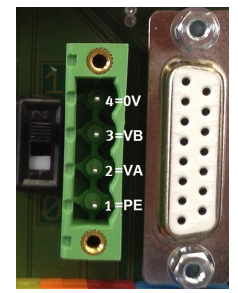
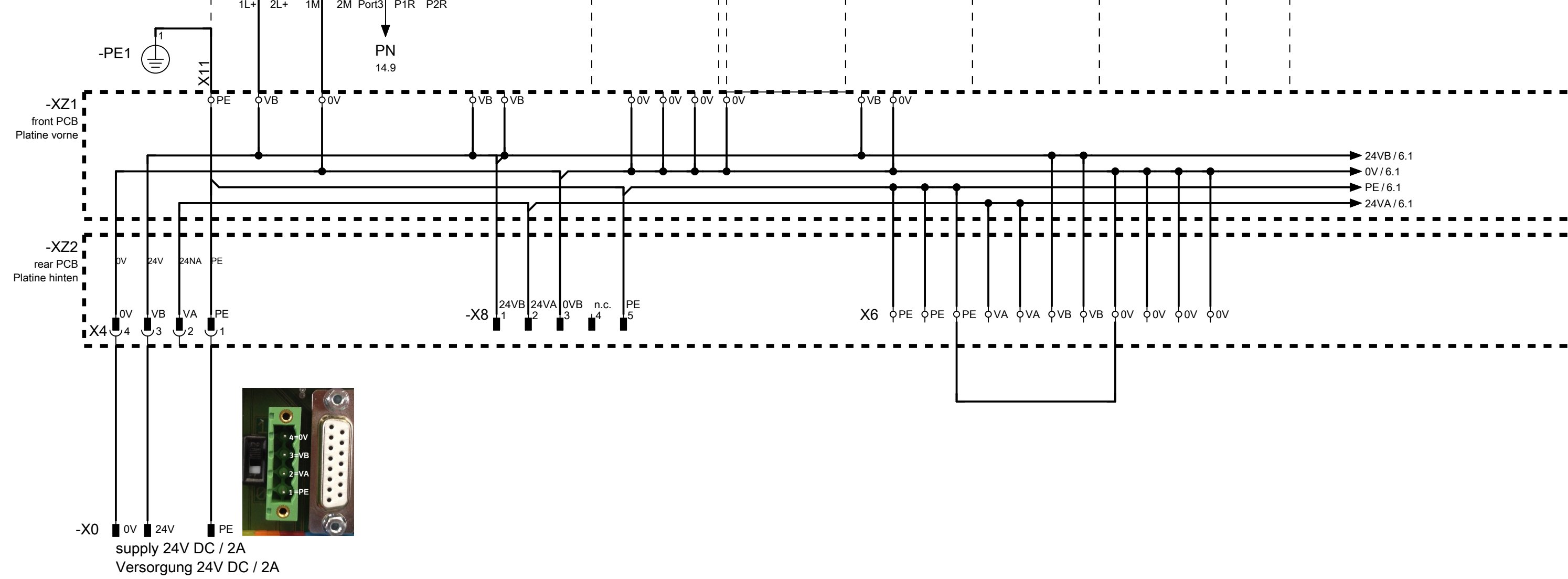
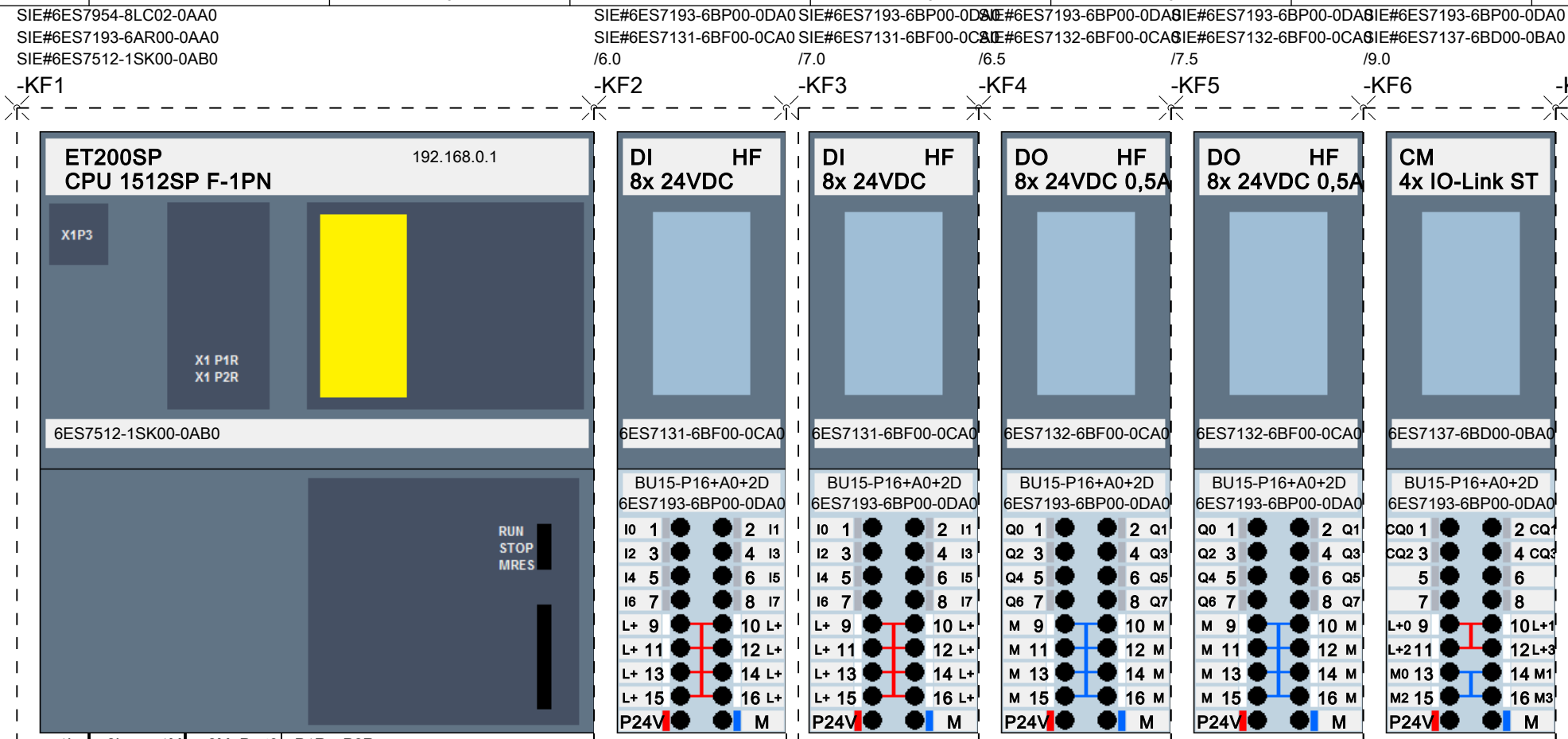
- XZ1-X11 = terminals PCB front side Klemmen Platine vorne
- XZ1-X12 = controlpanel basic functions Bedienfeld Grundfunktionen
- XZ1-X13 = controlpanel additional buttons Bedienfeld Zusatztasten
- XZ1-X14 = Input-Byte 1 Eingangs-Byte 1
- XZ1-X15 = Output-Byte 1 Ausgangs-Byte 1
- XZ1-X16 = Input-Byte 2 Eingangs-Byte 2
- XZ1-X17 = Output-Byte 2 Ausgangs-Byte 2
- XZ1-X18 = incremental encoder BNC-Connector 1 Inkrementalgeber BNC-Anschluss 1
- XZ1-X19 = incremental encoder BNC-Connector 2 Inkrementalgeber BNC-Anschluss 2
- XZ1-X20 = connection to opposite PCB Verbindung zu gegenüberliegender Platine
- XZ1-X21 = Powersupply HMI HMI Stromversorgung
- XZ1-X22 = external Emergency-Stop Connector Not-Halt-Anschluss extern

-XZ2
 rear PCB
 Platine hinten



- XZ1-X1 = connection to opposite PCB Verbindung zu gegenüberliegender Platine
- XZ2-X2 = connection 1 to DA-Interface Verbindung 1 zu DA-Interface
- XZ2-X3 = connection 2 to DA-Interface Verbindung 2 zu DA-Interface
- XZ2-X4 = power supply Stromversorgung
- XZ2-X5 = analog signals for application Analogsignale Applikationsmodul
- XZ2-X6 = terminals PCB rear side Klemmen Platine hinten
- XZ2-X7 = connection to external Motorcontroller Ansteuerung externer Motorregler
- XZ2-X8 = 24V application modules 24V Applikationsmodule

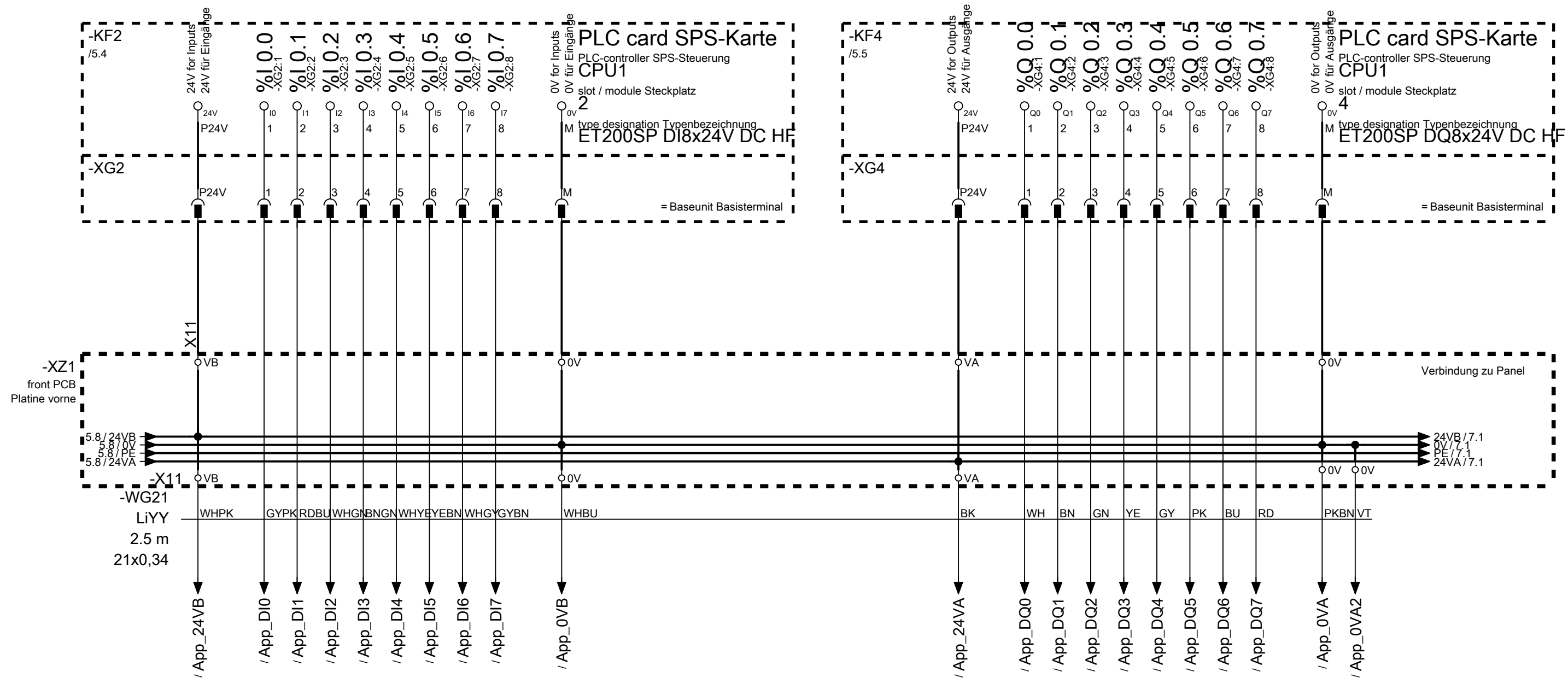
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supply 24V DC / 2A
Versorgung 24V DC / 2A

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0 1 2 3 4 5 6 7 8 9



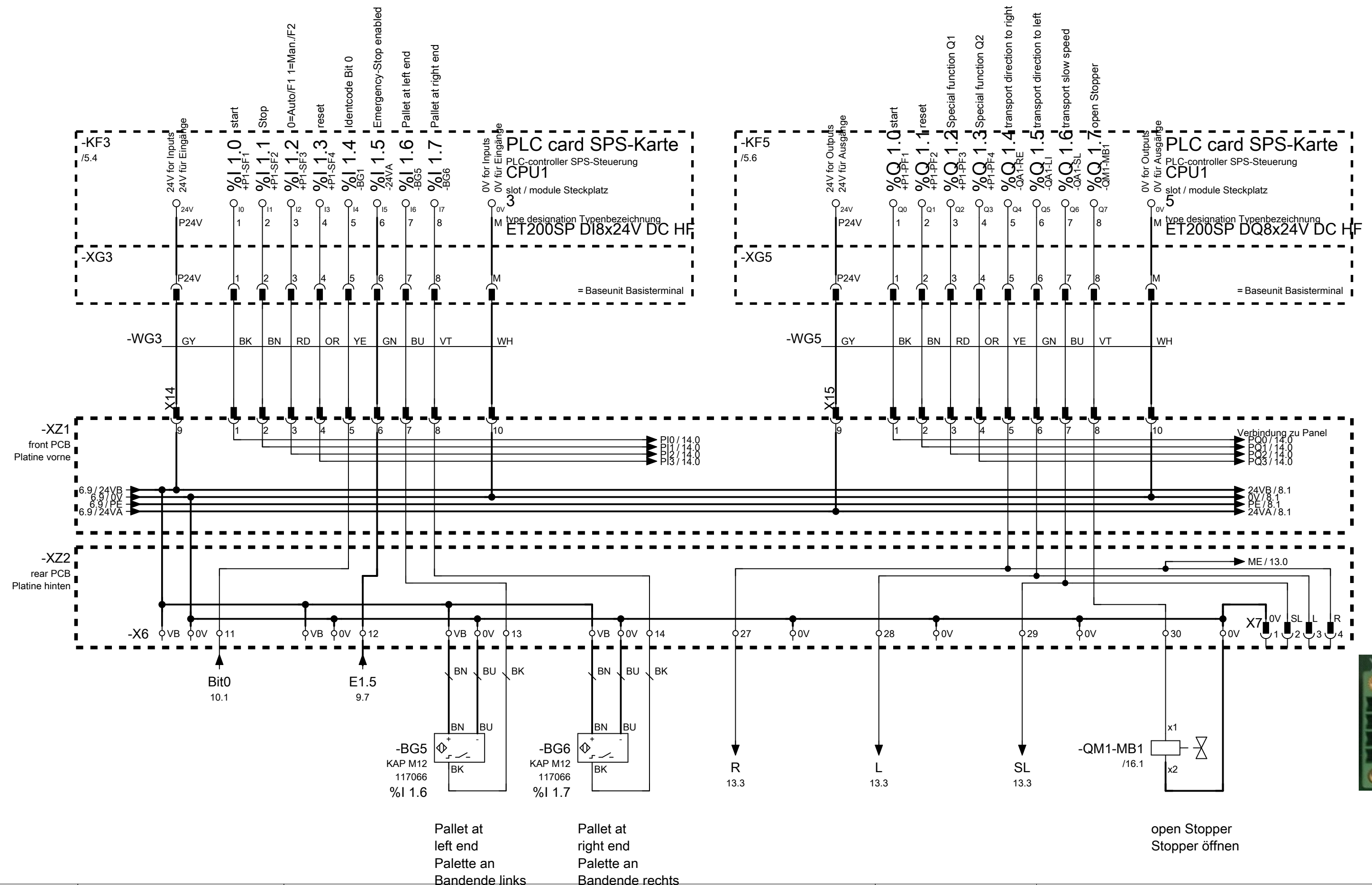
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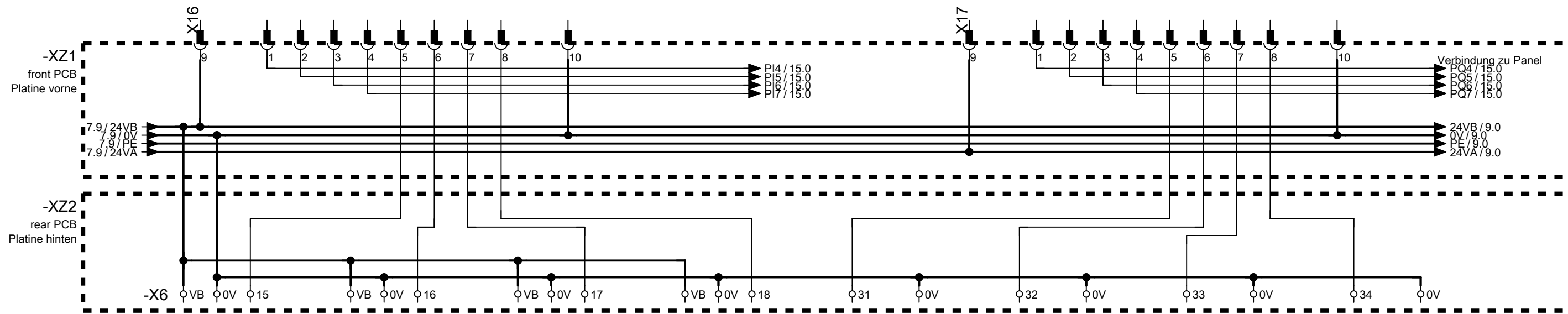
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Ed. by.	espe		PSP / DPJ	VN
Creat.	espe		= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1
Drw.Nr.	N:	F:	+ G1	Conveyor
EPL0VZFG7M		I:\Festo.net\DFS01\INTData\EPLAN\DATA_xx\DEI\Projects\Didactic\Products\24 CP Lab V6.1\CP Lab V6.1 2022-05-31.elk		Page 6 of 16

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0 1 2 3 4 5 6 7 8 9



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Date	2020-12-03
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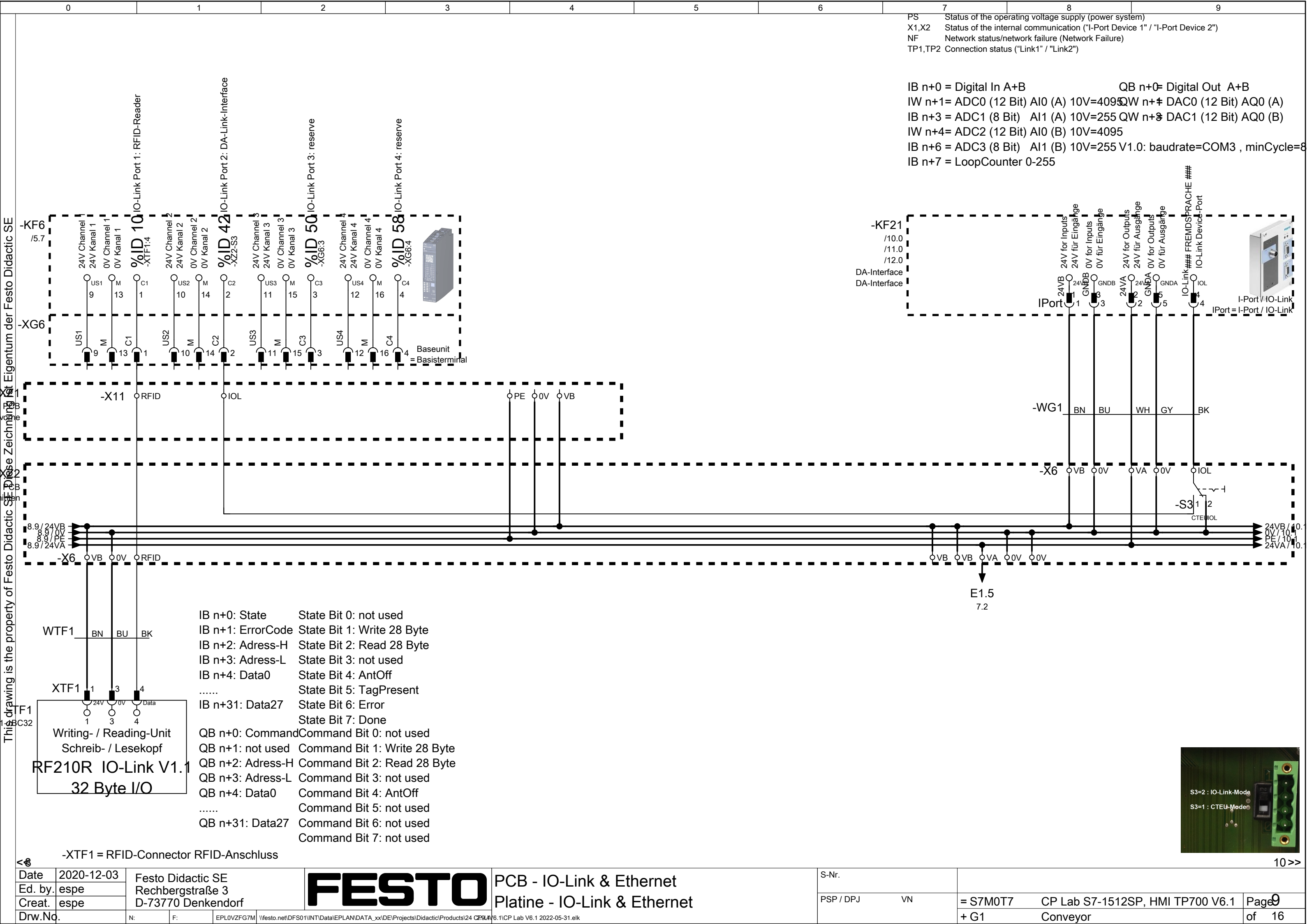
Festo Didactic SE	
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N:	
F:	



PCB - Byte 2
Platine - Byte 2

S-Nr.	
PSP / DPJ	VN

= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1
+ G1	Conveyor



PS Status of the operating voltage supply (power system)
 X1,X2 Status of the internal communication ("I-Port Device 1" / "I-Port Device 2")
 NF Network status/network failure (Network Failure)
 TP1,TP2 Connection status ("Link1" / "Link2")

IB n+0 = Digital In A+B
 IW n+1= ADC0 (12 Bit) AI0 (A) 10V=4095
 IB n+3 = ADC1 (8 Bit) AI1 (A) 10V=255
 IW n+4= ADC2 (12 Bit) AI0 (B) 10V=4095
 IB n+6 = ADC3 (8 Bit) AI1 (B) 10V=255
 IB n+7 = LoopCounter 0-255

IB n+0: State State Bit 0: not used
 IB n+1: ErrorCode State Bit 1: Write 28 Byte
 IB n+2: Adress-H State Bit 2: Read 28 Byte
 IB n+3: Adress-L State Bit 3: not used
 IB n+4: Data0 State Bit 4: AntOff
 State Bit 5: TagPresent
 IB n+31: Data27 State Bit 6: Error
 State Bit 7: Done
 QB n+0: Command Command Bit 0: not used
 QB n+1: not used Command Bit 1: Write 28 Byte
 QB n+2: Adress-H Command Bit 2: Read 28 Byte
 QB n+3: Adress-L Command Bit 3: not used
 QB n+4: Data0 Command Bit 4: AntOff
 Command Bit 5: not used
 QB n+31: Data27 Command Bit 6: not used
 Command Bit 7: not used

Writing- / Reading-Unit
 Schreib- / Lesekopf
RF210R IO-Link V1.1
 32 Byte I/O

-XTF1 = RFID-Connector RFID-Anschluss

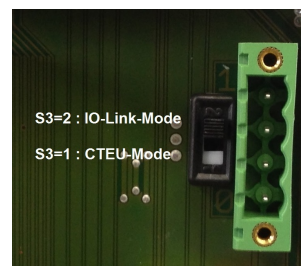
Date	2020-12-03
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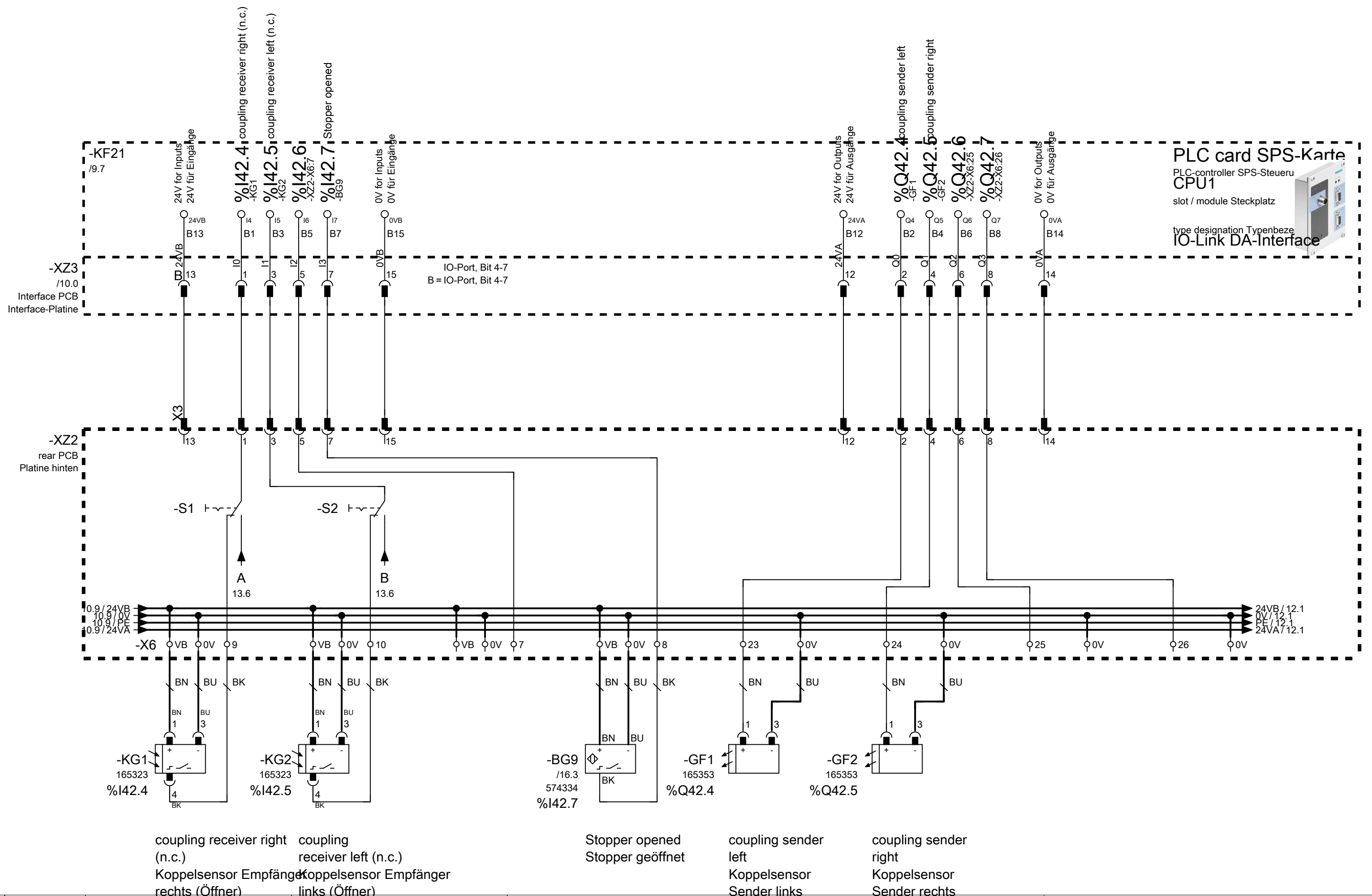


PCB - IO-Link & Ethernet
 Platine - IO-Link & Ethernet

S-Nr.			
PSP / DPJ	VN	= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1
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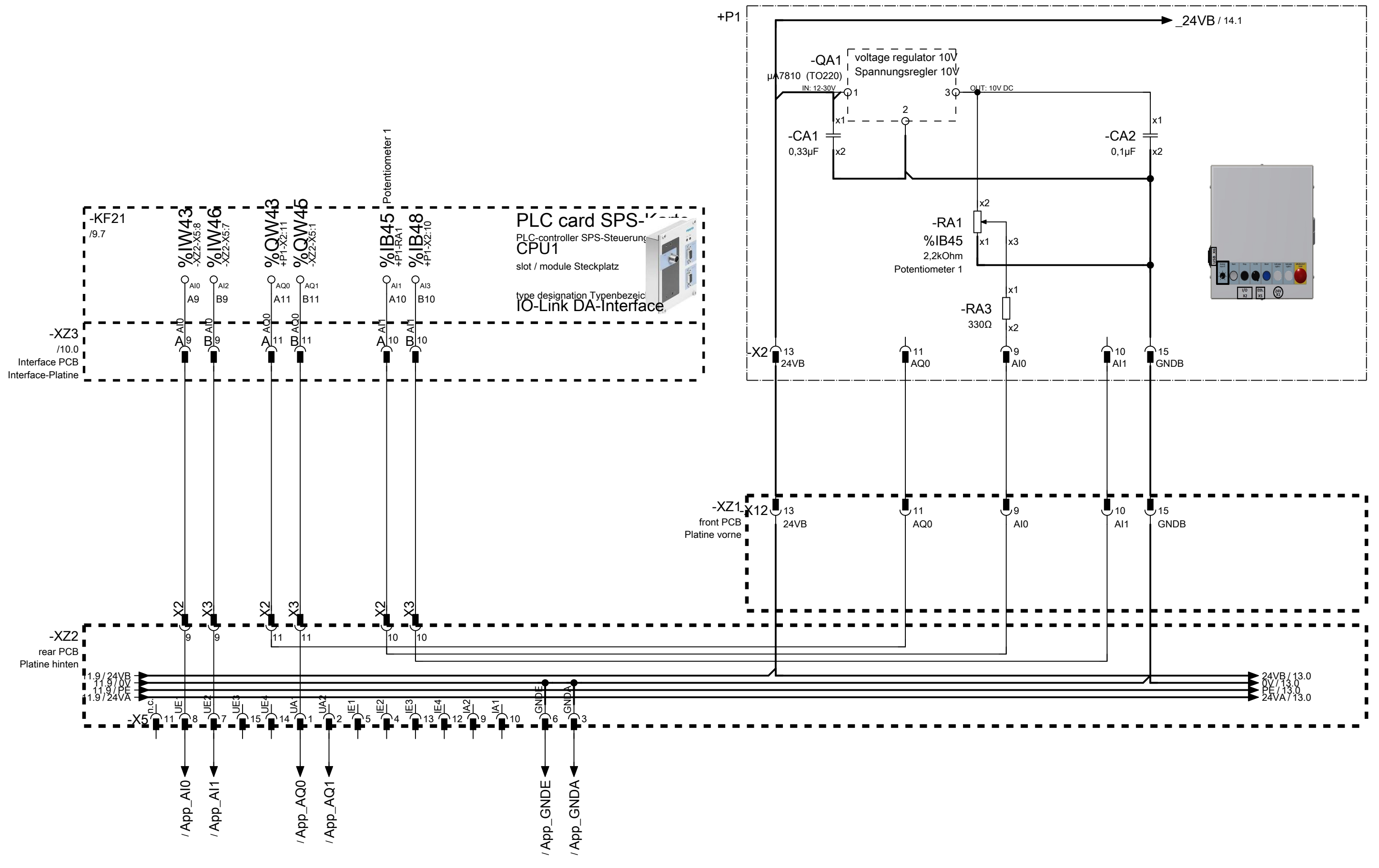


PCB - IO-Link B
 Platine - IO-Link B

S-Nr.	
PSP / DPJ	VN

= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1	Page 11
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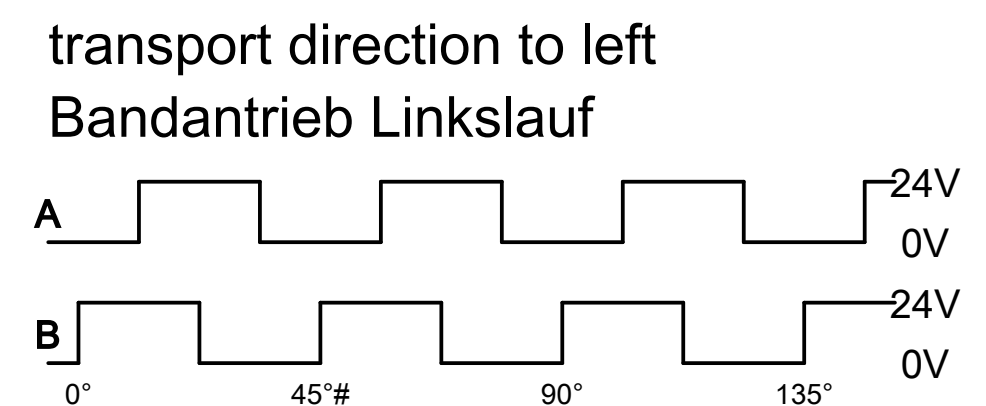
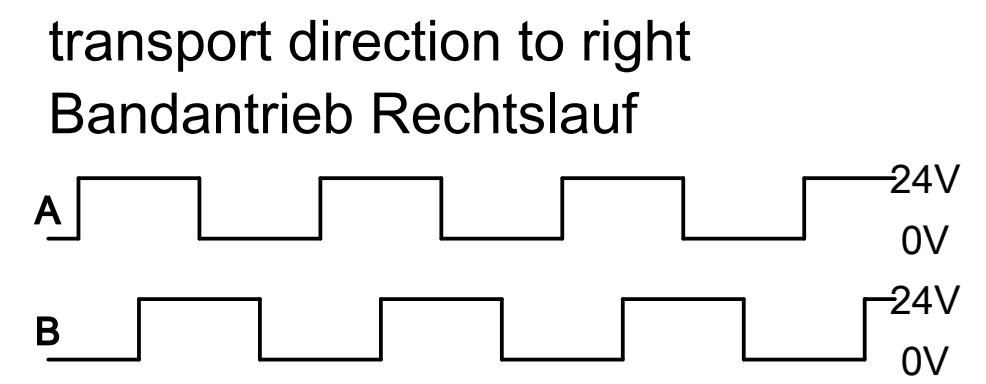
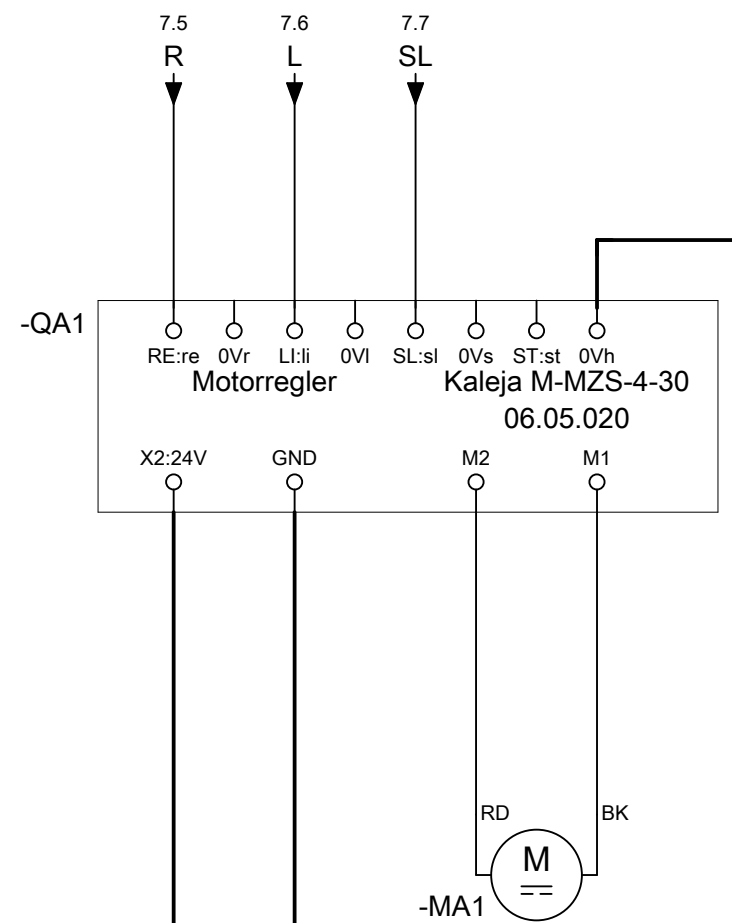


PCB - IO-Link analog
 Platine - IO-Link Analog

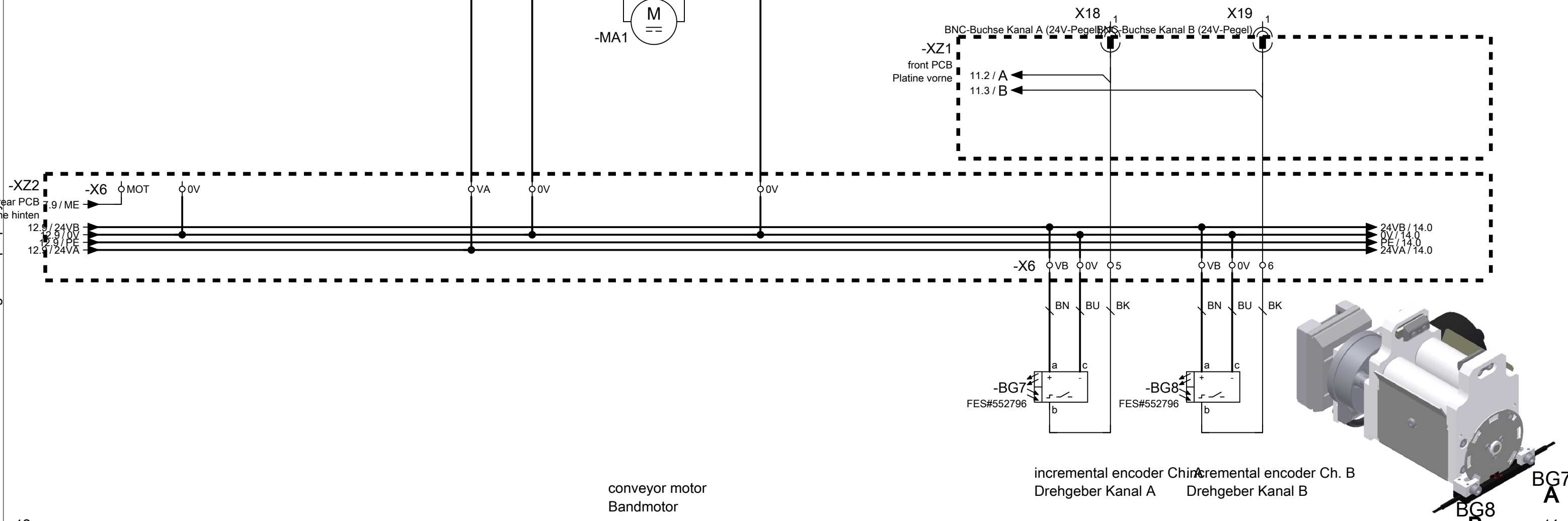
S-Nr.	
PSP / DPJ	VN

= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1	Page 12
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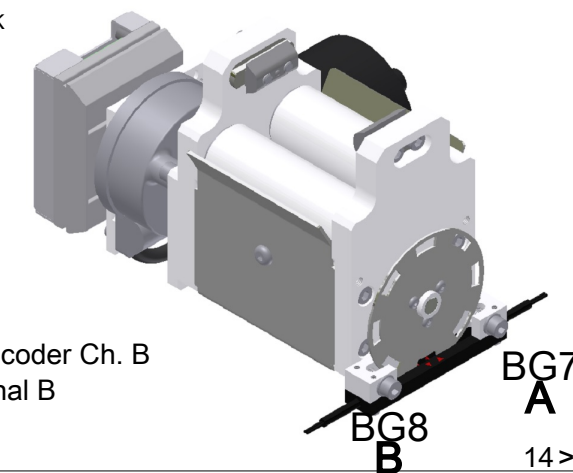
1 rotation = 8 pulses/channel = $30\text{mm} * \pi = 94,2 \text{ mm}$
 1 Umdrehung = 8 Impulse je Kanal = $30\text{mm} * \pi = 94,2 \text{ mm}$



conveyor motor
Bandmotor

incremental encoder Ch. A
Drehgeber Kanal A

incremental encoder Ch. B
Drehgeber Kanal B

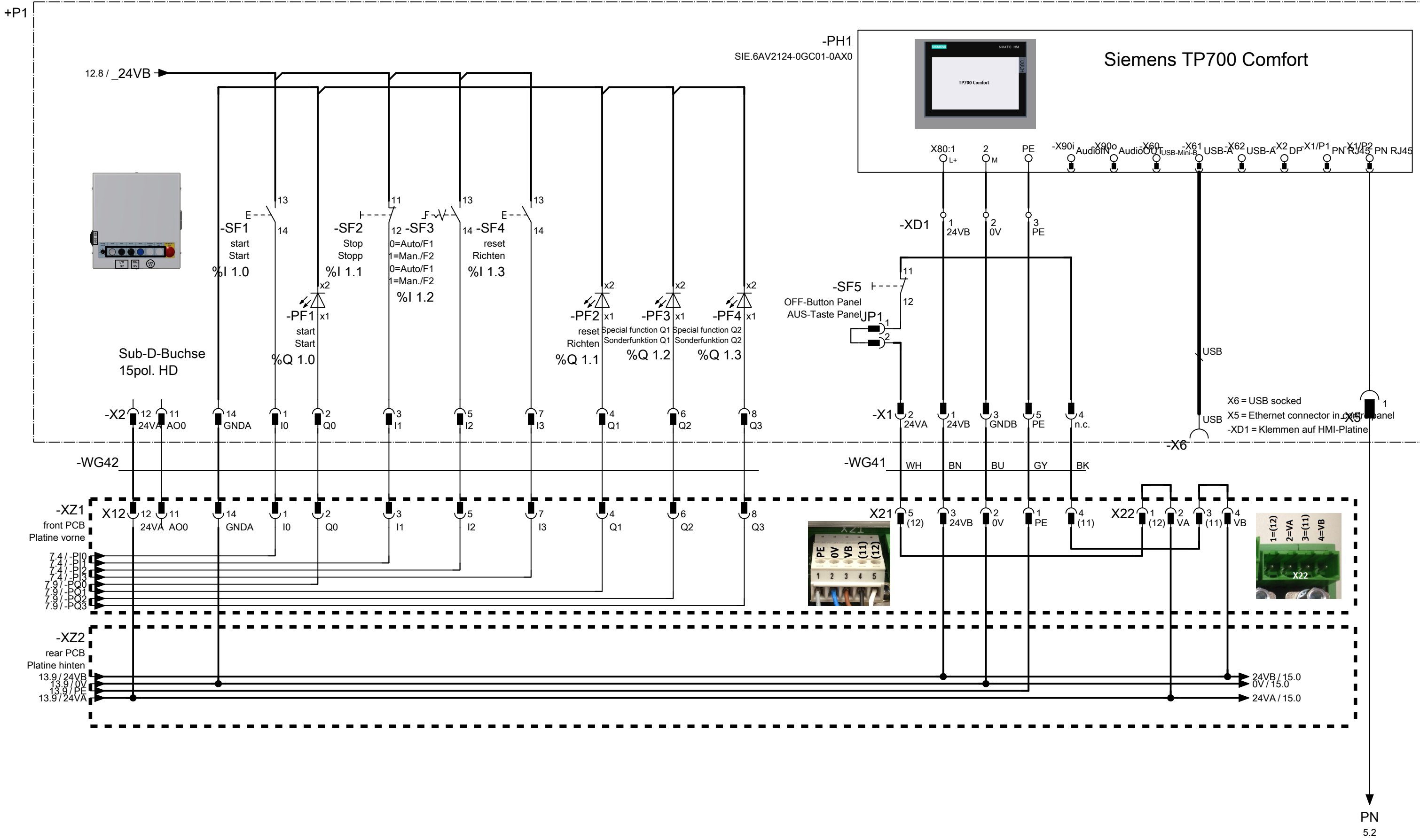


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Date	2022-05-31	Festo Didactic SE Rechbergstraße 3 D-73770 Denkendorf	FESTO	PCB - motor + encoder Platine - Motor + Inkrementalgeber	S-Nr.			
Ed. by.	espe					PSP / DPJ	VN	= S7M0T7 + G1
Drw.Nr.		N:	EPL0VZFG7M	\\Festo.net\DFS01\INTData\EPLAN\DATA_xx\DE\Projects\Didactic\Products\24 CP Lab V6.1\CP Lab V6.1 2022-05-31.elk				Page 13 of 16

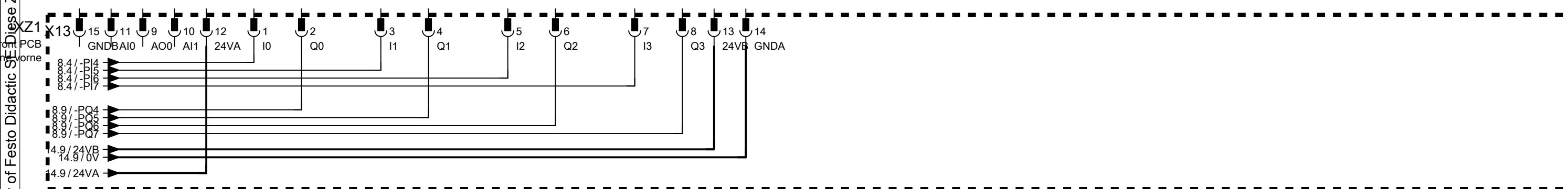
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Date	2020-12-03	Festo Didactic SE Rechbergstraße 3 D-73770 Denkendorf	FESTO	controlpanel basic functions & touchpanel Bedienfeld Grundfunktionen & Touchpanel	S-Nr.			
Ed. by.	espe				PSP / DPJ	VN	= S7M0T7	CP Lab S7-1512SP, HMI TP700 V6.1
Drw.Nr.					+ G1	Conveyor	of 16	

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0 1 2 3 4 5 6 7 8 9



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