



P8 Vers.: 2023.0.3




Company / customer	Bosch Rexroth AG	Mains supply rated service voltage (Ue)	400VAC
Project description	Example circuit diagram, variant with SMO	Auxillary current rated service voltage (Ue)	230VAC
		Auxillary current rated service voltage (Ue)	24VDC
		Rated insulation voltage (Ui)	440V
		Rated impulse withstand voltage (Uimp)	2,5kV
Drawing number	2022.23282 SMO	Rated frequency	50Hz
project file	2022.23282 SMO	Network configuration	TN-S
Manufacturer (company)		prospective short-circuit current Ikmax/Ikmin:	10kA / 0,3kA
		Rated current of the assembly (InA)	16A
		Max. ambient temperature	30°C
		Max. internal temperature	40°C
Responsible for project			
Colour electrical-control cabinet	RAL 7035	Degree of protection IP	IP54
Created on	11.01.2023		
Edit date	01.03.2023	by (short name) V.LENESCHMIDT	Number of pages 66

printing date: 01.03.2023

1	2
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Type:Example circuit diagram, variant with SMO	
project file:	No.:
nominal voltage:3x 400VAC+N+PE	
control voltage:24VDC	
prospective short-circuit current Ikmax/Ikmin:10kA / 0,3kA	
rated current:16A	power:11kVA
frequency:50Hz	back-up fuse:16A
IP-protection class:54	manufacturing date2023
	weight...kg
	

General project information

wire colors code			min. cable cross-section		
Voltage before main switch : black *				Terminals:	Spring-cage connection WAGO
phase / L1	:	black	min 1,5 mm ²	wire color:	BK = black
phase / L2	:	black	min 1,5 mm ²		BN = brown
phase / L3	:	black	min 1,5 mm ²		RD = red
neutral wire	:	light-blue	min 1,5 mm ²		OG = orange
protection conductor	:	green-yellow	min 1,5 mm ²		YE = yellow
control voltage AC 230V	:	red	min 1,0 mm ²		GN = green
control voltage AC 230V/0	:	red	min 1,0 mm ²		BU = blue
control voltage AC 24V	:	brown	min 1,0 mm ²		VT = violet
control voltage AC 24V/0	:	brown	min 1,0 mm ²		GY = gray
control voltage DC 24V/+	:	dark blue	min 1,0 mm ²		WH = white
control voltage DC 24V/-	:	dark blue	min 1,0 mm ²		PK = pink
input DC 24V	:	dark blue	min 0,5 mm ²		GD = gold
output 0,5A DC 24V	:	dark blue	min 0,5 mm ²		TQ = turquois
output 2,0A DC 24V	:	dark blue	min 1,0 mm ²		SR = silver
PLC - supply DC 24V	:	dark blue	min 1,0 mm ²		GNYE = green-yellow
control voltage DC 15V/+	:	gray	min 0,5 mm ²		SH = shielding
control voltage DC 15V/-	:	gray	min 0,5 mm ²		
control voltage DC 5V/+	:	violet	min 0,5 mm ²		
control voltage DC 5V/-	:	violet	min 0,5 mm ²		
external voltage	:	orange	min 1,0 mm ²		
measuring line	:	white	min 0,5 mm ²		
central process control	:	white	min 0,5 mm ²		
* wiring in yellow protective tube					

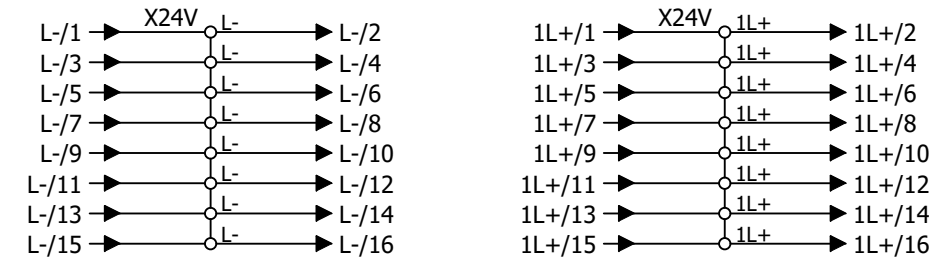
Device tag IEC 81346-2

identifier	example
-A	touch screen
-B	position switch, proximity switch, light barrier, pressure switch, temperature sensor, transformer, voltage transformer
-C	capacitor , buffer battery
-E	radiator, lamp
-F	protective gear, fuse, automatic circuit breaker
-G	buttery, generator, fan, pump
-K	PLC - modules, contactor relay, relay, time relay, controller, valve (electrically)
-M	motor, drive, valve (pneumatic)
-P	display, signal lamp
-Q	power switch, valve (electromagnetically)
-R	diode, inductor, resistance
-S	emergency stop pushbutton, pushbutton, switch
-T	transformer, signal transducer, measuring transducer, power supply, amplifier
-U	isolator, cabinet, mounting plate
-V	filter
-W	cable, busbar
-X	socket, terminal block

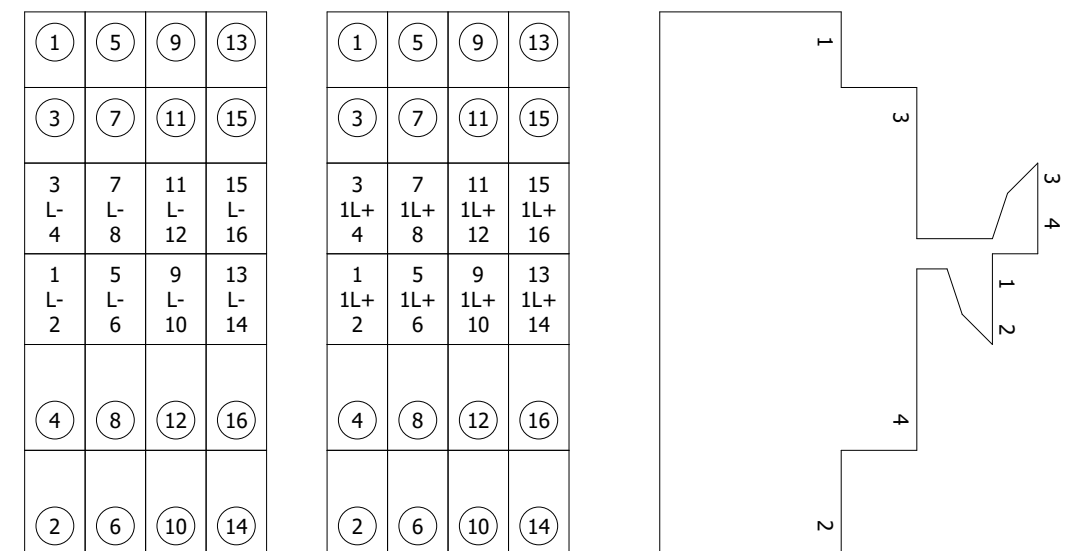
Terminal strip identification

Terminal type:	Terminal strip identification:	Identification of potential:
Supply and wiring outlet before main switch	X0	L1, 1L1, L2, 1L2, L3, 1L3,
230V AC control voltage	XL230 / XN230	L01, L02, N01, N02,
24V DC control voltage	X24V	1L+, 2L+, L-
Input terminal Output terminal General terminal Emergency stop terminal Control unit terminal Terminal box terminal Plug identification	XE XA X1..... X10 XBT(1...) XK..... XS.....	

Wiring diagram



Double deck terminal block



Throught terminal block

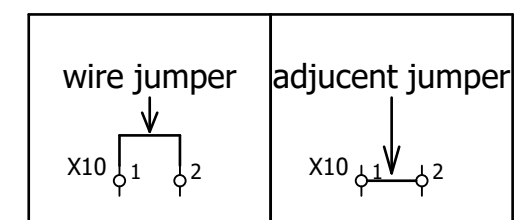
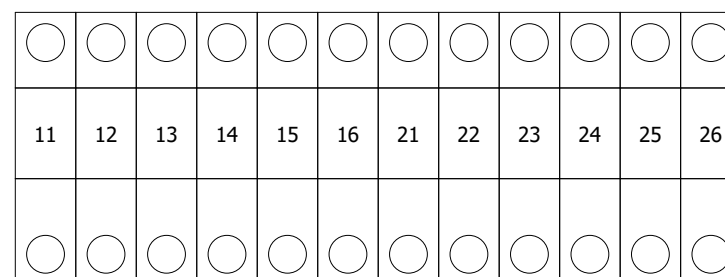
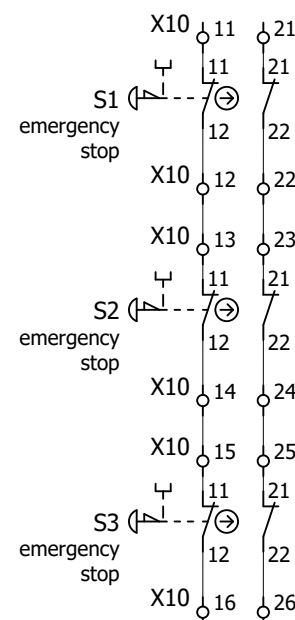
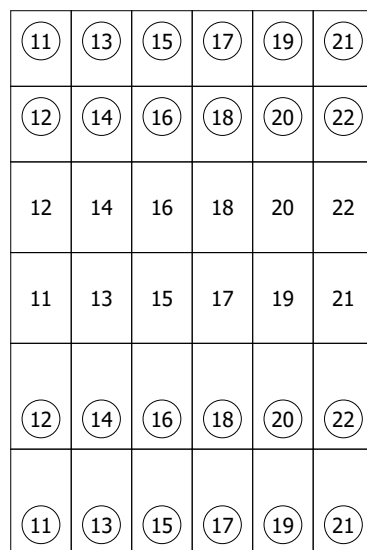
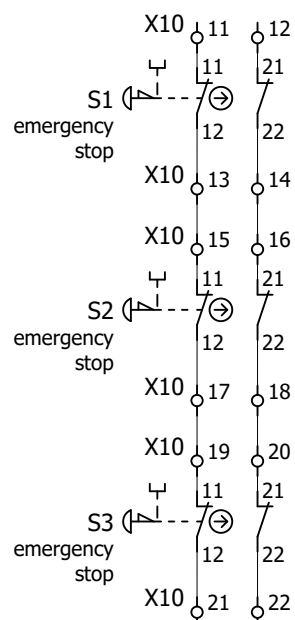
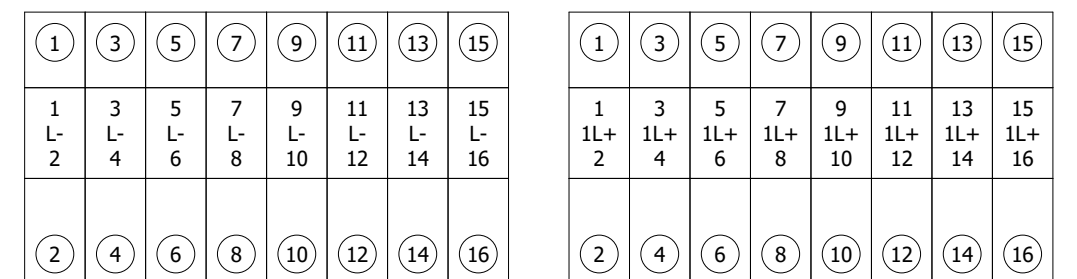


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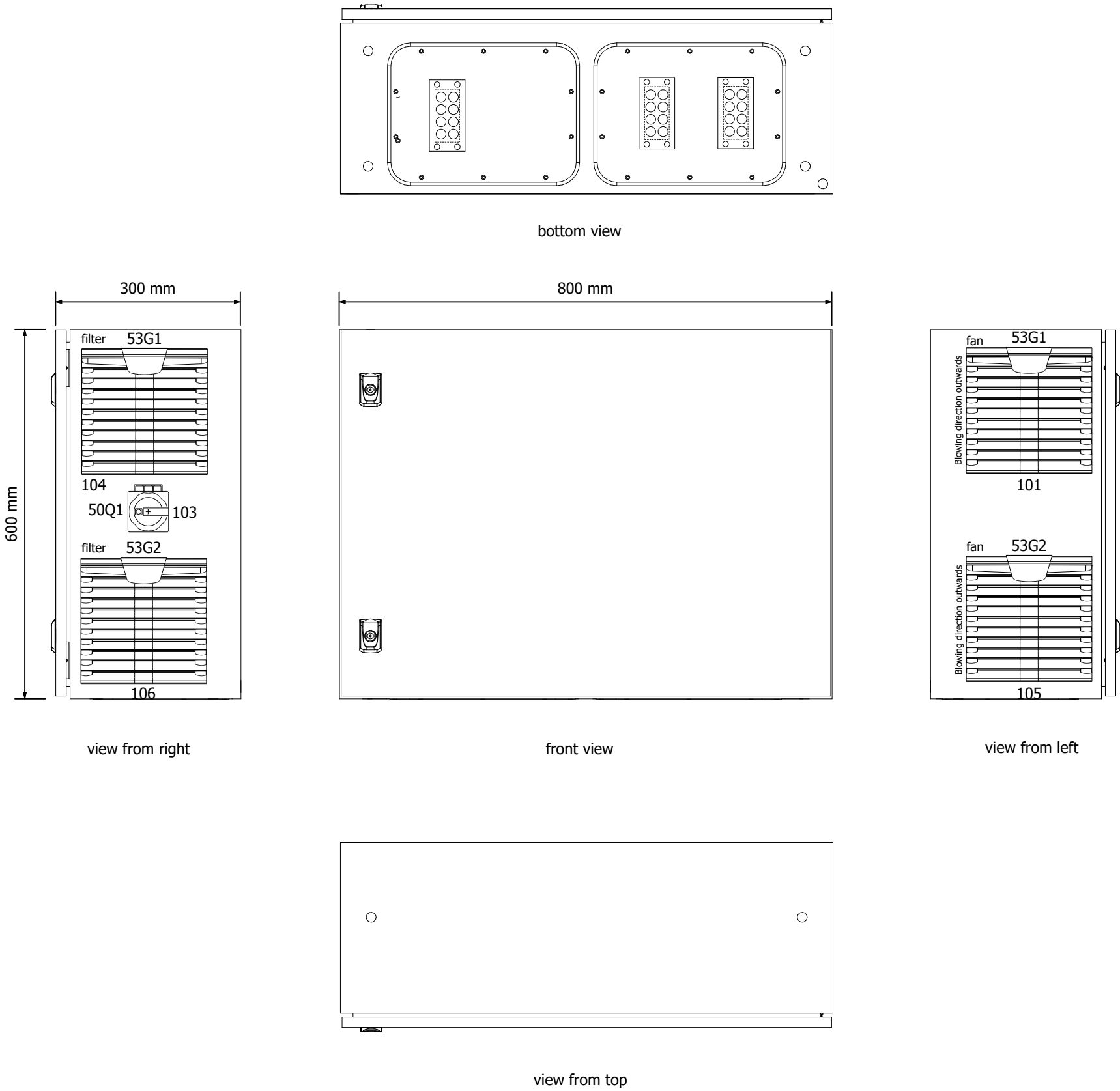
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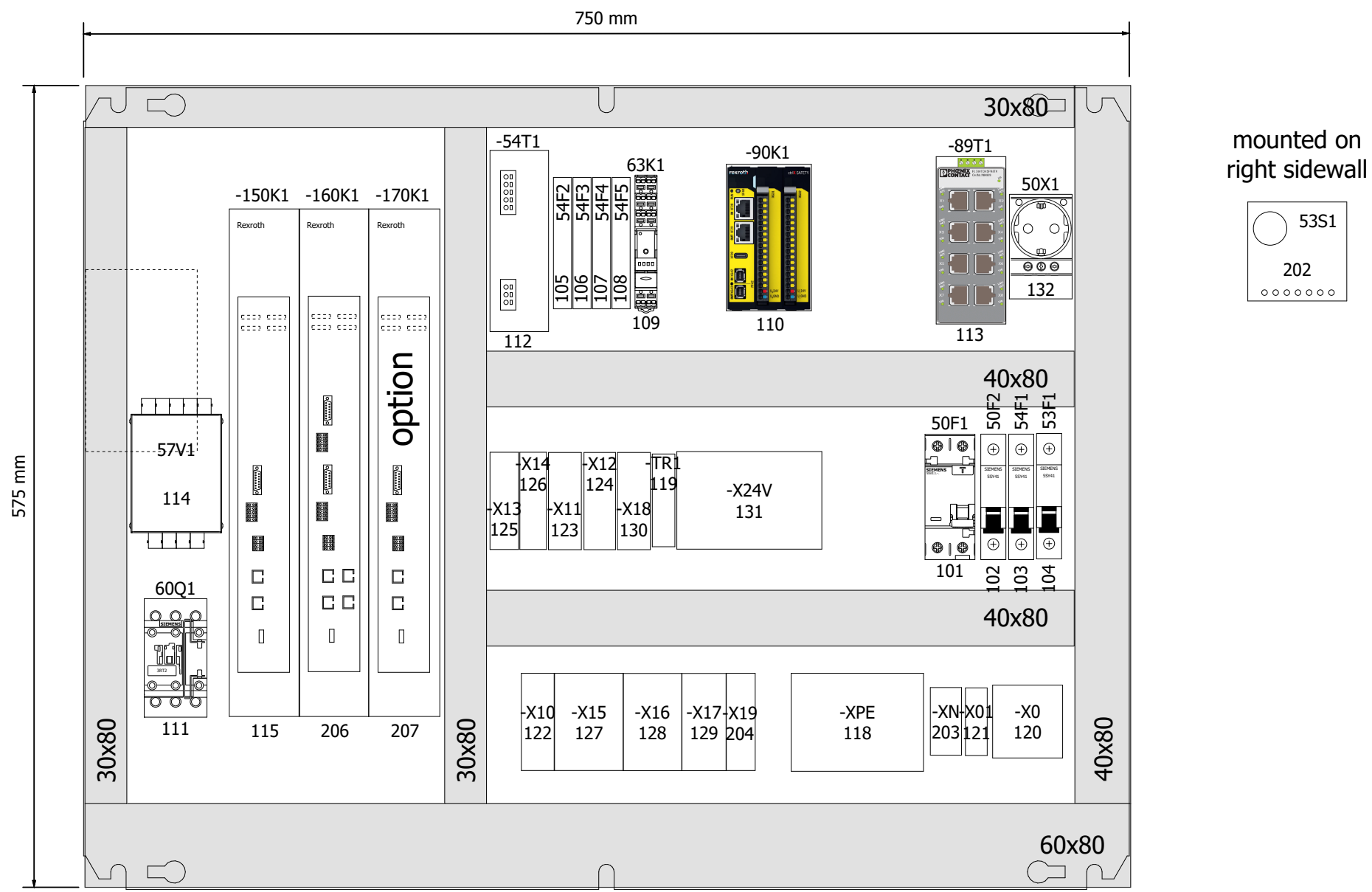
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1	Cover sheet		28.02.2023	V.LENESCHMIDT	
2	Type plate		20.02.2023	H.WITZKU	
3	General project information		24.01.2023	H.WITZKU	
4	Equipment identification		24.01.2023	H.WITZKU	
5	Terminal strip identification		24.01.2023	H.WITZKU	
6	Table of contents		01.03.2023	V.LENESCHMIDT	
7	Table of contents		01.03.2023	V.LENESCHMIDT	
30	View switch cabinet		30.01.2023	V.LENESCHMIDT	
32	Mounting plate		20.02.2023	H.WITZKU	
35	Operating field		24.01.2023	H.WITZKU	
50	Feed in		30.01.2023	V.LENESCHMIDT	
51	Distribution N and PE		20.02.2023	H.WITZKU	
53	Switch cabinet fan and lamp		30.01.2023	V.LENESCHMIDT	
54	Power supply 24V/DC		20.02.2023	H.WITZKU	
55	Distribution 24V/DC		20.02.2023	H.WITZKU	
57	Power supply inverter		30.01.2023	V.LENESCHMIDT	
60	Operating elements / Energy on		20.02.2023	H.WITZKU	
61	Operating elements		28.02.2023	V.LENESCHMIDT	
63	Safety door unlock		20.02.2023	H.WITZKU	
74	Safety door switch		20.02.2023	H.WITZKU	
75	Light curtain		28.02.2023	V.LENESCHMIDT	
86	Release of dispenser pressure		20.02.2023	H.WITZKU	
87	Gripper		06.02.2023	H.WITZKU	
88	Dispenser		28.02.2023	V.LENESCHMIDT	
89	Switch		20.02.2023	H.WITZKU	
90	ctrIX SAFETY overview		06.02.2023	H.WITZKU	
91	ctrIX SAFETY inputs		21.02.2023	H.WITZKU	
92	ctrIX SAFETY inputs		21.02.2023	H.WITZKU	
93	ctrIX SAFETY outputs		21.02.2023	H.WITZKU	
94	ctrIX SAFETY outputs		21.02.2023	H.WITZKU	
150	ctrIX inverter		20.02.2023	H.WITZKU	
160	ctrIX inverter		20.02.2023	H.WITZKU	
161	Drives Y-axis and Z-axis		25.01.2023	H.WITZKU	

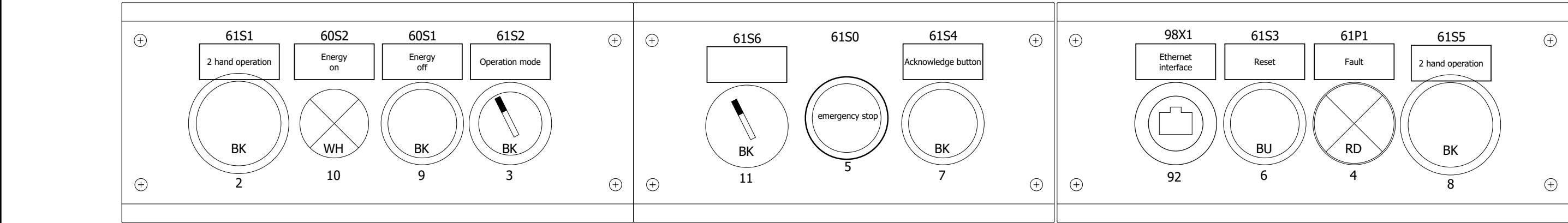
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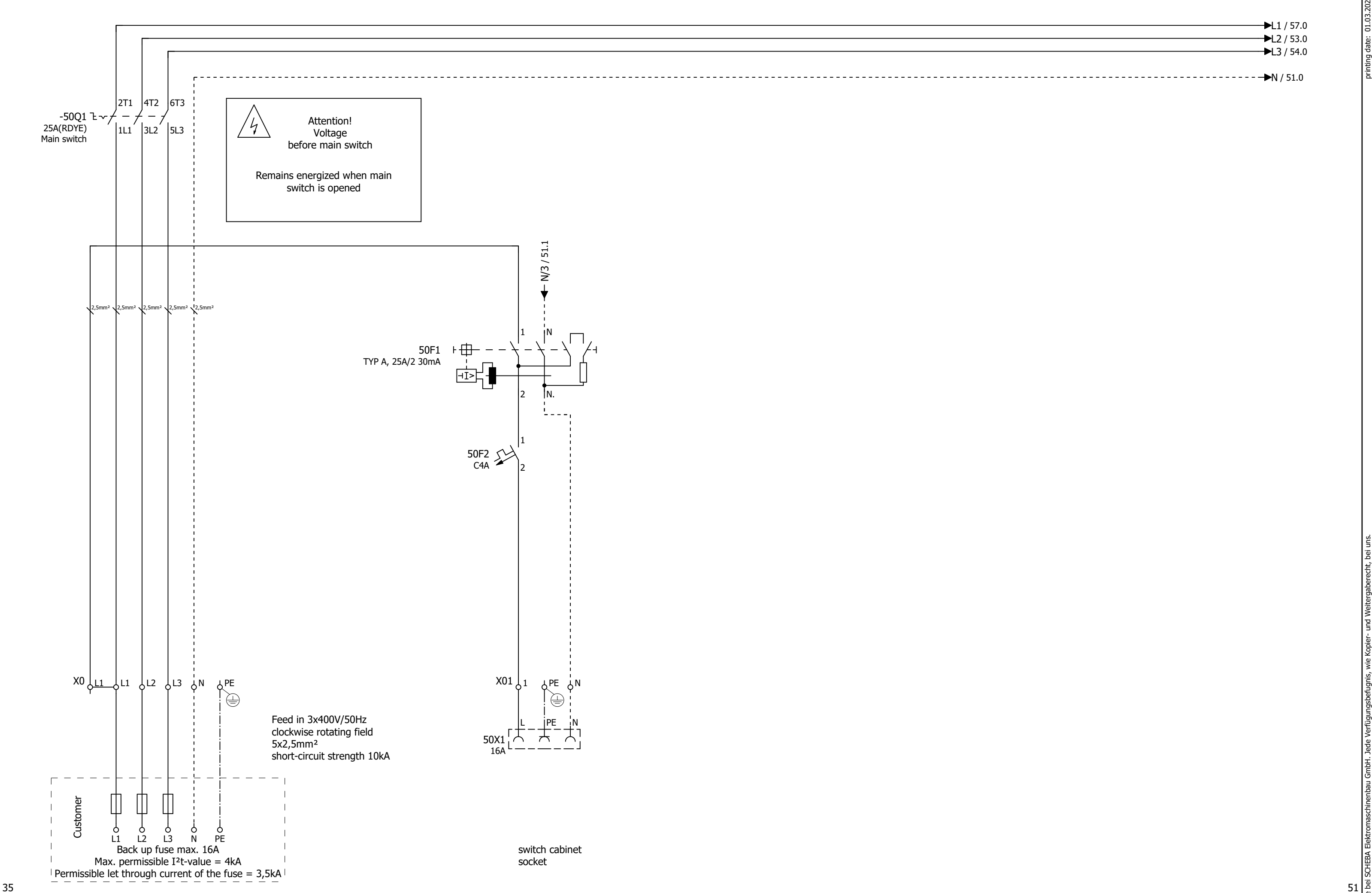
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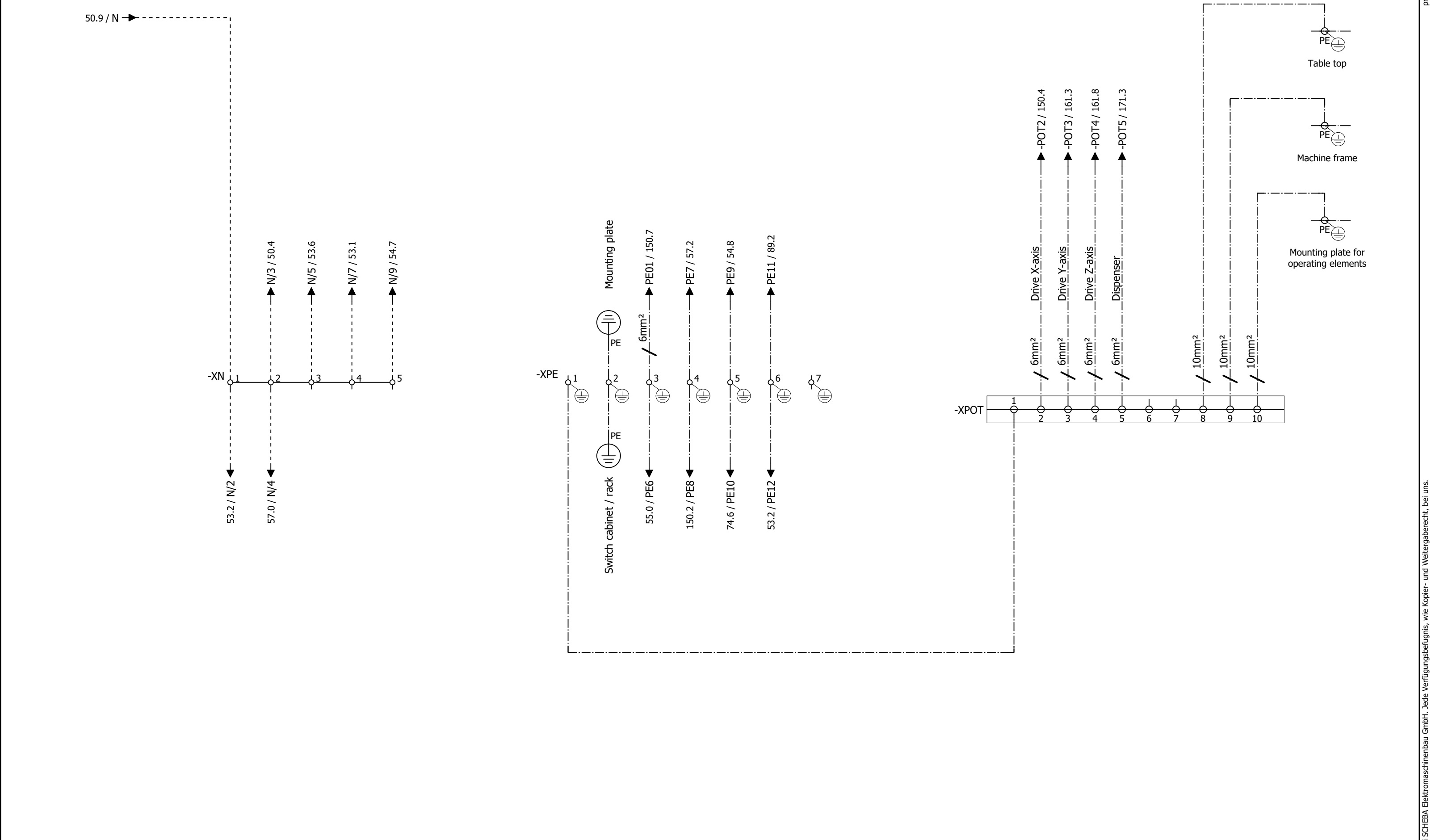
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171	Drive Dispenser		25.01.2023	H.WITZKU	
200	terminal diagram TR1		28.02.2023	V.LENESCHMIDT	
201	terminal diagram X0		28.02.2023	V.LENESCHMIDT	
202	terminal diagram X01		01.03.2023	V.LENESCHMIDT	
203	terminal diagram X10		28.02.2023	V.LENESCHMIDT	
204	terminal diagram X11		28.02.2023	V.LENESCHMIDT	
205	terminal diagram X12		28.02.2023	V.LENESCHMIDT	
206	terminal diagram X13		28.02.2023	V.LENESCHMIDT	
207	terminal diagram X14		28.02.2023	V.LENESCHMIDT	
208	terminal diagram X15		28.02.2023	V.LENESCHMIDT	
209	terminal diagram X16		28.02.2023	V.LENESCHMIDT	
210	terminal diagram X17		28.02.2023	V.LENESCHMIDT	
211	terminal diagram X18		28.02.2023	V.LENESCHMIDT	
212	terminal diagram X19		28.02.2023	V.LENESCHMIDT	
213	terminal diagram X24V		28.02.2023	V.LENESCHMIDT	
214	terminal diagram XN		28.02.2023	V.LENESCHMIDT	
215	terminal diagram XPE		28.02.2023	V.LENESCHMIDT	
300	Summarized parts list		01.03.2023	V.LENESCHMIDT	
301	Summarized parts list		01.03.2023	V.LENESCHMIDT	
302	Summarized parts list		01.03.2023	H.WITZKU	
303	Summarized parts list		01.03.2023	V.LENESCHMIDT	
304	Summarized parts list		28.02.2023	V.LENESCHMIDT	
400	Parts list		28.02.2023	V.LENESCHMIDT	
401	Parts list		28.02.2023	V.LENESCHMIDT	
402	Parts list		01.03.2023	V.LENESCHMIDT	
403	Parts list		01.03.2023	V.LENESCHMIDT	
404	Parts list		28.02.2023	V.LENESCHMIDT	
405	Parts list		28.02.2023	V.LENESCHMIDT	
406	Parts list		01.03.2023	V.LENESCHMIDT	
407	Parts list		01.03.2023	V.LENESCHMIDT	
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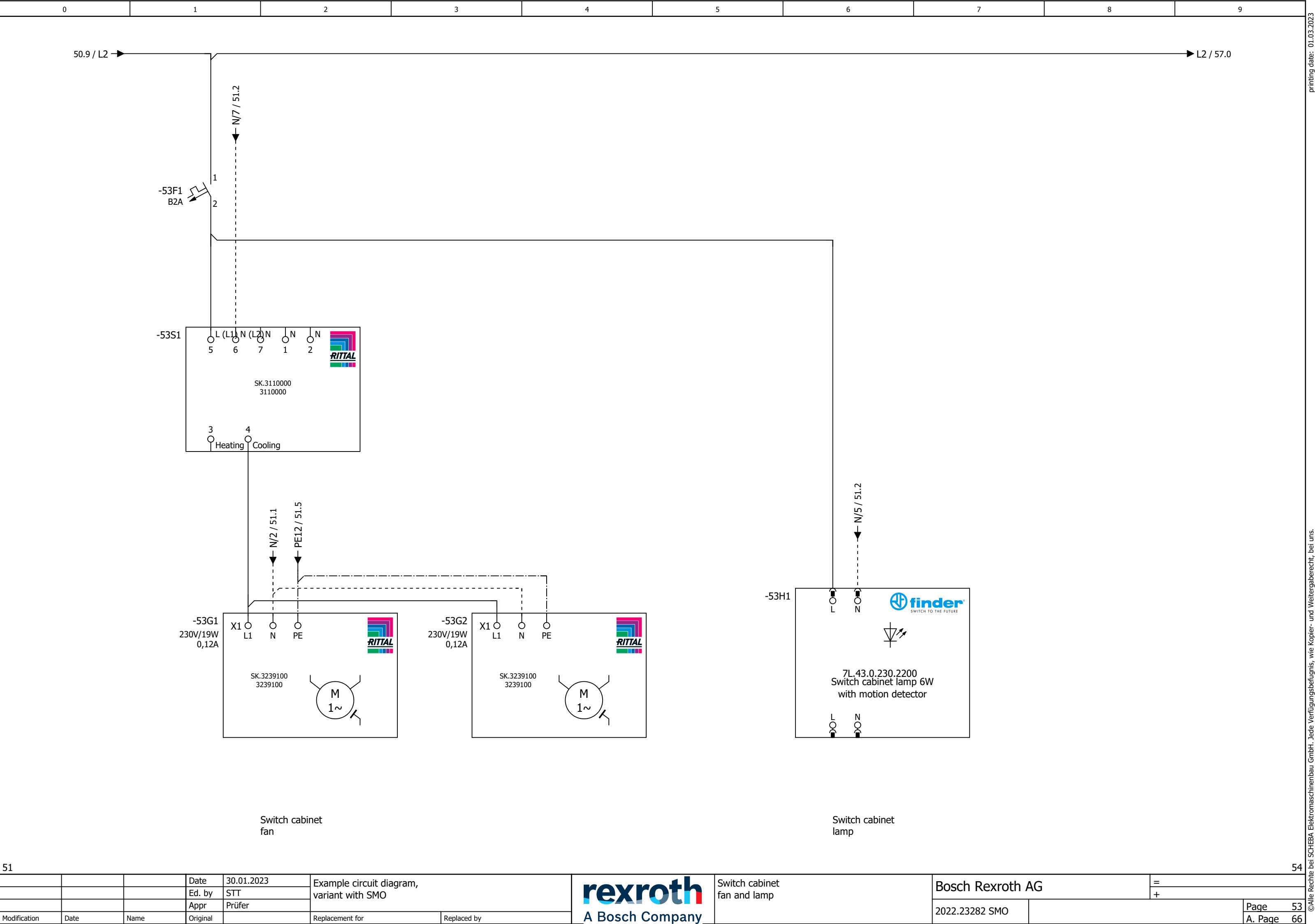


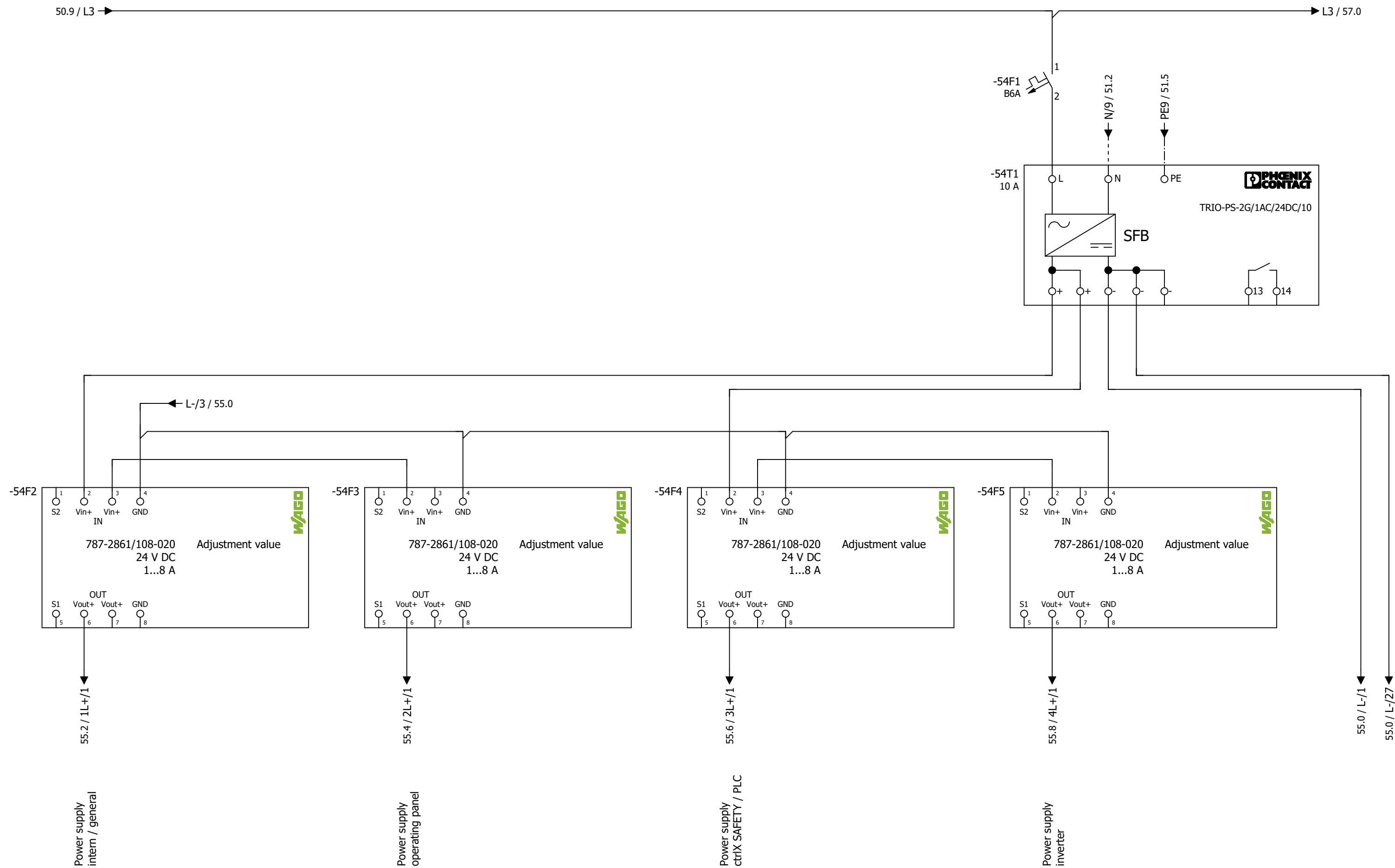


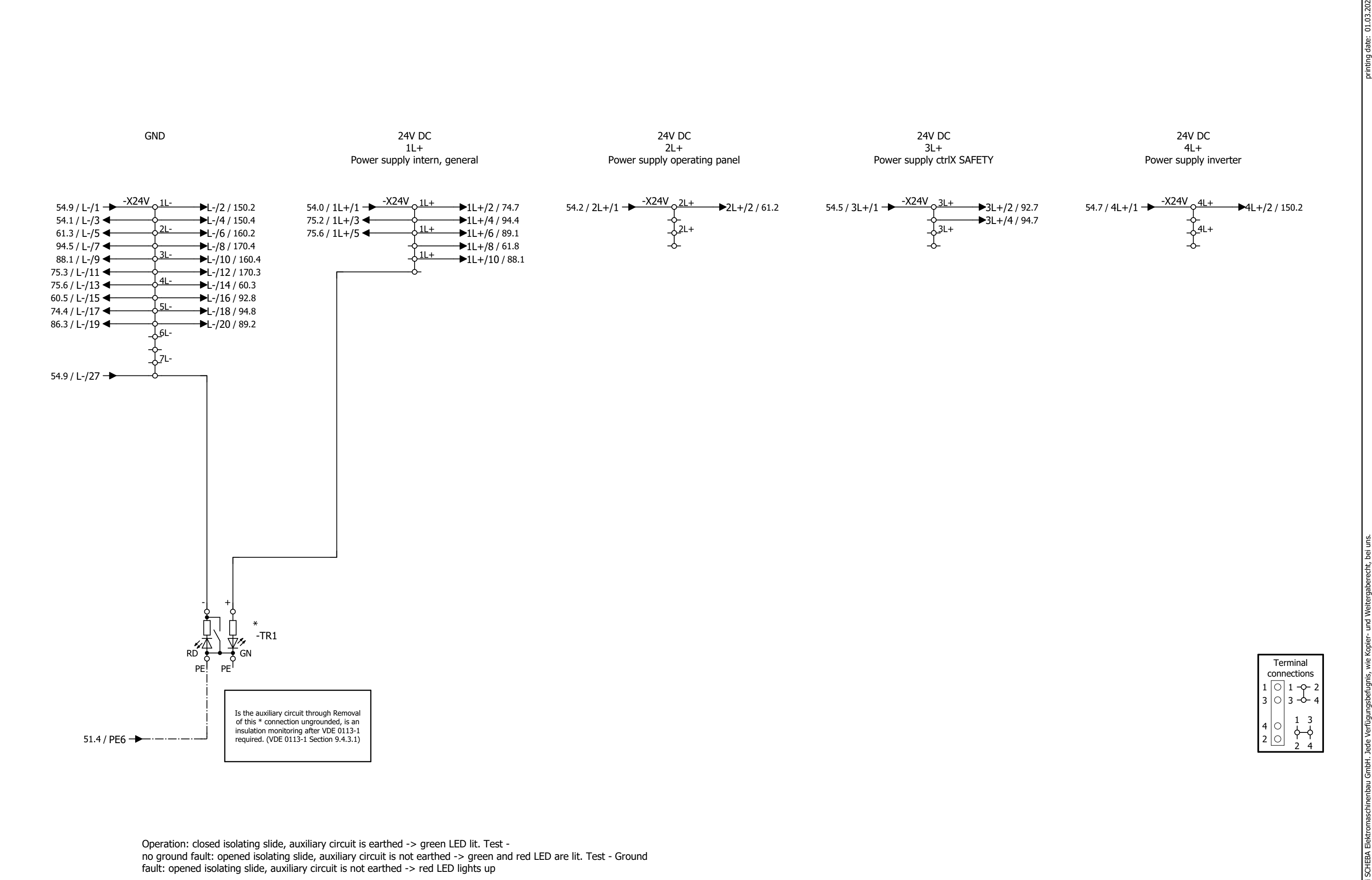


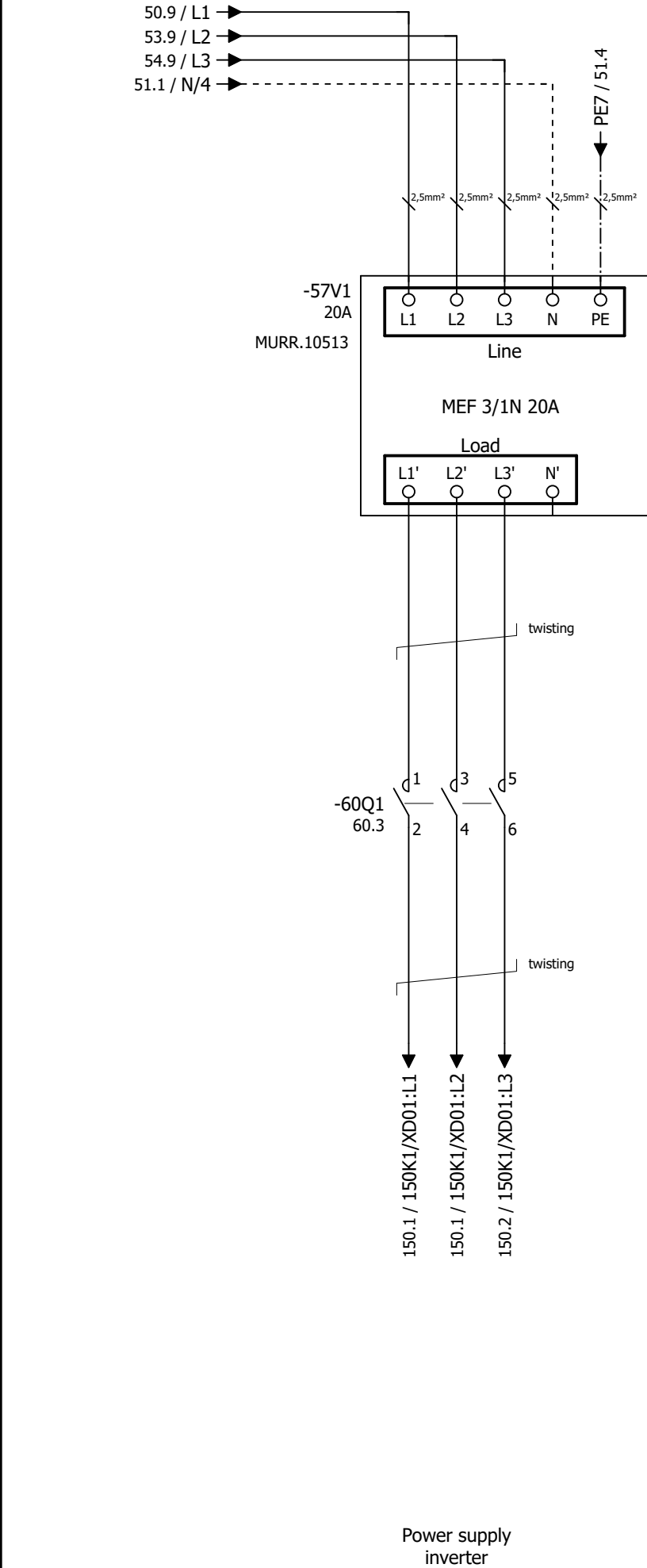


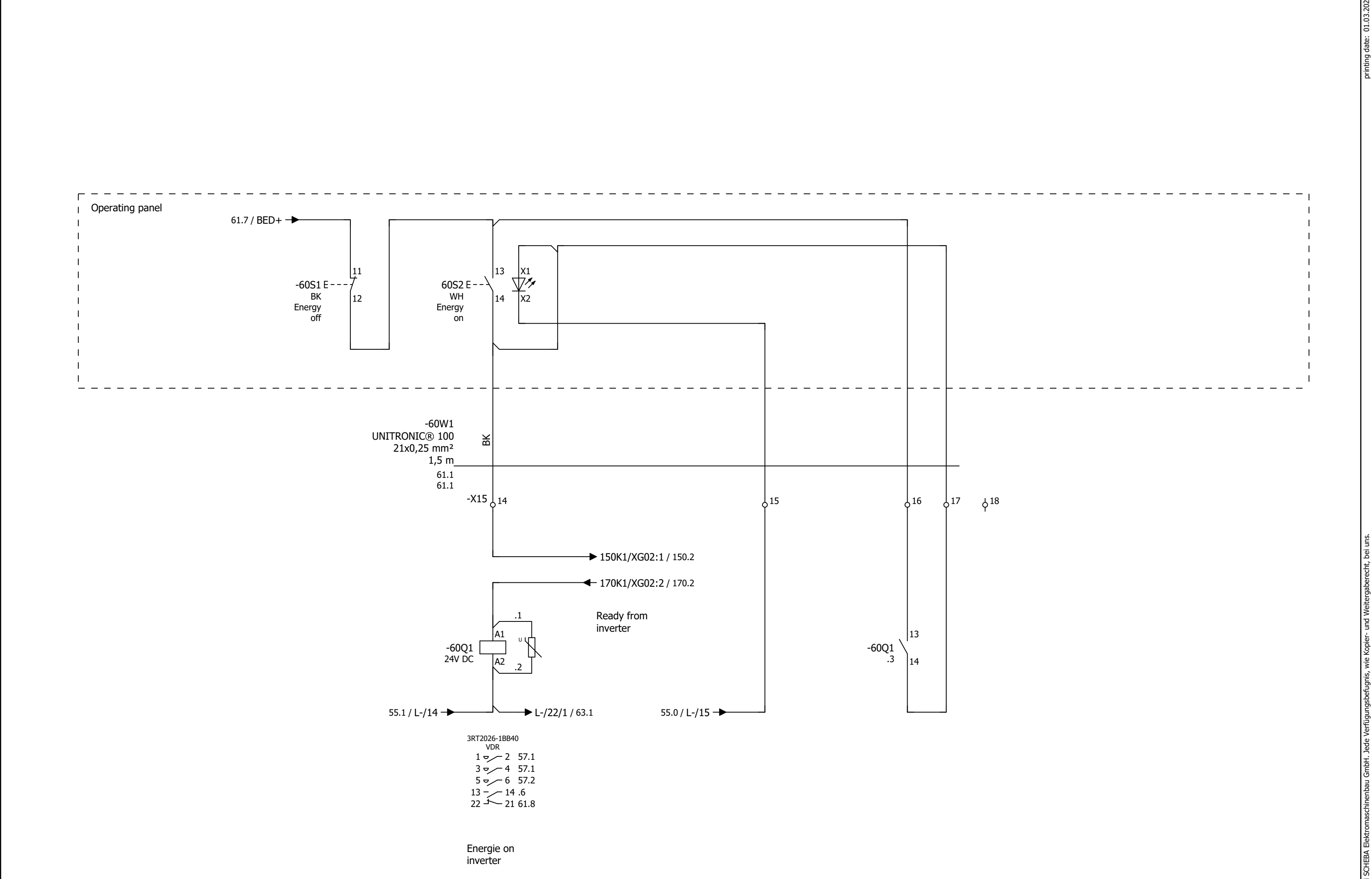


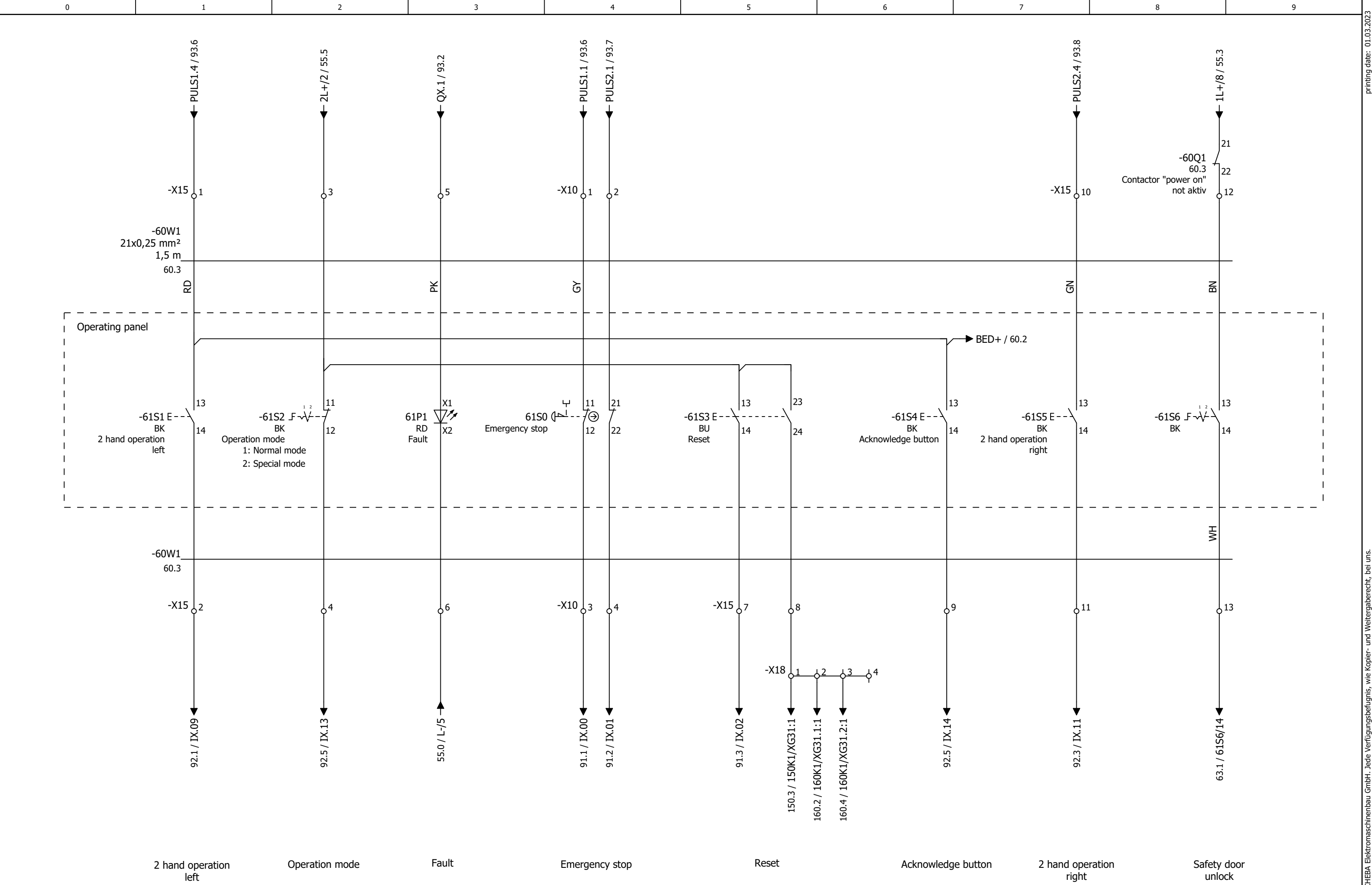




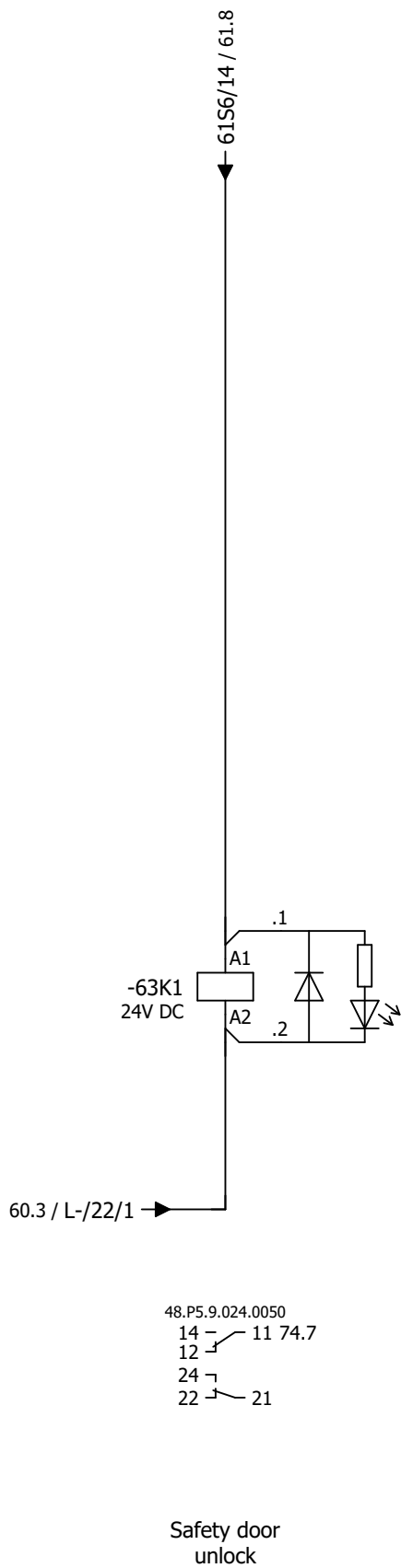




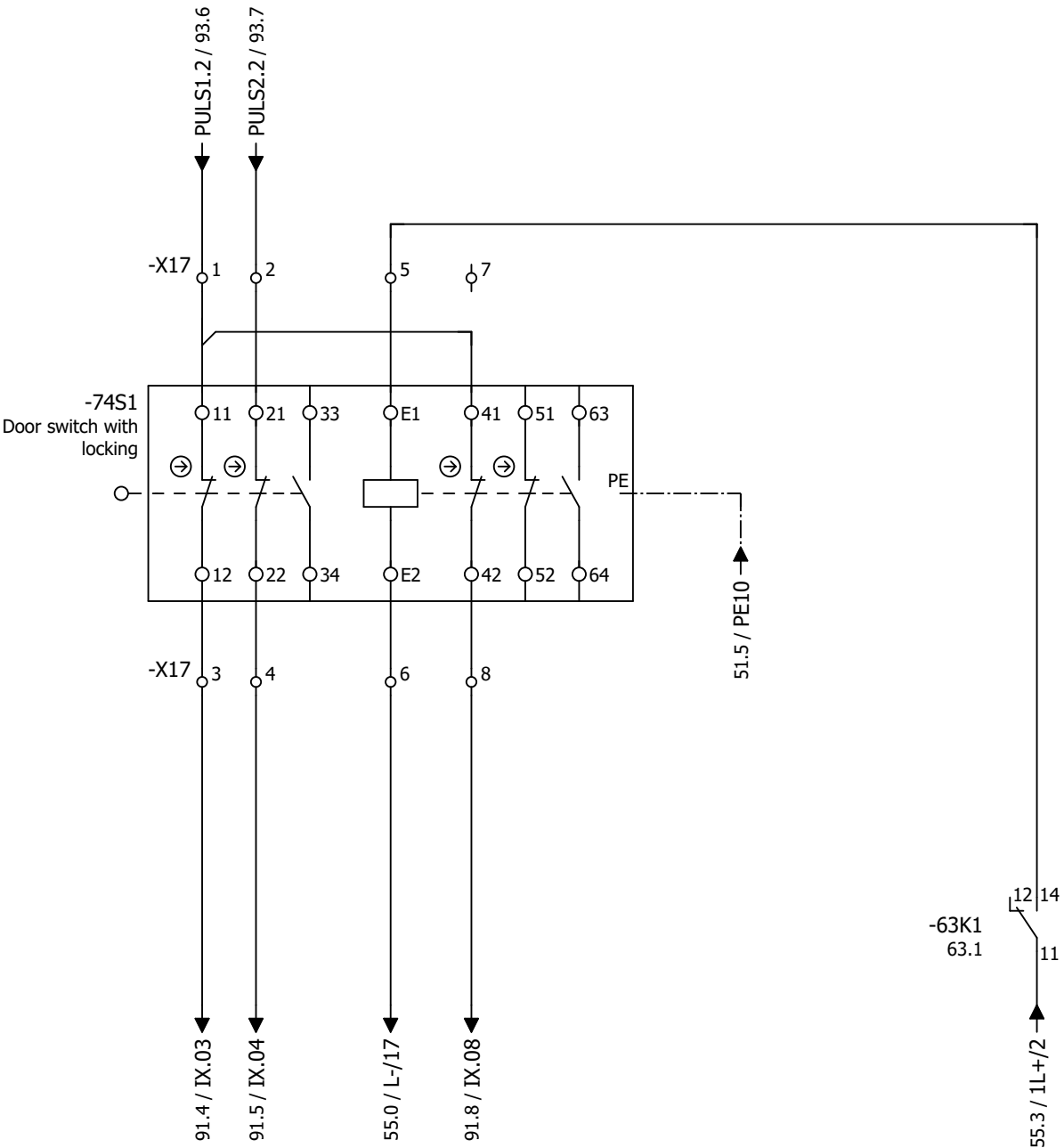




0	1	2	3	4	5	6	7	8	9	∞
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61										74									
			Date	20.02.2023	Example circuit diagram, variant with SMO			Safety door unlock	Bosch Rexroth AG		=								
			Ed. by	STT							+								
			Appr	Prüfer															
Modification	Date	Name	Original		Replacement for	Replaced by					2022.23282 SMO				Page	63			
														A. Page	66				



Door switch

Safety door
unlock

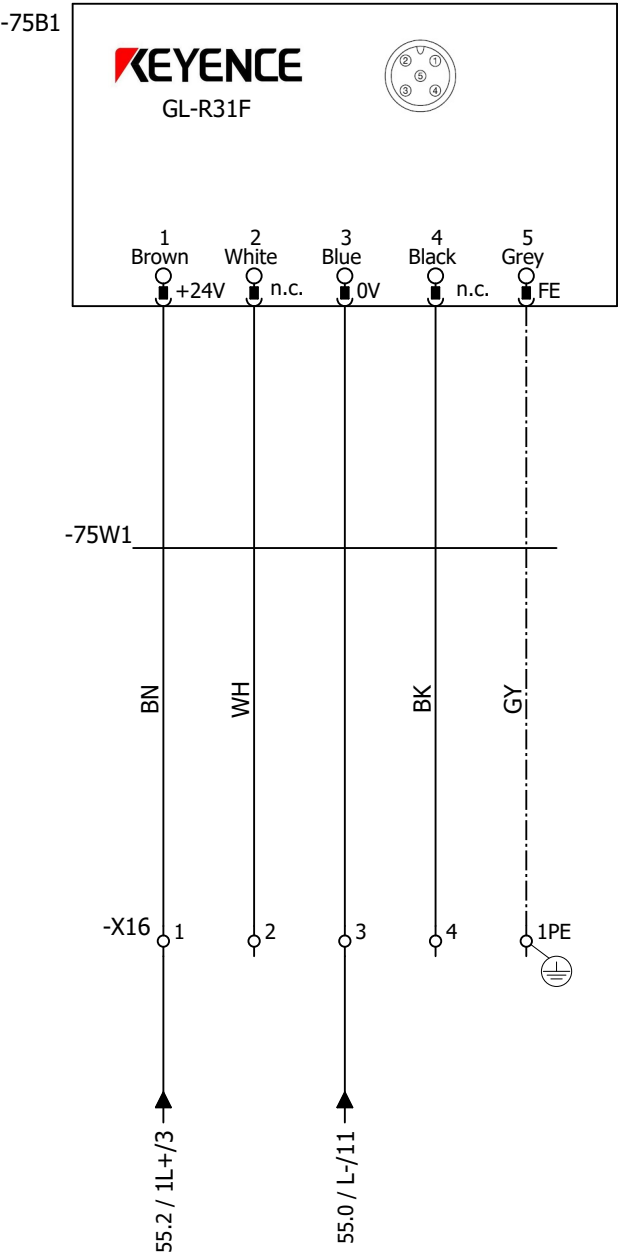
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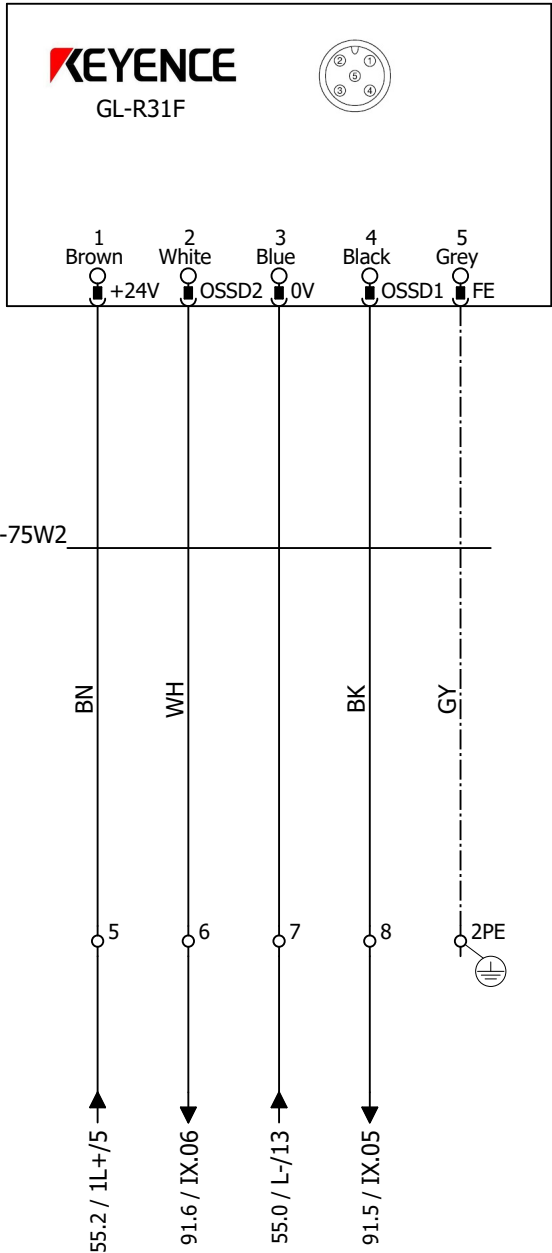
Safety door switch

Bosch Rexroth AG

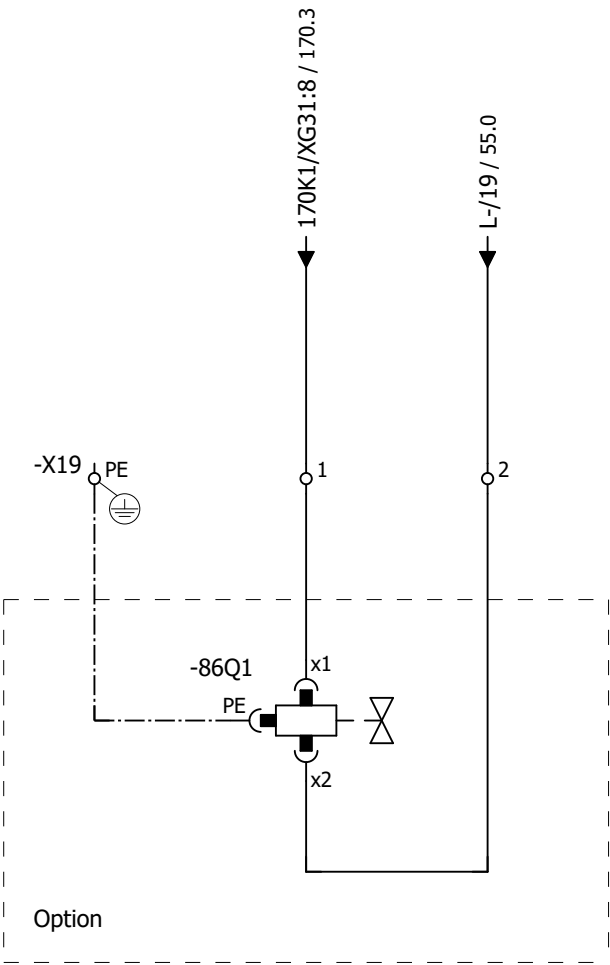
2022.23282 SMO



Light curtain transmitter

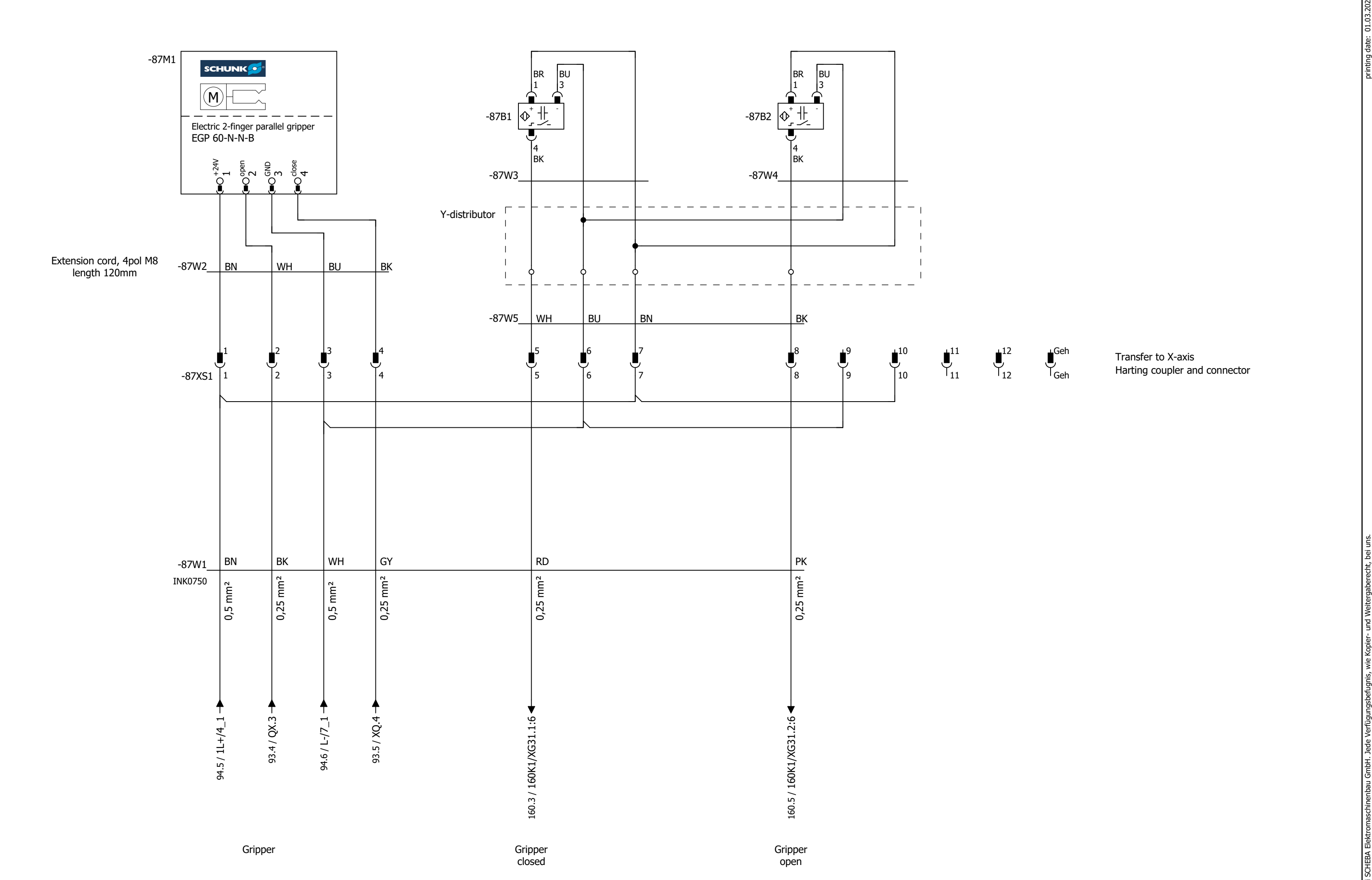


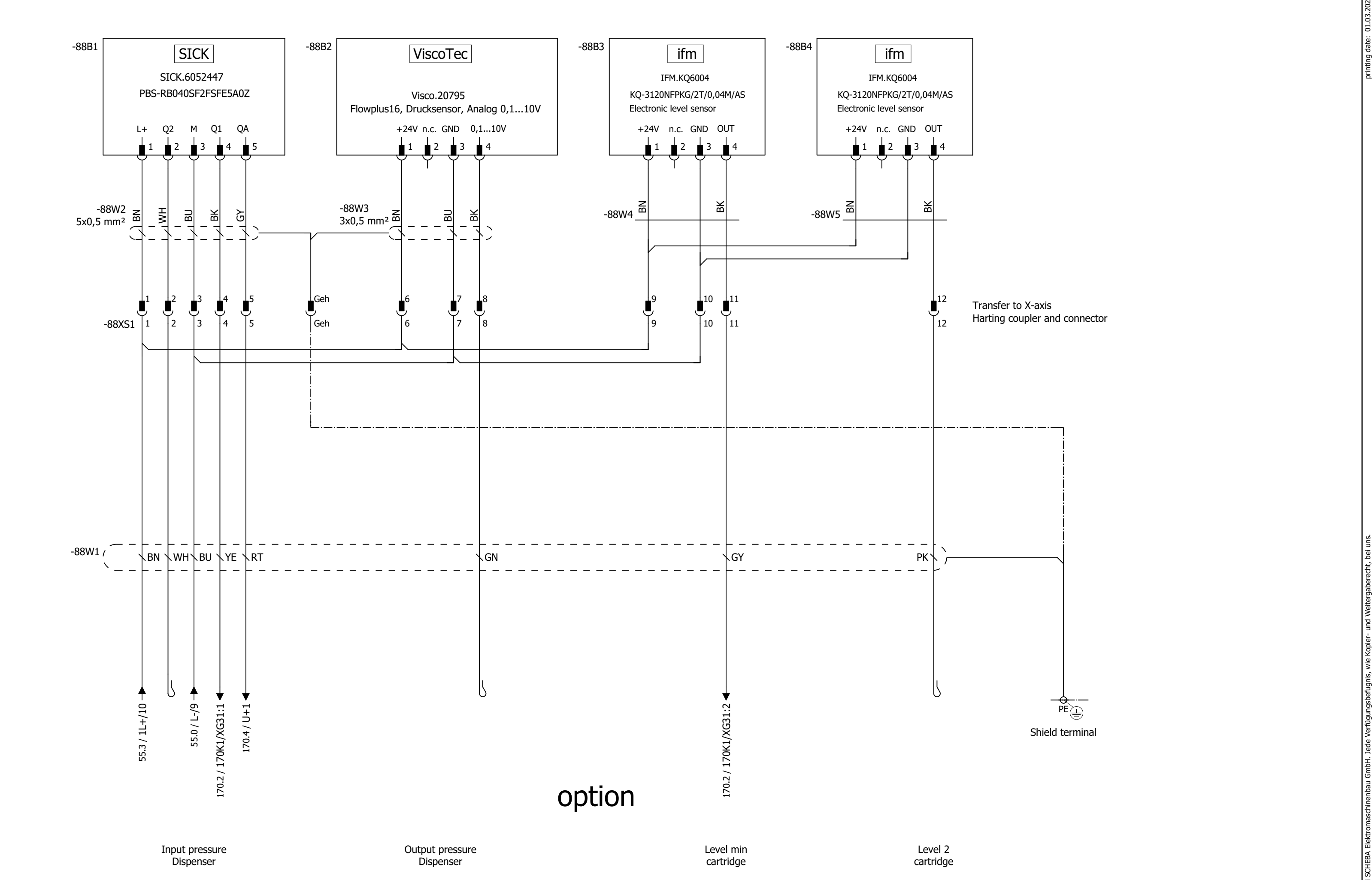
Light curtain receiver

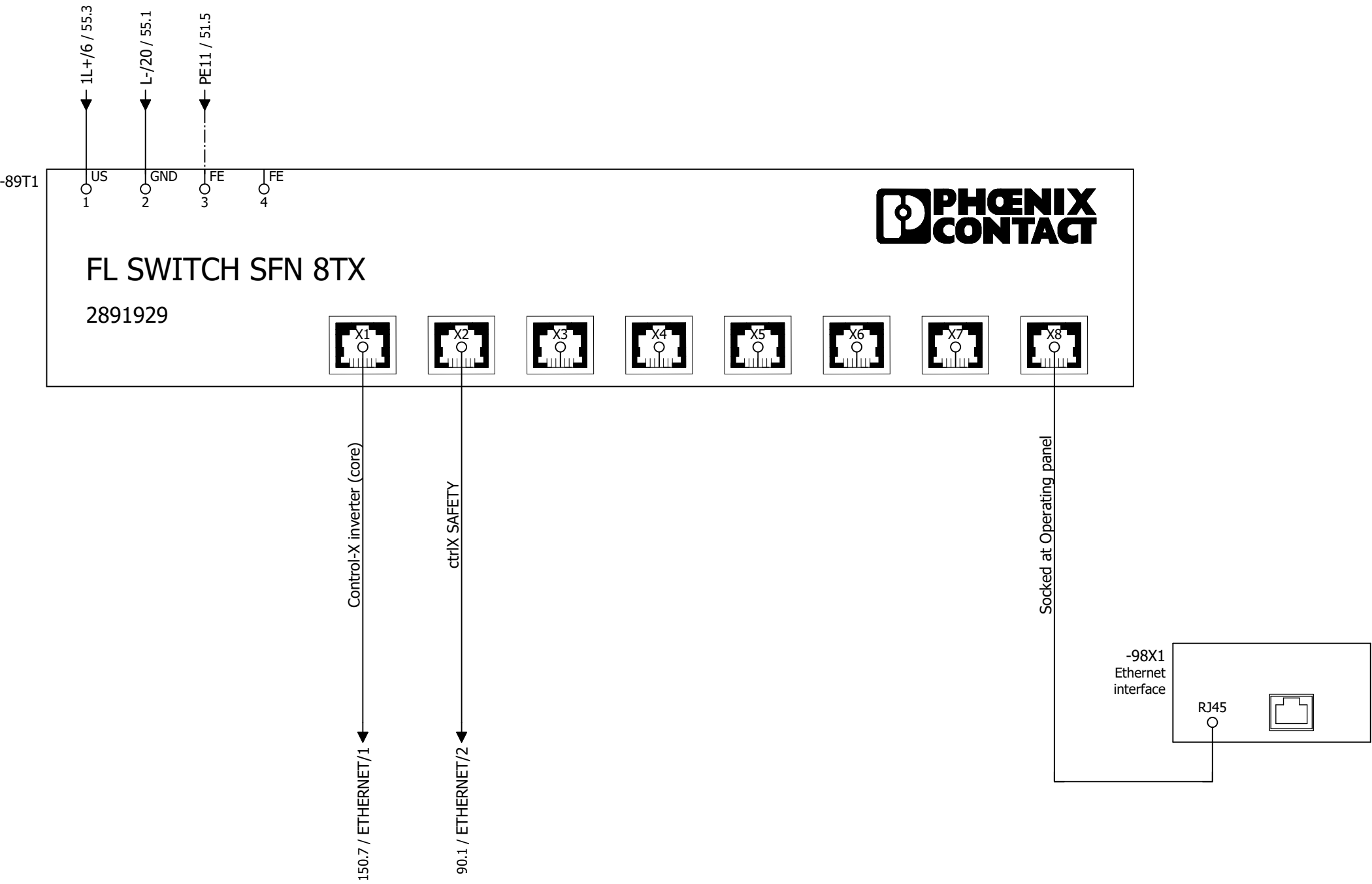


option

Release of dispenser pressure







			Date	20.02.2023	Example circuit diagram, variant with SMO	
			Ed. by	STT		
			Appr	Prüfer		
Modification	Date	Name	Original		Replacement for	Replaced by

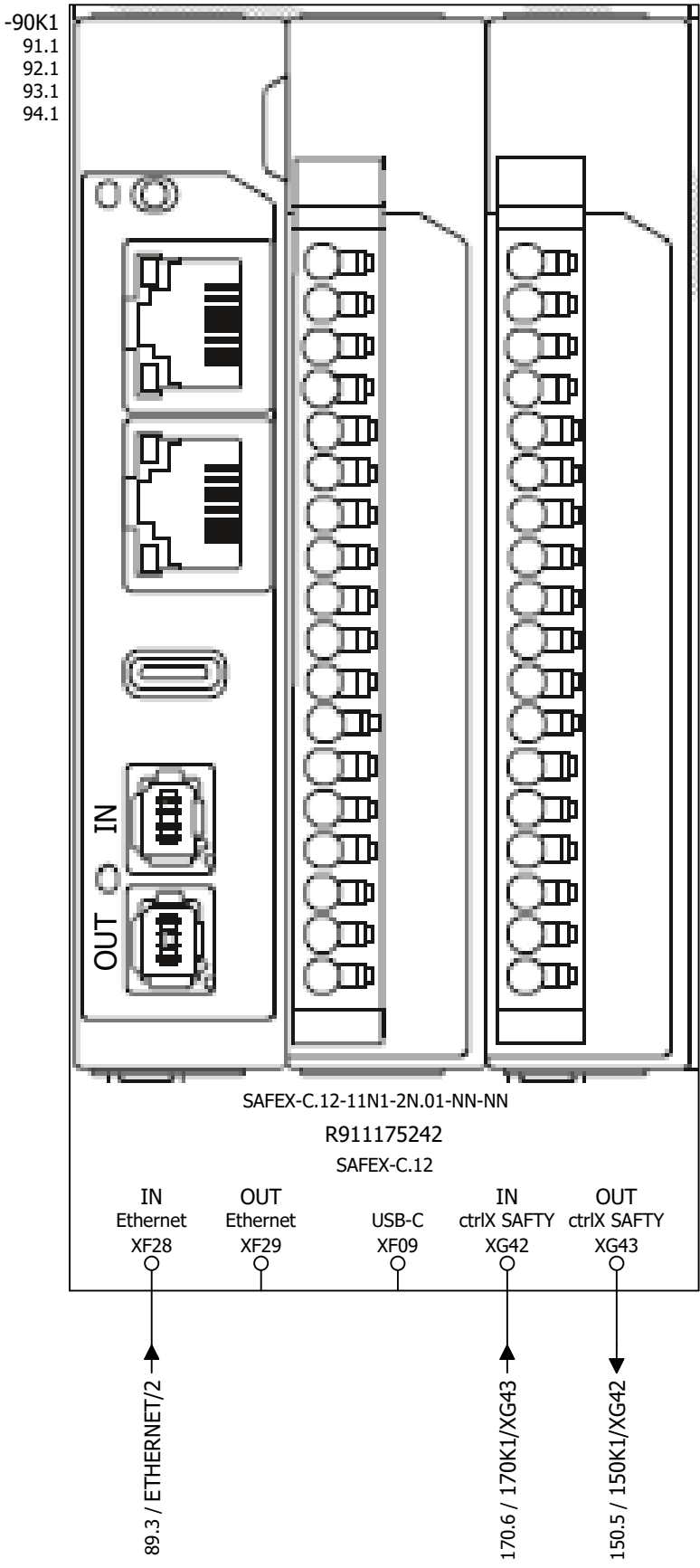


Tabelle 17: XG31

Pin	Bezeichner	Kurzbeschreibung
1-16	Ix.00-Ix.15 ¹⁾	Sichere digitale Eingänge
17	U _P 24V	Spannungsversorgung Peripherie DC +24 V Ausgänge
18	U _P GND	Spannungsversorgung Peripherie DC 0 V

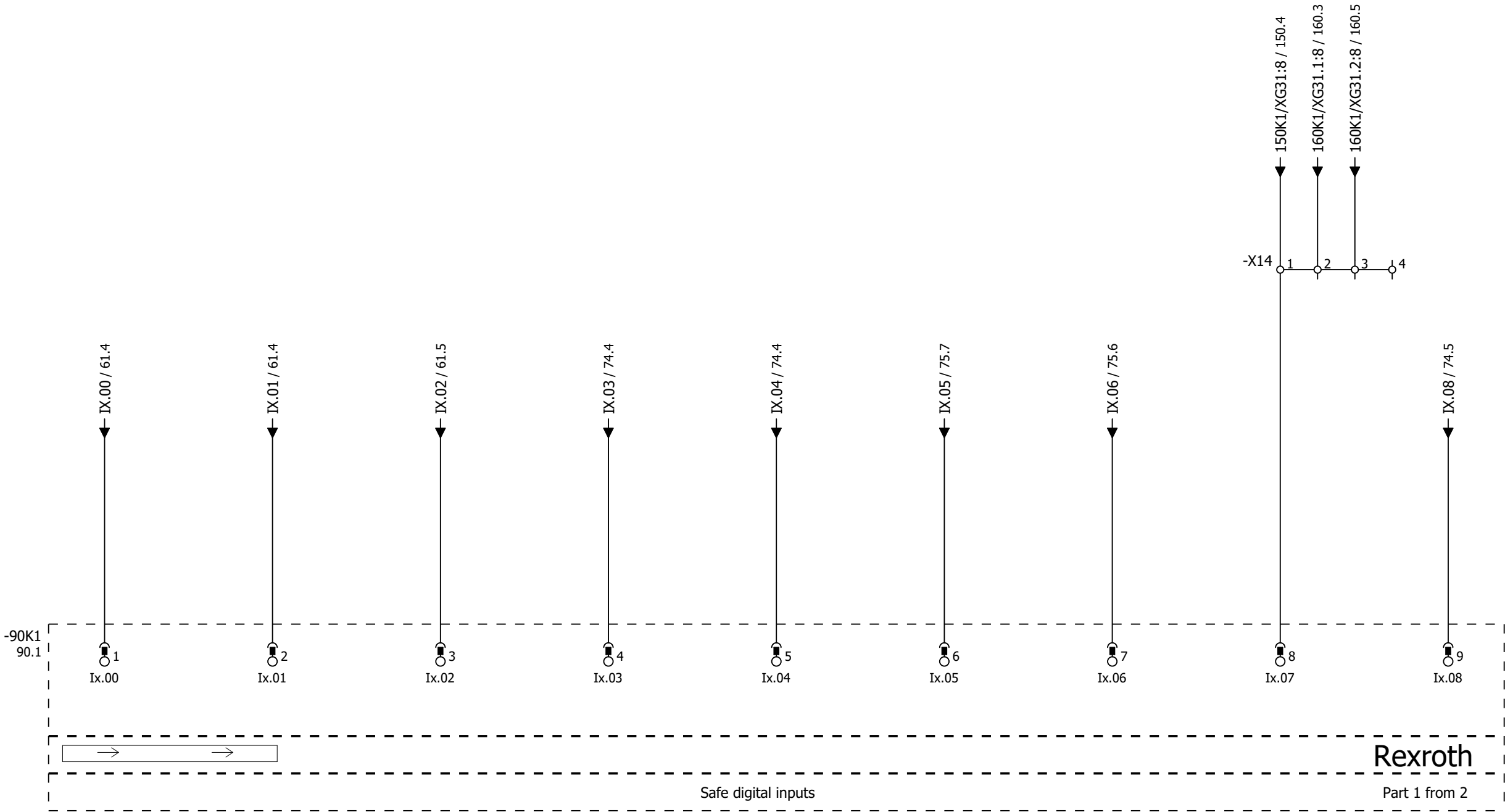
1) Master-/Slaveindex x entspricht entweder 0 (Master) oder >0 (Slave)

Tabelle 18: XG32

Pin	Bezeichner	Kurzbeschreibung
1-6	Qx.0-Qx.5/Py ^{1) 2)}	Sichere digitale Ausgänge, pp-schaltend 0,5 A (konfigurierbar als Pulsausgänge, Pulsquelle 1 oder 2)
7-8	Py/Qx.6-Qx.7 ^{1) 2)}	Pulsausgänge, Pulsquelle 1 (Pin 7) oder 2 (Pin 8) (konfigurierbar als Ausgang)
9	Qx.8_P/PP ¹⁾	Konfiguration PN/PP: Qx.8_P und Qx.9_N sicherer digitaler Ausgang, 2 A; Qx.10_P und Qx.11_N sicherer digitaler Ausgang, 2 A; (einzeln nicht sicherer Ausgang) Konfiguration PP: Qx.8_PP bis Qx.11_PP sichere digitale Ausgänge, 2 A
10	Qx.9_N/PP ¹⁾	
11	Qx.10_P/PP ¹⁾	
12	Qx.11_N/PP ¹⁾	
13	Qx.12_R1 ¹⁾	Sicherer Relaisausgang 1
14	Qx.13_R1 ¹⁾	
15	Qx.14_R2 ¹⁾	Sicherer Relaisausgang 2
16	Qx.15_R2 ¹⁾	
17	U _L 24V	Spannungsversorgung Logik DC +24 V Logik
18	U _L GND	Spannungsversorgung Logik DC 0 V

1) Master-/Slaveindex x entspricht entweder 0 (Master) oder >0 (Slave)

2) Pulsquellenindex y (Puls 1 oder Puls 2 parametrierbar)



			Date	21.02.2023	Example circuit diagram, variant with SMO	
			Ed. by	STT		
			Appr	Prüfer		
Modification	Date	Name	Original		Replacement for	Replaced by



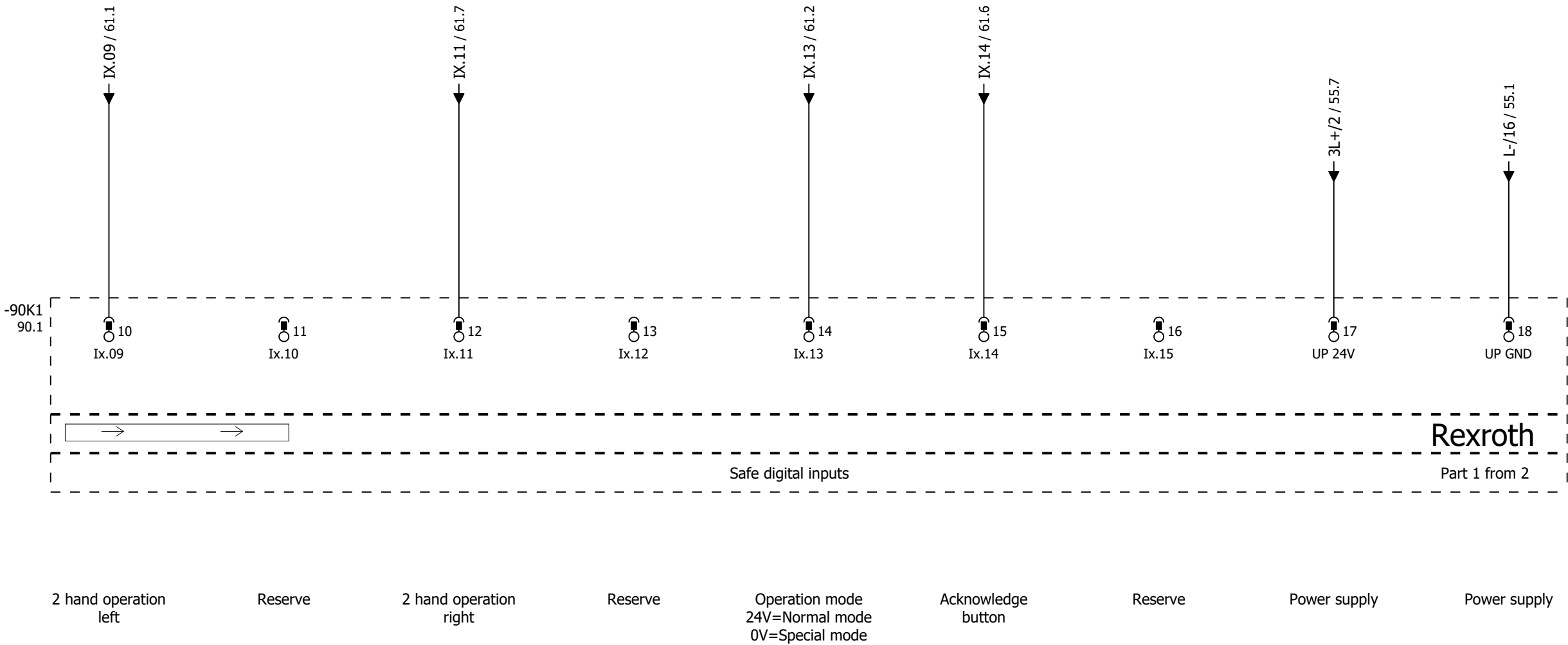
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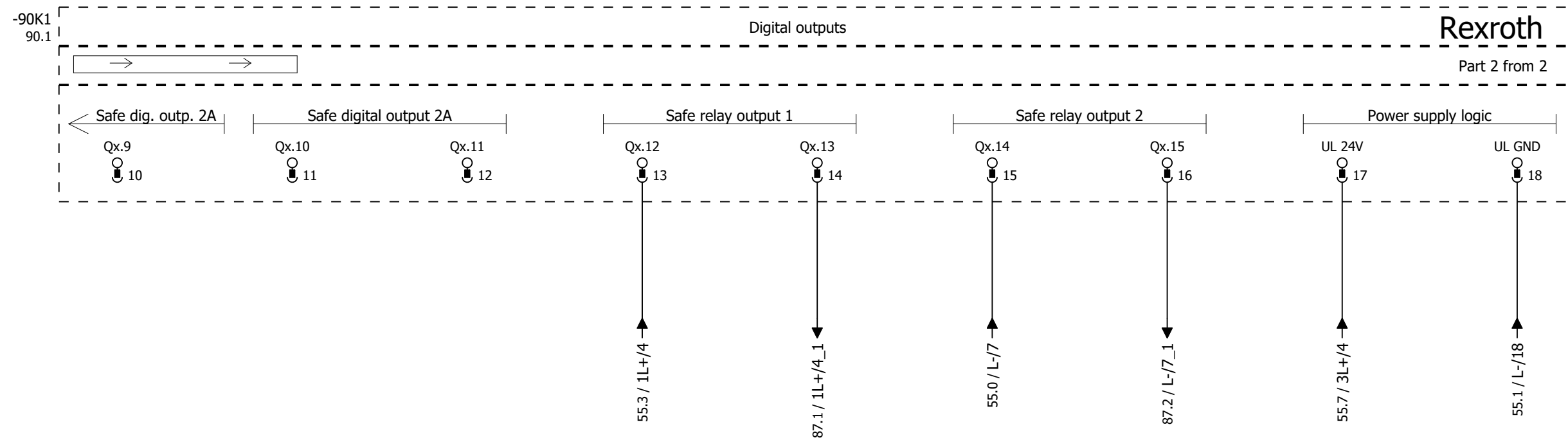
Bosch Rexroth AG

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Reserve

Reserve

Reserve

24V/DC power supply
gripper

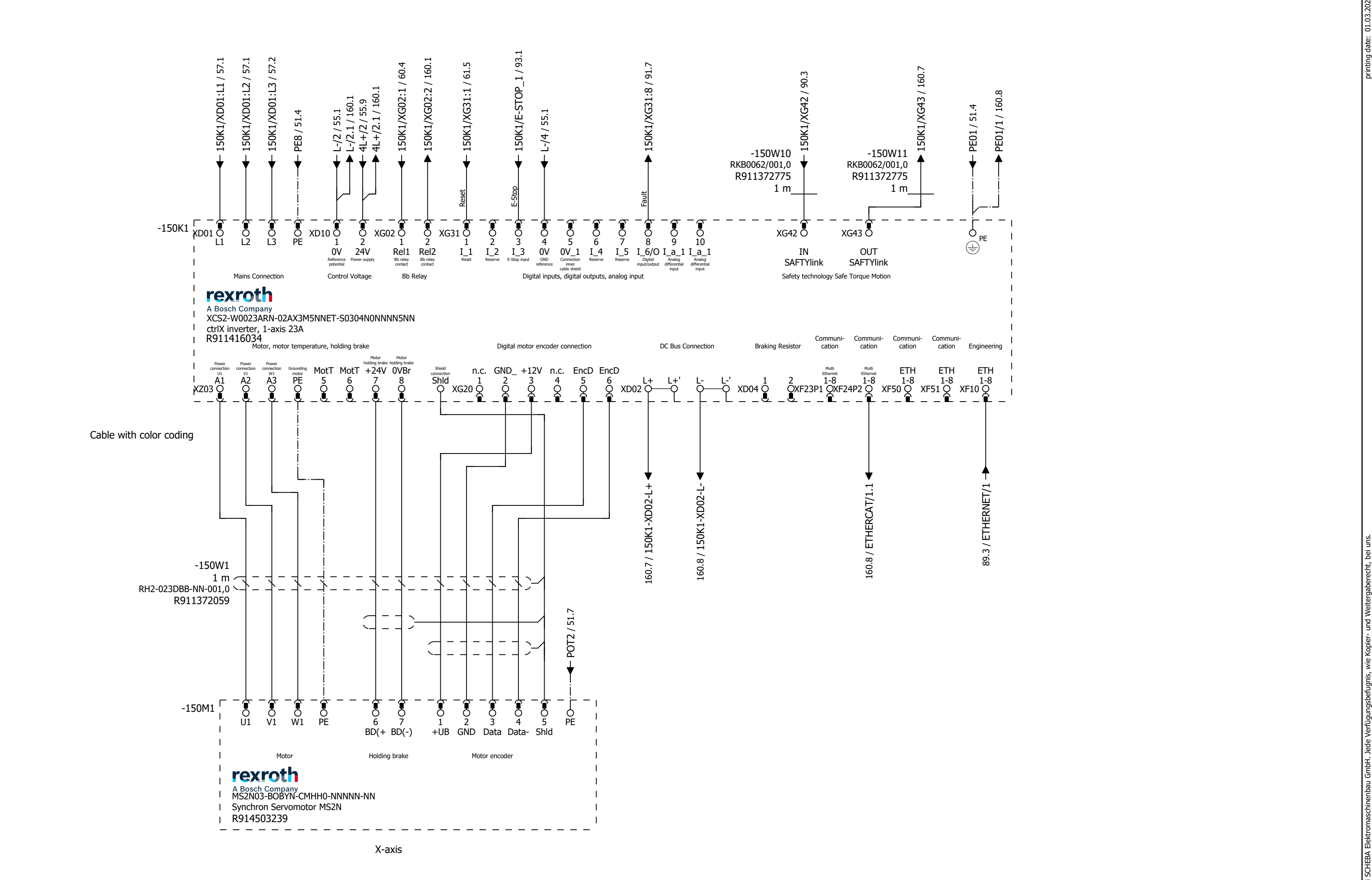
Release
24V/DC power supply
gripper

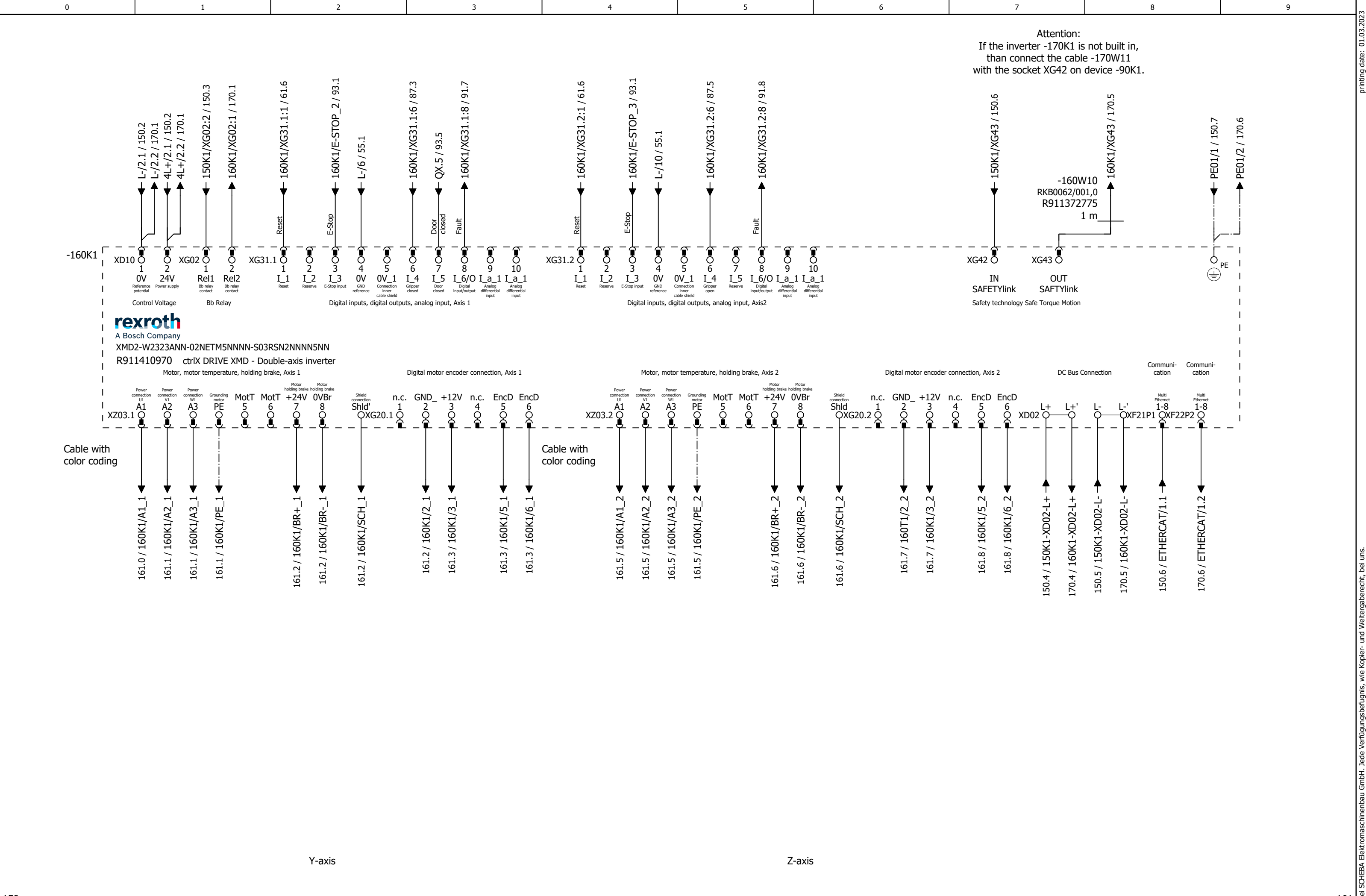
0V power supply
gripper

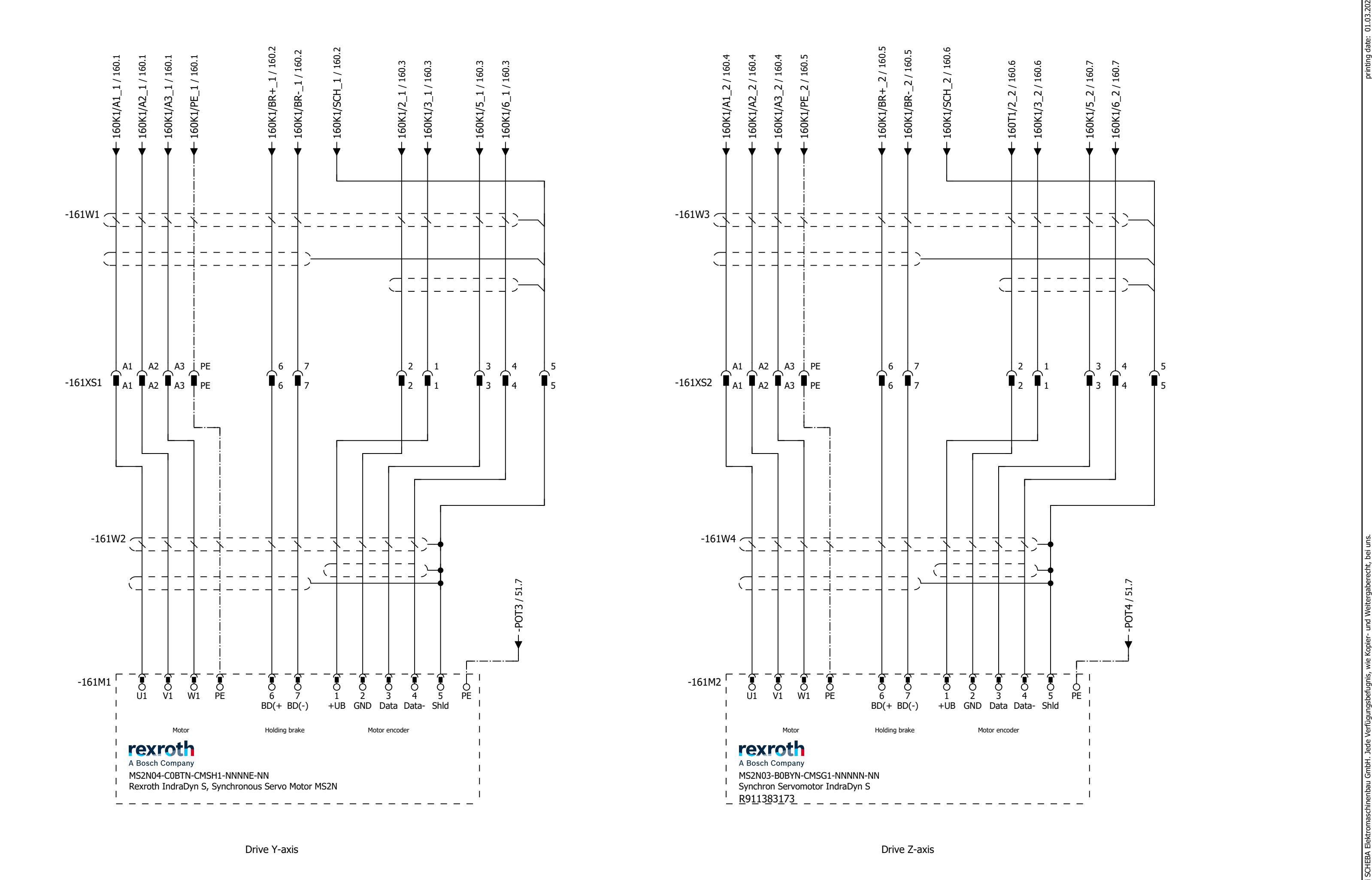
Release
0V power supply
gripper

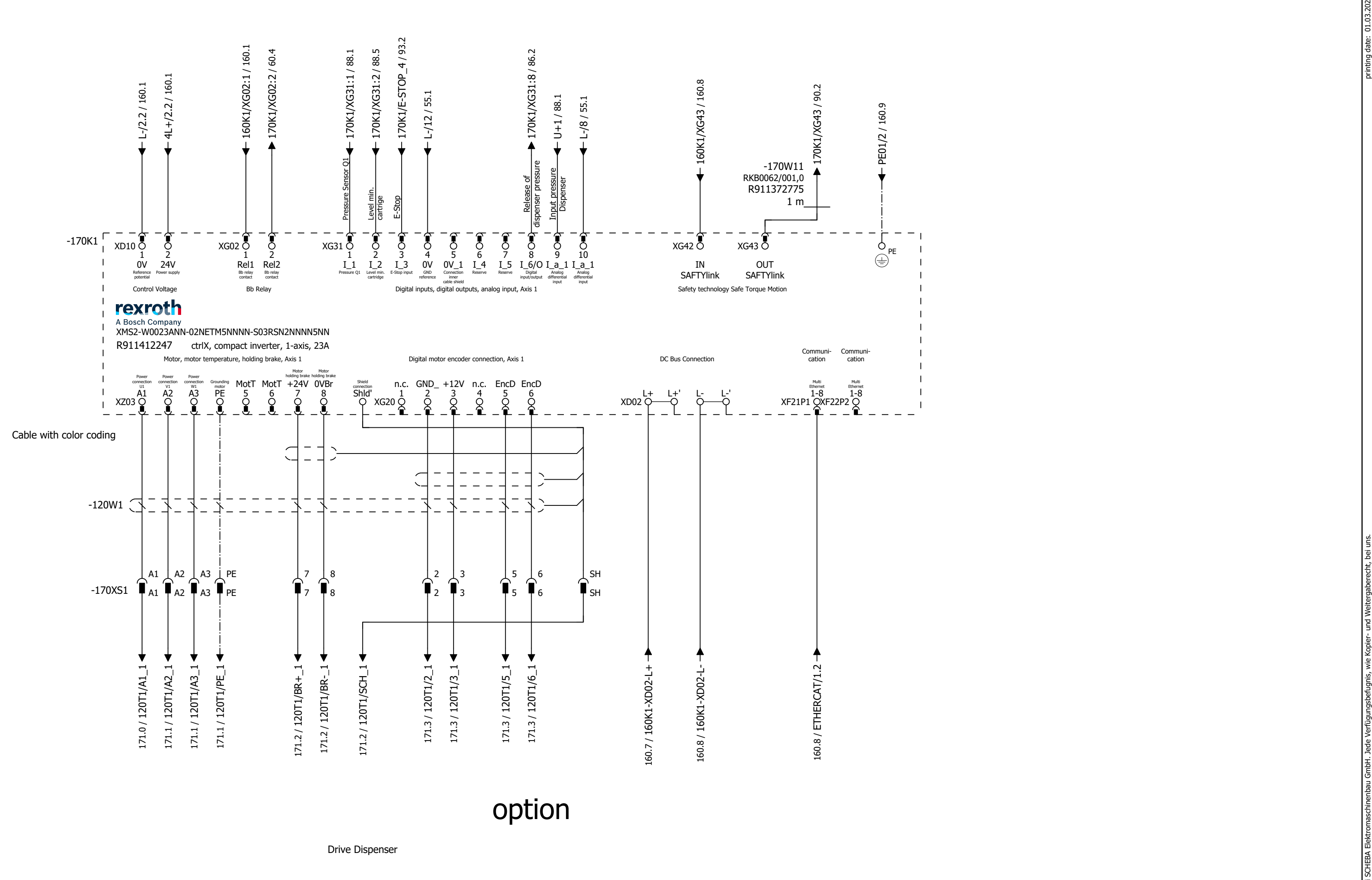
Power supply

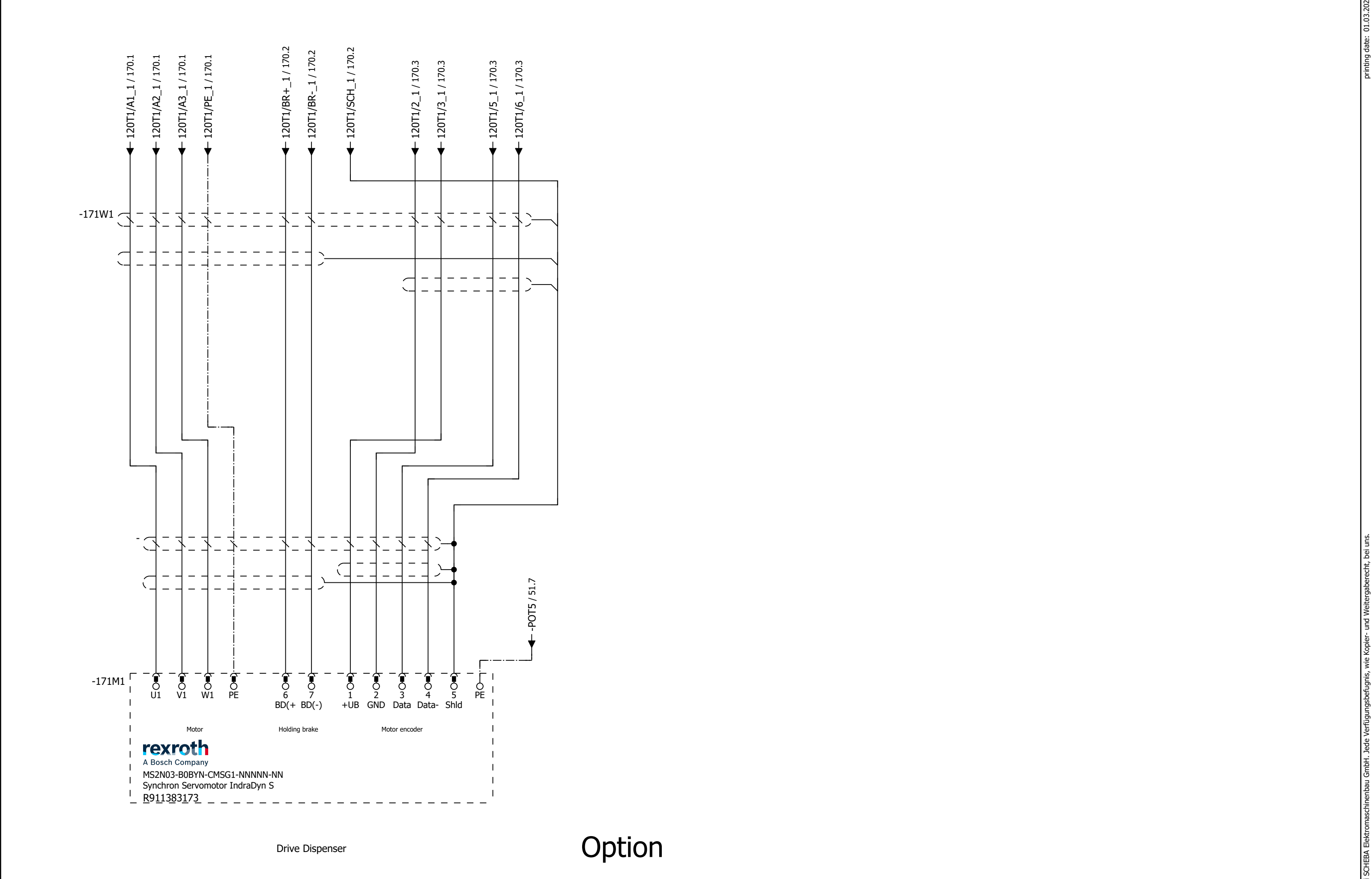
Power supply












Terminal diagram

function text									Cable name	Strip TR1 disconnect terminal					Cable name					Page / column
										Target designation	Connection point	terminal	jumper	Target designation						
GND										XPE	3	TR1		X24V	7L-				55.1	
										X24V	1L+									

Terminal diagram

function text									Cable name	Strip X0						Cable name						Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point	cable type						
										50F1	1	L1									50.0	
								50Q1		1L1	L1								50.0			
											L2	,	50Q1	3L2						50.1		
											L3	,	50Q1	5L3						50.1		
										N	N	,	XN	1						50.1		
											PE	PE	,								50.1	

Terminal diagram

function text									Cable name	Strip X01 230V/AC before main switch						Cable name						Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point							
switch cabinet socket										50X1	L	1	•	50F2	2							50.3
switch cabinet socket										50X1	N	N	•	50F1	N.							50.4
switch cabinet socket										50X1	PE	PE	•									50.4

Terminal diagram

[illegible]

Terminal diagram

function text									Cable name	Strip X11 Pulse 1 signal					Cable name					Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point					
										X10	1	1	<div><div></div><div></div><div></div><div></div></div>	90K1	7				93.6	
											2	X17		1				93.6		
											3	X15		1				93.6		
											4							93.7		

Terminal diagram

function text									Cable name	Strip X12 Pulse 2 signal					Cable name					Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point					
									X10	2	3		X15	10					93.8	
							4							93.8						
							1	90K1			8					93.7				
							2	X17			2					93.7				

Terminal diagram

[illegible]

Terminal diagram

function text									Cable name	Strip X16 Light curtain					Cable name	75W1	75W2				Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point						
										X24V	1L+	1	•	75B1	Brown						75.2
												2	•	75B1	White						75.3
										X24V	3L-	3	•	75B1	Blue						75.3
												4	•	75B1	Black						75.3
												1PE	•	75B1	Grey						75.3
										X24V	1L+	5	•	75B1	Brown						75.6
										90K1	7	6	•	75B1	White						75.6
										X24V	4L-	7	•	75B1	Blue						75.6
										90K1	6	8	•	75B1	Black						75.7
												2PE	•	75B1	Grey						75.7

Terminal diagram

[illegible]

Terminal diagram

[illegible]

Terminal diagram

function text									Cable name	Strip X24V 24V/DC power supply						Cable name						Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point							
GND										150K1	XG31:4	1L-	<div></div>	54F2	4							55.1
										54T1	-											
										150K1	XD10:1											
GND										170K1	XG31:10	2L-	<div></div>	90K1	15							55.1
										X15	6											
GND										160K1	XG31.1:4		<div></div>									
										170K1	XG31:4	3L-		X16	3							55.1
										88XS1	3											
										160K1	XG31.2:4											
GND										90K1	18	4L-	<div></div>	X15	15							55.1
										X16	7											
										60Q1	A2											
GND										89T1	2	5L-		X19	2							55.1
										X17	6											
										90K1	18											
GND												6L-	<div></div>									55.1
GND										TR1	TR1:-	7L-		54T1	-'							55.1
24V DC 1L+ Power supply intern, general										90K1	13	1L+		X16	1							55.3
										54F2	6											
										63K1	11											
24V DC 1L+ Power supply intern, general										60Q1	21	1L+	<div></div>									55.3
										X16	5											
										89T1	1											
24V DC 1L+ Power supply intern, general										88XS1	1	1L+		TR1	TR1:+							55.3
24V DC 2L+ Power supply operating panel										54F3	6	2L+										55.4
										X15	3		<div></div>									
												2L+										55.4
24V DC 2L+ Power supply operating panel										90K1	17	3L+										55.6
24V DC 3L+ Power supply ctrlX SAFETY										54F4	6											
										90K1	17											
24V DC 3L+ Power supply ctrlX SAFETY												3L+	<div></div>									55.6
24V DC 4L+ Power supply inverter										54F5	6	4L+										55.8
										150K1	XD10:2											
24V DC 4L+ Power supply inverter												4L+										55.8

Terminal diagram

function text									Cable name	Strip XPE PE terminal block					Cable name						Page / column
										Target designation	Connection point	terminal	jumper	Target designation	Connection point						
										XPOT	1	1	•								51.4
										12PE	PE	2	•		PE						51.4
										TR1	TR1:PE	3	•	150K1	X3:PE						51.4
										150K1	XD01:PE	4	•	57V1	PE						51.4
										71S1	PE	5	•	54T1	PE						51.5
										53G1	X1:PE	6	•	89T1	3						51.5
												7	•								51.5

Summarized parts list

Order number	volume in units	description designation	Type number	manufacturer supplier
R911410970	1	ctrlX, compact inverter, 2-axis, 2x23A ctrlX, compact inverter, 2-axis, 2x23A	XMD2-W2323ANN-02NETM5NNNN-S03RSN2NNNN5NN	BOR Bosch Rexroth AG
R911412247	1	ctrlX, compact inverter, 1-axis, 23A ctrlX, compact inverter, 1-axis, 23A	XMS2-W0023ANN-02NETM5NNNN-S03RSN2NNNN5NN	BOR Bosch Rexroth AG
R911416034	1	ctrlX inverter, 1-axis 23A maximum current 23A, with Safe Motion Funktion	XCS2-W0023ARN-02AX3M5NNET-S0304N0NNNN5NN	BOR Bosch Rexroth AG
R911175242	1	SAFEX-C.12	SAFEX-C.12-11N1-2N.01-NN-NN	BOR Bosch Rexroth AG
R911372059	1,00	RH2-023DBB-NN-001,0 Motor Hybridcable 1,5mm², 1m, Motor Hybridcable	RH2-023DBB-NN-001,0	BOR Bosch Rexroth AG
R911372775	4,00	RKB0062/001,0 Cable for zone modul, 1,0m Cable for zone modul 1,0m	RKB0062/001,0	BOR Bosch Rexroth AG
R911383173	2	Synchron Servomotor IndraDyn S	MS2N03-B0BYN-CMSG1-NNNNN-NN	BOR Bosch Rexroth AG
R914503239	1	Synchron Servomotor MS2N	MS2N03-BOBYN-CMH0-NNNNN-NN	BOR Bosch Rexroth AG
	1	Rexroth IndraDyn S, Synchronous Servo Motor MS2N Rexroth IndraDyn S, Synchronous Servo Motor MS2N	MS2N04-C0BTN-CMSH1-NNNNE-NN	BOS Bosch Rexroth
216387	2	Contact element, 1 N/C, base fixing, 6. contact, spring clamp connection The RMQ-Titan product range includes the matching contact elements here in addition to a wide range of front elements. A key differentiating feature is, among other things, mechanical with the fastening type (front, bottom) and the terminal type (spring-cage terminal or screw	M22-CKC01	ETN Eaton
216386	7	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection The RMQ-Titan product range includes the matching contact elements here in addition to a wide range of front elements. A key differentiating feature is, among other things, mechanical with the fastening type (front, bottom) and the terminal type (spring-cage terminal or screw	M22-CKC10	ETN Eaton
216573	1	LED element, red, base fixing, cage clamp The front elements get their shine with the RMQ-Titan LED light elements!	M22-CLEDC-R	ETN Eaton
216572	1	LED element, white, base fixing, cage clamp The front elements get their shine with the RMQ-Titan LED light elements!	M22-CLEDC-W	ETN Eaton
216600	1	Pushbutton, flush, blue, momentary Complete front element of the RMQ-Titan series with degree of protection IP67 and IP69K. The perfect outfit for use at machines and on panels. The ergonomically shaped button elements are matched to the shape of a fingertip. That makes operation even more comfortable.	M22-D-B	ETN Eaton
216590	1	Pushbutton, flush, black, momentary Complete front element of the RMQ-Titan series with degree of protection IP67 and IP69K. The perfect outfit for use at machines and on panels. The ergonomically shaped button elements are matched to the shape of a fingertip. That makes operation even more comfortable.	M22-D-S	ETN Eaton
216609	1	Pushbutton, flush, black 0, momentary Complete front element of the RMQ-Titan series with degree of protection IP67 and IP69K. The perfect outfit for use at machines and on panels. The ergonomically shaped button elements are matched to the shape of a fingertip. That makes operation even more comfortable. This	M22-D-S-X0	ETN Eaton
216942	1	Illuminated pushbutton actuator, flush, white I, momentary Complete front element of the RMQ-Titan series with degree of protection IP67 and IP69K. The perfect outfit for use at machines and on panels. The ergonomically shaped button elements are matched to the shape of a fingertip. That makes operation even more comfortable.	M22-DL-W-X1	ETN Eaton
216712	2	Mushroom actuator, black, momentary Monochrome, raised RMQ-Titan mushroom actuator for the highest demands. The pushbutton fulfils degree of protection IP67 and IP69K and is approved for use world wide.	M22-DP-S	ETN Eaton
216538	2	surface mounting enclosure, 3 mounting location, IP67, IP69K surface mounting enclosure, 3 mounting location, IP67, IP69K	M22-I3	ETN Eaton

Summarized parts list

Order number	volume in units	description designation	Type number	manufacturer supplier
216772	1	Indicator light, flush, red Complete indicator light front element of the RMQ-Titan series. Fulfils degree of protection IP67 and IP69K and is approved for use world wide.	M22-L-R	ETN Eaton
216524	1	Emergency-stop key-release mushroom, 2 N/C, surface mounting New product improvement: improved gripability from lateral ribbed effect on the key.	M22-PV/KC02/IY	ETN Eaton
216867	2	Selector switch, toggle, 2 positions, black, maintained Selector pushbutton with thumb-grip.The pushbutton fulfils degree of protection IP66 and is approved for use world wide.	M22-WRK	ETN Eaton
216392	10	button additional sign holder	M22S-ST-X	ETN Eaton
121373	1	Emergency-stop plate, yellow, for diameter 22,5mm, 50mm x 50mm Emergency-stop plate, yellow, for diameter 22,5mm, 50mm x 50mm	M22X-XYK11	ETN Eaton
7L.43.0.230.2200	1	LED panel light, 6W	7L.43.0.230.2200	FIN Finder
07.98.00	1	Outlet with LED, yellow Rail-mountable socket, with light indicator, housing color: yellow, with screw connection, national version: Germany, housing width 45 mm	07.98.00	FIN Finder
07L.01	1	Power supply cable, S7L, AC, 2 m	07L.01	FIN Finder
48.P5.9.024.0050	1	Modular interface, push-in - 2 pole, 8 A - DC - 24 V - AgNi Modular interface, push-in - 2 pole, 8 A - DC - 24 V - AgNi	48.P5.9.024.0050	FIN Finder
09 12 007 3001	1	Male insert, Han Q 5/0, plug, 7pol.+PE, 0,14-2,5mm², 10A size 3A Male insert, Han Q 5/0, plug, 7pol.+PE, 0,14-2,5mm², 10A size 3A	Han 07/0-M	HAR Harting
09 12 007 3101	1	Female insert, Han Q 5/0, socket, 7pol.+PE, 0,14-2,5mm², 10A size 3A Female insert, Han Q 5/0, socket, 7pol.+PE, 0,14-2,5mm², 10A size 3A	Han 07/0-F	HAR Harting
09 12 012 3001	2	Male insert, Han Q 5/0, plug, 12pol.+PE, 0,14-2,5mm², 10A size 3A Male insert, Han Q 5/0, plug, 12pol.+PE, 0,14-2,5mm², 10A size 3A	Han 12Q-SMC-SE-CRA-PE mit QL	HAR Harting
09 12 012 3101	2	Female insert, Han Q 5/0 Female insert, socket, 12pol.+PE, 0,14-2,5mm², 10A size 3A	Han 12Q-SMC-BE-CRA-PE mit QL	HAR Harting
09 15 000 6101	32	Male insert, plug, 0,14-1,5mm², silver plated Crimpkontakt, Stift, 0,14-1,5mm², versilbert	R15-STI-C-1,5qmm²	HAR Harting
09 15 000 6201	32	Female insert, socket, 0,14-1,5mm², silver plated Male insert, plug, 0,14-1,5mm², silver plated	R15-BU-C-1,5qmm²	HAR Harting
19200031440	3	Hoods; Size: 3 A; Single locking lever; Top entry, 1x M20 Han A®, Hoods; Size: 3 A; Single locking lever; Top entry, 1x M20; Material (hood/housing): Zinc die-cast, Powder-coated, RAL 7037 (dust grey)	Han 3A-gg-M20	HAR Harting
19 20 003 1750	3	Clutch housing, size A3, along clip, screwing 1xM20 Clutch housing, size A3, along clip, screwing 1xM20	Han 3A-KG-QB-M20	HAR Harting
KQ6004	2	Electronic level sensor	KQ-3120NFPKG/2T/0,04M/AS	IFM ifm electronic
GL-R31F	1	Safety Light Curtain Finger-protection Type, 31 Optical Axes	GL-R31F	KEY KEYENCE

			Date	01.03.2023	Example circuit diagram, variant with SMO	
			Ed. by	STT		
			Appr	Prüfer		
Modification	Date	Name	Original		Replacement for	Replaced by



Summarized parts list

Order number	volume in units	description designation	Type number	manufacturer supplier
0028035	1,50	UNITRONIC 100 21X0,25 Data Communication Systems / Data cables low frequency / UNITRONIC® colour code	UNITRONIC® 100	LAPP Lapp Group
2000-68400-4400000	1	EMV suppression module VDR EMV suppression module VDR	VDR	MURR Murrelektronik
4000-73000-0010000	1	Connector (special) Pass-through 1x RJ45, 8-pole metal, CAT5e (female/female) More information may be found on https://www.murrelektronik.com or in the technical datasheet	4000-73000-0010000	MURR Murrelektronik
10513	1	line filter three-phase with N - 20A line filter three-phase with N - 20A	MEF 3/1N 20A	MURR Murrelektronik
2891929	1	Switch Ethernet switch, 8 TP RJ45 ports, automatic detection of data transmission speed of 10/100 Mbps (RJ45), autocrossing function	FL SWITCH SFN 8TX	PXC PHOENIX CONTACT
2903149	1	Power supply unit Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: single phase, output: 24 V DC/10 A	TRIO-PS-2G/1AC/24DC/10	PXC PHOENIX CONTACT
1055000	1	AX Compact enclosure, WHD: 800x600x300 mm, sheet steel	AX.1055000	RIT Rittal
3110000	1	Enclosure internal thermostat	SK.3110000	RIT Rittal
3239100	2	Filter fan 230 V, 50/60 Hz	SK.3239100	RIT Rittal
3239200	2	filter	SK.3239200	RIT Rittal
6052447	1	Photoelectric retro-reflective sensor Sensor/detection principle: Photoelectric retro-reflective sensor, autocollimation Dimensions (W x H x D): 12.2 mm x 41.8 mm x 17.3 mm Housing design (light emission): Rectangular Sensing range max.: 0 m ... 5 m (Reflector PL80A) Sensing range: 0 m ... 3 m (Reflector PL80A)	PBS-RB040SF2FSFE5A0Z	SICK SICK
3LD2103-0TK53	1	25A switch disconnecter (RD/YE) SETRON, 3LD switch disconnecter, EMERGENCY-STOP switch, 3-pole, Iu:25 A, Operational power / at AC-23 A at 400 V: 9,5 kW, front-mounted, rotary actuator mechanism, red/yellow, 4-hole mounting of the handle	3LD2103-0TK53	SIE Siemens AG
3RT20261BB40	1	CONTACTOR, AC-3, 11KW/400V, 1NO+1NC, DC 24V, CONTACTOR, AC-3, 11KW/400V, 1NO+1NC, DC 24V, 3-POLE, SZ S0 SCREW TERMINAL	3RT2026-1BB40	SIE Siemens AG
3SE5000-0AV02	1	Actuator for safety positioning switch Actuator for safety positioning switch	3SE5000-0AV02	SIE Siemens AG
3SE5312-0SE11	1	Safety positioning switch Safty positioning switch	3SE5312-0SE11	SIE Siemens AG
5SV3312-6	1	RCCB TYPE A 25/2 30MA 2MW RES.CUR.OP.CIRCUIT BREAKER, TYPE A, 25A 1+N-POLE 30MA 230V 2MW	5SV3312-6	SIE Siemens AG
5SY4102-6	1	CIRCUIT BREAKER 230/400V 10KA, 1-POLE, B, 2A, D=70MM CIRCUIT BREAKER 230/400V 10KA, 1-POLE, B, 2A, D=70MM	5SY4102-6	SIE Siemens AG
5SY4104-7	1	CIRCUIT BREAKER 230/400V 10KA, 1-POLE, C, 4A, D=70MM CIRCUIT BREAKER 230/400V 10KA, 1-POLE, C, 4A, D=70MM	5SY4104-7	SIE Siemens AG
5SY4106-6	1	CIRCUIT BREAKER 230/400V 10KA, 1-POLE, B, 6A, D=70MM CIRCUIT BREAKER 230/400V 10KA, 1-POLE, B, 6A, D=70MM	5SY4106-6	SIE Siemens AG

Summarized parts list

Order number	volume in units	description designation	Type number	manufacturer supplier
0310980	1	Electric 2-finger parallel gripper Electric Miniature parallel gripper Technical data Description EGP 40-N-N-B ID 0310940 General operating data Stroke per jaw [mm] 6 min. / max. gripping force [N] 35/140 recommended workpiece weight [kg] 0.7 max. admissible finger length [mm] 50 max. admissible weight per	EGP 60-N-N-B	SNK
0301474	2	Inductive proximity switch Inductive proximity switch	IN 40-S-M8	Schunk SCHUNK GmbH & Co.KG
20795	1	Flowplus16, Drucksensor, Analog 0,1...10V Pressure sensor, analog output 0,1...0V	20795	Visco ViscoTec
249-116	2	SCREWLESS END STOP Screwless end stop bright 6mm for TS35	249-116	WAGO WAGO
249-117	29	Screwless end stop srewless endstop, bright: 10 mm, for TS35	249-117	WAGO WAGO
249-119	16	ADJUSTABLE HEIGHT GROUP MARKER CARRIER Hight adjustable group marker carrier	249-119	WAGO WAGO
787-2861/108-020	4	electronic circuit breaker	787-2861/108-020	WAGO WAGO
2002-402	19	PUSH-IN TYPE JUMPER BARS Push in jumper bars 2-way current 25A	2002-402	WAGO WAGO
2002-492	10	Double-deck vertical jumper	2002-492	WAGO WAGO
2002-1201	3	2-CONDUCTOR THROUGH TERMINAL BLOCK 2- conductor through terminal centre-/ lateral marking for Ex e II-suitable for 550V, 22A	2002-1201	WAGO WAGO
2002-1204	6	2-CONDUCTOR THROUGH TERMINAL BLOCK 2- conductor through terminal centre-/ lateral marking for Ex e II-suitable for 550V, 22A	2002-1204	WAGO WAGO
2002-1207	7	2-CONDUCTOR EARTH TERMINAL BLOCK 2- conductor through terminal PE centre-/ lateral marking for Ex e II-suitable for 550V, 22A	2002-1207	WAGO WAGO
2002-1291	7	END AND INTERMEDIATE PLATE End and itermidiant plate 0,8mm thickness	2002-1291	WAGO WAGO
2002-1401	16	4-CONDUCTOR THROUGH TERMINAL BLOCK 4-Cconductor through terminal block suitable for Ex e II applications, 550V, 22 A	2002-1401	WAGO WAGO
2002-1491	1	END AND INTERMEDIATE PLATE End and intermediate plate, 0,8mm thickness	2002-1491	WAGO WAGO
2002-1671	1	2-conductor disconnect/test terminal block 2-conductor disconnect/test terminal block with test option orange disconnect link	2002-1671	WAGO WAGO
2002-1691	1	END AND INTERMEDIATE PLATE End and intermediate plate, 0,8mm thickness	2002-1691	WAGO WAGO
2002-2231	29	Feed-through terminal block Double-deck terminal block; Through/through terminal block; L/L; with marker carrier; suitable for Ex e II applications; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; Push-in CAGE CLAMP®	2002-2231	WAGO WAGO
2002-2291	11	End and intermediate plate End and intermediate plate 0.8 mm thick	2002-2291	WAGO WAGO

			Date	01.03.2023	Example circuit diagram, variant with SMO	
			Ed. by	STT		
			Appr	Prüfer		
Modification	Date	Name	Original		Replacement for	Replaced by



Parts list

Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
U1 30.0	1 piece	AX Compact enclosure, WHD: 800x600x300 mm, sheet steel AX Compact enclosure, WHD: 800x600x300 mm, sheet steel, with mounting plate, single-door, with	AX.1055000 1055000	RIT RIT	RIT.1055000
U3 35.0	2 piece	surface mounting enclosure, 3 mounting location, IP67, IP69K	M22-I3 216538	ETN ETN	ETN.M22-I3
50F1 50.3	1 piece	RCCB TYPE A 25/2 30MA 2MW Res.current op.circuit breaker SENTRON	5SV3312-6 5SV3312-6	SIE SIE	SIE.5SV3312-6 switch cabinet socket
50F2 50.3	1 piece	CIRCUIT BREAKER 230/400V 10KA, 1-POLE, C, 4A, D=70MM	5SY4104-7 5SY4104-7	SIE SIE	SIE.5SY4104-7 switch cabinet socket
50Q1 50.0	1 piece	25A switch disconnecter (RD/YE) Front mounted rd/ye	3LD2103-0TK53 3LD2103-0TK53	SIE SIE	SIE.3LD2103-0TK53
X0 50.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119
X0 50.8	2 piece	SCREWLESS END STOP 6 MM / 0.236 IN WIDE	249-116 249-116	WAGO WAGO	WAGO.249-116
X0 50.0;50.1	4 Piece	2-conductor through terminal block 2-conductor through terminal block; 4 mm²; 32 A; gray	2004-1201 2004-1201	WAGO WAGO	WAGO.2004-1201
X0 50.0	1 Piece	Push-in type jumper bar insulated	2004-402 2004-402	WAGO WAGO	WAGO.2004-402
X0 50.1	1 Piece	2-conductor through terminal block 2-conductor through terminal block; 4 mm²; 32 A; blue	2004-1204 2004-1204	WAGO WAGO	WAGO.2004-1204
X0 50.1	1 Piece	2-conductor earth terminal block 2-conductor ground terminal block; 4 mm²; green-yellow	2004-1207 2004-1207	WAGO WAGO	WAGO.2004-1207
X0 50.1	1 Piece	End and intermediate plate 1 mm thick	2004-1291 2004-1291	WAGO WAGO	WAGO.2004-1291
X01 50.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 230V/AC before main switch
X01 50.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 230V/AC before main switch
X01 50.8	3 piece	END AND INTERMEDIATE PLATE 0,8 mm THICKNESS	2002-1291 2002-1291	WAGO WAGO	WAGO.2002-1291 230V/AC before main switch
X01 50.3	1 piece	2-CONDUCTOR THROUGH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1201 2002-1201	WAGO WAGO	WAGO.2002-1201 switch cabinet socket
X01 50.4	1 piece	2-CONDUCTOR THROUGH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1204 2002-1204	WAGO WAGO	WAGO.2002-1204 switch cabinet socket
X01 50.4	1 piece	2-CONDUCTOR EARTH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1207 2002-1207	WAGO WAGO	WAGO.2002-1207 switch cabinet socket
50X1 50.3	1 piece	Outlet with LED, yellow Accessories	07.98.00 07.98.00	FIN FIN	FIN.07.98.00 switch cabinet socket

Parts list

Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
XN 51.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 N terminal block
XN 51.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 N terminal block
XN 51.8	1 piece	END AND INTERMEDIATE PLATE 0,8 mm THICKNESS	2002-1291 2002-1291	WAGO WAGO	WAGO.2002-1291 N terminal block
XN 51.1;51.2	5 piece	2-CONDUCTOR THROUGH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1204 2002-1204	WAGO WAGO	WAGO.2002-1204
XN 51.1;51.2	5 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402
XPE 51.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 PE terminal block
XPE 51.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 PE terminal block
XPE 51.8	3 piece	END AND INTERMEDIATE PLATE 0,8 mm THICKNESS	2002-1291 2002-1291	WAGO WAGO	WAGO.2002-1291 PE terminal block
XPE 51.4	1 Piece	2-conductor earth terminal block 2-conductor ground terminal block; 16 mm²; green-yellow	2016-1207 2016-1207	WAGO WAGO	WAGO.2016-1207
XPE 51.4	3 piece	2-CONDUCTOR EARTH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2006-1207 2006-1207	WAGO WAGO	WAGO.2006-1207
XPE 51.5	3 piece	2-CONDUCTOR EARTH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1207 2002-1207	WAGO WAGO	WAGO.2002-1207
53F1 53.1	1 piece	CIRCUIT BREAKER 230/400V 10KA, 1-POLE, B, 2A, D=70MM	5SY4102-6 5SY4102-6	SIE SIE	SIE.5SY4102-6(1)
53G1 53.1	1 piece	Filter fan	SK.3239100 3239100	RIT RIT	RIT.3239100
53G1 53.1	1 piece	filter	SK.3239200 3239200	RIT RIT	RIT.3239200
53G2 53.3	1 piece	Filter fan	SK.3239100 3239100	RIT RIT	RIT.3239100
53G2 53.3	1 piece	filter	SK.3239200 3239200	RIT RIT	RIT.3239200
53H1 53.6	1 piece	LED panel light, 6W LED light, switch, 6W - AC (50/60Hz)/DC - 110 .. 240 V, sensor, linkable	7L.43.0.230.2200 7L.43.0.230.2200	FIN FIN	FIN.7L.43.0.230.2200
53H1 53.6	1 pcs	Power supply cable, S7L, AC, 2 m Accessories	07L.01 07L.01	FIN FIN	FIN.07L.01
53S1 53.1	1 piece	Enclosure internal thermostat	SK.3110000 3110000	RIT RIT	RIT.3110000

			Date	28.02.2023	Example circuit diagram, variant with SMO	
			Ed. by	STT		
			Appr	Prüfer		
Modification	Date	Name	Original		Replacement for	Replaced by



Parts list	Bosch Rexroth AG		=	
			+	
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Parts list

Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
54F1 54.7	1 piece	CIRCUIT BREAKER 230/400V 10KA, 1-POLE, B, 6A, D=70MM	5SY4106-6 5SY4106-6	SIE SIE	SIE.5SY4106-6
54F2 54.0	1 Piece	electronic circuit breaker 1-channel	787-2861/108-020 787-2861/108-020	WAGO	WAGO.787-2861/108-020
54F3 54.2	1 Piece	electronic circuit breaker 1-channel	787-2861/108-020 787-2861/108-020	WAGO	WAGO.787-2861/108-020
54F4 54.4	1 Piece	electronic circuit breaker 1-channel	787-2861/108-020 787-2861/108-020	WAGO	WAGO.787-2861/108-020
54F5 54.7	1 Piece	electronic circuit breaker 1-channel	787-2861/108-020 787-2861/108-020	WAGO	WAGO.787-2861/108-020
54T1 54.7	1 Stück	Power supply unit	TRIO-PS-2G/1AC/24DC/10 2903149	PXC PXC	PXC.2903149
TR1 55.8	1 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 disconnect terminal
TR1 55.1	1 Stück	2-conductor disconnect/test terminal block with test option	2002-1671 2002-1671	WAGO WAGO	WAGO.2002-1671 GND
TR1 55.1	1 4*25 Stück	END AND INTERMEDIATE PLATE 1 MM / 0.039 IN THICK	2002-1691 2002-1691	WAGO WAGO	WAGO.2002-1691 GND
X24V 55.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 24V/DC power supply
X24V 55.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 24V/DC power supply
X24V 55.8	1 piece	END AND INTERMEDIATE PLATE 0,8 mm THICKNESS	2002-1491 2002-1491	WAGO WAGO	WAGO.2002-1491 24V/DC power supply
X24V 55.1;55.3;55.4;55.6;55.8	16 piece	4-CONDUCTOR THROUGH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1401 2002-1401	WAGO WAGO	WAGO.2002-1401 GND;24V DC 1L+ Power supply intern, general;24V DC 2L+ Power
X24V 55.1;55.3;55.4;55.6;55.8	9 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402 GND;24V DC 1L+ Power supply intern, general;24V DC 2L+ Power
57V1 57.1	1	line filter three-phase with N - 20A	MEF 3/1N 20A 10513	MURR MURR	MURR.10513
60Q1 60.3	1 piece	CONTACTOR, AC-3, 11KW/400V, 1NO+1NC, DC 24V, 3-POLE, SZ S0 SCREW TERMINAL	3RT2026-1BB40 3RT20261BB40	SIE SIE	SIE.3RT2026-1BB40
60Q1 60.3	1 piece	EMV suppression module VDR 24V AC/DC S0	VDR 2000-68400-4400000	MURR MURR	MURR.2000-68400-4400000
60S1 60.2	1 piece	Pushbutton, flush, black 0, momentary	M22-D-S-X0 216609	ETN ETN	ETN.M22-D-S-X0 Energy off
60S1 60.2	1 piece	Contact element, 1 N/C, base fixing, 6. contact, spring clamp connection	M22-CKC01 216387	ETN ETN	ETN.M22-CKC01 Energy off

			Date	01.03.2023	Example circuit diagram, variant with SMO	
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Parts list

Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
60S1 60.2	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Energy off
60S2 60.3	1 piece	Illuminated pushbutton actuator, flush, white I, momentary	M22-DL-W-X1 216942	ETN ETN	ETN.M22-DL-W-X1 Energy on
60S2 60.3	1 piece	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection	M22-CKC10 216386	ETN ETN	ETN.M22-CKC10 Energy on
60S2 60.3	1 part	LED element, white, base fixing, cage clamp	M22-CLEDC-W 216572	ETN ETN	ETN.M22-CLEDC-W Energy on
60S2 60.3	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Energy on
60W1 60.3	1 M	UNITRONIC 100 21X0,25	UNITRONIC® 100 0028035	LAPP LAPP	LAPP.0028035
X15 60.5;60.6;61.1...61.3;61.5...61.8	9 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231 .
61P1 61.3	1 part	Indicator light, flush, red	M22-L-R 216772	ETN ETN	ETN.M22-L-R Fault
61P1 61.3	1 part	LED element, red, base fixing, cage clamp	M22-CLEDC-R 216573	ETN ETN	ETN.M22-CLEDC-R Fault
61P1 61.3	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Fault
61S0 61.4	1 piece	Emergency-stop key-release mushroom, 2 N/C, surface mounting	M22-PV/KC02/IY 216524	ETN ETN	ETN.M22-PV/KC02/IY Emergency stop
61S0 61.4	1 part	Emergency-stop plate, yellow, for diameter 22,5mm, 50mm x 50mm	M22X-XYK11 121373	ETN ETN	ETN.M22X-XYK11 Emergency stop
61S1 61.1	1 piece	Mushroom actuator, black, momentary	M22-DP-S 216712	ETN ETN	ETN.M22-DP-S 2 hand operation
61S1 61.1	1 piece	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection	M22-CKC10 216386	ETN ETN	ETN.M22-CKC10 2 hand operation
61S1 61.1	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X 2 hand operation
61S2 61.2	1 piece	Selector switch, toggle, 2 positions, black, maintained	M22-WRK 216867	ETN ETN	ETN.M22-WRK Operation mode
61S2 61.2	1 piece	Contact element, 1 N/C, base fixing, 6. contact, spring clamp connection	M22-CKC01 216387	ETN ETN	ETN.M22-CKC01 Operation mode
61S2 61.2	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Operation mode
61S3 61.5	1 piece	Pushbutton, flush, blue, momentary	M22-D-B 216600	ETN ETN	ETN.M22-D-B Reset

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Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
61S3 61.5	2 piece	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection	M22-CKC10 216386	ETN ETN	ETN.M22-CKC10 Reset
61S3 61.5	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Reset
61S4 61.6	1 piece	Pushbutton, flush, black, momentary	M22-D-S 216590	ETN ETN	ETN.M22-D-S Acknowledge button
61S4 61.6	1 piece	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection	M22-CKC10 216386	ETN ETN	ETN.M22-CKC10 Acknowledge button
61S4 61.6	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Acknowledge button
61S5 61.7	1 piece	Mushroom actuator, black, momentary	M22-DP-S 216712	ETN ETN	ETN.M22-DP-S 2 hand operation
61S5 61.7	1 piece	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection	M22-CKC10 216386	ETN ETN	ETN.M22-CKC10 2 hand operation
61S5 61.7	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X 2 hand operation
61S6 61.8	1 piece	Selector switch, toggle, 2 positions, black, maintained	M22-WRK 216867	ETN ETN	ETN.M22-WRK
61S6 61.8	1 piece	Contact element, 1N/O, base fixing, 6. contact, spring clamp connection	M22-CKC10 216386	ETN ETN	ETN.M22-CKC10
61S6 61.8	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X
X10 61.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Connection emergency-stop
X10 61.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Connection emergency-stop
X10 61.8	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Connection emergency-stop
X10 61.4	2 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231 .
X15 61.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Connection operating panel
X15 61.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Connection operating panel
X15 61.8	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Connection operating panel
X18 61.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Reset signal

Parts list

Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
X18 61.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Reset signal
X18 61.8	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Reset signal
X18 61.5;61.6	2 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231 Reset
X18 61.5;61.6	2 Piece	Double-deck vertical jumper insulated	2002-492 2002-492	WAGO WAGO	WAGO.2002-492 Reset
X18 61.5	1 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402 Reset
63K1 63.1	1 pcs	Modular interface, push-in - 2 pole, 8 A - DC - 24 V - AgNi Relay interface module	48.P5.9.024.0050 48.P5.9.024.0050	FIN FIN	FIN.48.P5.9.024.0050 Safety door unlock
74S1 74.4	1 Piece	Safety positioning switch	3SE5312-0SE11 3SE5312-0SE11	SIE	SIE.3SE5312-0SE11 Door switch with locking
74S1 74.4	1 Piece	Actuator for safety positioning switch	3SE5000-0AV02 3SE5000-0AV02	SIE SIE	SIE.3SE5000-0AV02 Door switch with locking
X17 74.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Door switch
X17 74.8	1 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Door switch
X17 74.8	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Door switch
X17 74.4;74.5	4 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231
75B1 75.2	1 Piece	Safety Light Curtain	GL-R31F GL-R31F	KEY	KEY.GL-R31F
X16 75.9	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Light curtain
X16 75.9	1 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Light curtain
X16 75.9	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Light curtain
X16 75.2;75.3;75.6	4 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231
X16 75.3;75.7	2 piece	2-CONDUCTOR EARTH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1207 2002-1207	WAGO WAGO	WAGO.2002-1207
X19 86.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Valve dispenser pressure

			Date	28.02.2023	Example circuit diagram, variant with SMO	
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Device Designation Schematic / position	Quantity	designation	Type number Order number	manufacturer supplier	part number function text
X19 86.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Valve dispenser pressure
X19 86.8	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Valve dispenser pressure
X19 86.2;86.3	2 piece	2-CONDUCTOR THROUGH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1201 2002-1201	WAGO WAGO	WAGO.2002-1201
X19 86.2	1 piece	2-CONDUCTOR EARTH TERMINAL BLOCK CENTRE-/ LATERAL MARKING	2002-1207 2002-1207	WAGO WAGO	WAGO.2002-1207
87B1 87.3	1	Inductive proximity switch	IN 40-S-M8 0301474	Schunk Schunk	Schunk.IN 40-S-M8
87B2 87.5	1	Inductive proximity switch	IN 40-S-M8 0301474	Schunk Schunk	Schunk.IN 40-S-M8
87M1 87.1	1 pieces	Electric 2-finger parallel gripper With gripping force adjustment (100% / 75% / 50% / 25%)	EGP 60-N-N-B 0310980	SNK SNK	SNK.0310980
87XS1 87.9	2 piece	Hoods; Size: 3 A; Single locking lever; Top entry, 1x M20	Han 3A-gg-M20 19200031440	HAR HAR	HAR.19 20 003 1440 connector
87XS1 87.9	2 St.	Clutch housing, size A3, along clip, screwing 1xM20	Han 3A-KG-QB-M20 19 20 003 1750	HAR HAR	HAR.19 20 003 1750 connector
87XS1 87.9	1 St.	Male insert, Han Q 5/0, plug, 7pol.+PE, 0,14-2,5mm², 10A size 3A	Han 07/0-M 09 12 007 3001	HAR HAR	HAR.09 12 007 3001 connector
87XS1 87.9	1 St.	Female insert, Han Q 5/0, socket, 7pol.+PE, 0,14-2,5mm², 10A size 3A	Han 07/0-F 09 12 007 3101	HAR HAR	HAR.09 12 007 3101 connector
87XS1 87.9	20 St.	Male insert, plug, 0,14-1,5mm², silver plated	R15-STI-C-1,5qmm² 09 15 000 6101	HAR HAR	HAR.09 15 000 6101 connector
87XS1 87.9	20 St.	Female insert, socket, 0,14-1,5mm², silver plated	R15-BU-C-1,5qmm² 09 15 000 6201	HAR HAR	HAR.09 15 000 6201 connector
87XS1 87.9	1 St.	Male insert, Han Q 5/0, plug, 12pol.+PE, 0,14-2,5mm², 10A size 3A	Han 12Q-SMC-SE-CRA-PE mit QL 09 12 012 3001	HAR HAR	HAR.09 12 012 3001 connector
87XS1 87.9	1 St.	Female insert, Han Q 5/0	Han 12Q-SMC-BE-CRA-PE mit QL 09 12 012 3101	HAR HAR	HAR.09 12 012 3101 connector
88B1 88.0	1 St.	Photoelectric retro-reflective sensor	PBS-RB040SF2FSFE5A0Z 6052447	SICK SICK	SICK.6052447
88B2 88.2	1 St.	Flowplus16, Drucksensor, Analog 0,1...10V	20795 20795	Visco Visco	Visco.20795
88B3 88.4	1 piece	Electronic level sensor normally open / closed complementary	KQ-3120NFPKG/2T/0,04M/AS KQ6004	IFM IFM	IFM.KQ6004
88B4 88.6	1 piece	Electronic level sensor normally open / closed complementary	KQ-3120NFPKG/2T/0,04M/AS KQ6004	IFM IFM	IFM.KQ6004

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88XS1 88.9	1 piece	Hoods; Size: 3 A; Single locking lever; Top entry, 1x M20	Han 3A-gg-M20 19200031440	HAR HAR	HAR.19 20 003 1440 Connector
88XS1 88.9	1 St.	Clutch housing, size A3, along clip, screwing 1xM20	Han 3A-KG-QB-M20 19 20 003 1750	HAR HAR	HAR.19 20 003 1750 Connector
88XS1 88.9	1 St.	Male insert, Han Q 5/0, plug, 12pol.+PE, 0,14-2,5mm², 10A size 3A	Han 12Q-SMC-SE-CRA-PE mit QL 09 12 012 3001	HAR HAR	HAR.09 12 012 3001 Connector
88XS1 88.9	1 St.	Female insert, Han Q 5/0	Han 12Q-SMC-BE-CRA-PE mit QL 09 12 012 3101	HAR HAR	HAR.09 12 012 3101 Connector
88XS1 88.9	12 St.	Male insert, plug, 0,14-1,5mm², silver plated	R15-STI-C-1,5qmm² 09 15 000 6101	HAR HAR	HAR.09 15 000 6101 Connector
88XS1 88.9	12 St.	Female insert, socket, 0,14-1,5mm², silver plated	R15-BU-C-1,5qmm² 09 15 000 6201	HAR HAR	HAR.09 15 000 6201 Connector
89T1 89.1	1 Stück	Switch	FL SWITCH SFN 8TX 2891929	PXC PXC	PXC.2891929
98X1 89.7	1 Piece	Connector (special) MSDD INSTALLATION SOCKET RJ45 CAT5e BU/BU	4000-73000-0010000 4000-73000-0010000	MURR	MURR.4000-73000-0010000 Ethernet interface
98X1 89.7	1 piece	button additional sign holder	M22S-ST-X 216392	ETN ETN	ETN.M22S-ST-X Ethernet interface
90K1 90.1	1 St.	SAFEX-C.12	SAFEX-C.12-11N1-2N.01-NN-NN R911175242	BOR BOR	BOR.R911175242
X13 91;93.9	4 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 24V/DC supply;E-Stop
X13 91;93.9	2 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 24V/DC supply;E-Stop
X13 91;93.9	2 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 24V/DC supply;E-Stop
X14 91.8	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Fault from inverter
X14 91.8	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Fault from inverter
X14 91.8	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Fault from inverter
X14 91.7;91.8	2 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231
X14 91.7;91.8	2 Piece	Double-deck vertical jumper insulated	2002-492 2002-492	WAGO WAGO	WAGO.2002-492
X14 91.7	1 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402

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X11 93.9	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Pulse 1 signal
X11 93.9	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Pulse 1 signal
X11 93.9	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Pulse 1 signal
X11 93.6	2 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231
X11 93.6	2 Piece	Double-deck vertical jumper insulated	2002-492 2002-492	WAGO WAGO	WAGO.2002-492
X11 93.6	1 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402
X12 93.9	2 piece	Screwless end stop 10 mm wide	249-117 249-117	WAGO WAGO	WAGO.249-117 Pulse 2 signal
X12 93.9	1 piece	ADJUSTABLE HEIGHT GROUP MARKER CARRIER FITTED FOR END STOPS 249-116 AND 249-117	249-119 249-119	WAGO WAGO	WAGO.249-119 Pulse 2 signal
X12 93.9	1 Piece	End and intermediate plate 0.8 mm thick	2002-2291 2002-2291	WAGO WAGO	WAGO.2002-2291 Pulse 2 signal
X12 93.7;93.8	2 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231
X12 93.7;93.8	2 Piece	Double-deck vertical jumper insulated	2002-492 2002-492	WAGO WAGO	WAGO.2002-492
X12 93.7	1 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402
X13 93.1;93.2	2 Piece	Feed-through terminal block Double-deck terminal block; 2,5 mm²; 24 A; gray	2002-2231 2002-2231	WAGO WAGO	WAGO.2002-2231
X13 93.1;93.2	2 Piece	Double-deck vertical jumper insulated	2002-492 2002-492	WAGO WAGO	WAGO.2002-492
X13 93.1	1 piece	PUSH-IN TYPE JUMPER BARS 2-WAY	2002-402 2002-402	WAGO WAGO	WAGO.2002-402
150K1 150.1	1 St.	ctrlX inverter, 1-axis 23A	XCS2-W0023ARN-02AX3M5NNET-S0304N0NNNN5NN R911416034	BOR BOR	BOR-R.R911416034
150M1 150.1	1 St.	Synchron Servomotor MS2N	MS2N03-BOBYN-CMHH0-NNNNN-NN R914503239	BOR BOR	BOR.R914503239
150W1 150.3	1 St.	RH2-023DBB-NN-001,0 Motor Hybridcable 1,5mm², 1m,	RH2-023DBB-NN-001,0 R911372059	BOR BOR	BOR.R911372059
150W10 150.5	1 St.	RKB0062/001,0 Cable for zone modul, 1,0m	RKB0062/001,0 R911372775	BOR BOR	BOR.R911372775

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Parts list

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