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<p><b>Company / customer</b>      Robotechnik</p> <p><b>Project description</b>    PiBond - OPTIspin ST32 + OPTIhot SHT30</p> <p><b>Job number</b>                PB4001</p> <p><b>Drawing number</b>         400091</p>	<p>Power supply                    #Einspeisung</p> <p>Control voltage                24 VDC</p> <p>min. supply line                5G4</p> <p>max. prefuse                    3x16A</p> <p>Control cabinet color         RAL 7035</p> <p>Protection class                IP44</p> <p>Language documentation      DE/EN</p> <p>Language signage                EN</p> <p>Location                         EU</p> <p>Manufacturing date            2024</p> <p>Special customer regulations   -</p>
<p>Project name                    VG4576_IN-101334_Robotechnik-PiBond</p> <p>Responsible for project        D.Wilde</p> <p>Project manager (Eplan)</p> <p>Last EPLAN version used      2025.0.3                            / 23549</p>	
<p><i>For manual changes; enter name and date here. Details on the circuit diagram page.</i></p>	
<p>Created on                        24.09.2024</p> <p>Edit date                         20.02.2025                        by (short name) LAMSCHICK</p>	<p>Number of pages                105</p>

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# Directory

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		1.b	Directory : =EDS&EFS1+S1/2.a - ==TAB1=COA&EFS1+S1/2		20.02.2025	LAMSCHICK
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		1.a	Parts list : FIN.7F.02.0.000.3000 - PXC.3036958		20.02.2025	LAMSCHICK
		1.b	Parts list : PXC.3030420 - MEN.33 16A5P 6H400V		20.02.2025	LAMSCHICK
		1.c	Parts list : PXC.3022276 - PXC.3209578		20.02.2025	LAMSCHICK
		1.d	Parts list : PXC.3030174 - BECK.EL2008		20.02.2025	LAMSCHICK
		1.e	Parts list : BECK.EL2904 - ETN.M22-XZK1-D99		20.02.2025	LAMSCHICK
		1.f	Parts list : ETN.M22-A - SIE.5SY4110-6		20.02.2025	LAMSCHICK
		1.g	Parts list : SIE.5SY4110-6 - PLI.926004168		20.02.2025	LAMSCHICK
		1.h	Parts list : HELU.10365 - TE.61.232.11		20.02.2025	LAMSCHICK
		1.i	Parts list : SMC.D-A93L - TE.60.252.11		20.02.2025	LAMSCHICK
		1.j	Parts list : PXC.1197575 - NOV.SSR-4810		20.02.2025	LAMSCHICK
		1.k	Parts list : SMC.VZ110-5MOZ-M5-Q - NOV.SSR-4810		20.02.2025	LAMSCHICK
		1.l	Parts list : SMC.VZ110-5MOZ-M5-Q - PXC.1501252		20.02.2025	LAMSCHICK
S1		1	Summarized parts list : BACH.917.172 - PXC.3030420		20.02.2025	LAMSCHICK
S1		1.a	Summarized parts list : PXC.3036958 - REICH.SLIM SL6 05 WS		20.02.2025	LAMSCHICK
S1		1.b	Summarized parts list : RIT.2411631 - ROB.Sonder_Absaugstutzen-D38x30mm		20.02.2025	LAMSCHICK
M		1	Summarized parts list : BACH.915.175 - SMC.SY3300-5U1		20.02.2025	LAMSCHICK
RTCN		1	Summarized parts list : MEN.33 16A5P 6H400V - MEN.33 16A5P 6H400V		20.02.2025	LAMSCHICK
M.T		1	Summarized parts list : BAL.BCS007F - OMR.E3T-SR43-C 2M		20.02.2025	LAMSCHICK
Extern		1	Summarized parts list : FEM.CM100SSx0D11xx07x - SMC.EX9-PE1		20.02.2025	LAMSCHICK
Extern		1.a	Summarized parts list : SMC.SY3300-5U1 - BECK.ZK4530-8010-0050		20.02.2025	LAMSCHICK
Extern		1.b	Summarized parts list : PXC.1407501 - BAL.BCS007F		20.02.2025	LAMSCHICK

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BA01	S1	1	Power supply		20.02.2025	LAMSCHICK
	S1	2	Feed N/PE		19.02.2025	LAMSCHICK
CK01	S1	1	Cooling fan		20.02.2025	LAMSCHICK
DA01	S1	1	PLC structure Beckhoff		19.02.2025	LAMSCHICK
	S1	2	PLC diagram : ===BA01+S1-XF1 - ===BA01+S1-XF1		19.02.2025	LAMSCHICK
	S1	3	PLC diagram : ===BA01+S1-XF2 - ===BA01+S1-XF2		19.02.2025	LAMSCHICK
	S1	4	PLC diagram : ===DA01+S1-KF1 - ===DA01+S1-KF1		19.02.2025	LAMSCHICK
	S1	5	PLC diagram : ===DA01+S1-KF20 - ===DA01+S1-KF20		20.02.2025	LAMSCHICK
	S1	6	PLC diagram : ===DA01+S1-KF21 - ===DA01+S1-KF21		20.02.2025	LAMSCHICK
	S1	7	PLC diagram : ===DA01+S1-KF22 - ===DA01+S1-KF22		20.02.2025	LAMSCHICK
	S1	8	PLC diagram : ===DA01+S1-KF25 - ===DA01+S1-KF25		20.02.2025	LAMSCHICK
	S1	9	PLC diagram : ===DA01+S1-KF29 - ===DA01+S1-KF29		20.02.2025	LAMSCHICK
	S1	10	PLC diagram : ===DA01+S1-KF30 - ===DA01+S1-KF30		20.02.2025	LAMSCHICK
	S1	11	PLC diagram : ===DA01+S1-KF35 - ===DA01+S1-KF35		19.02.2025	LAMSCHICK
	S1	12	PLC diagram : ===DA01+S1-PM10 - ===DA01+S1-PM10		19.02.2025	LAMSCHICK
	S1	12.a	PLC diagram : ===DA01+S1-PM10 - ===DA01+S1-PM10		19.02.2025	LAMSCHICK
	S1	13	PLC diagram : ===DA10+S1-AF1 - ===DA10+S1-AF1		19.02.2025	LAMSCHICK
	S1	14	PLC diagram : ==TAB1=COA+S1-TB1-X21-RET0 - ==TAB1=COA+S1-TB1-X21-RET0		19.02.2025	LAMSCHICK
S1	15	PLC diagram : ==TAB1=COA+S1-TB1-X21-RET1 - ==TAB1=COA+S1-TB1-X21-RET1		19.02.2025	LAMSCHICK	
SFT01	S1	1	Power supply		20.02.2025	LAMSCHICK
	S1	2	Safety shutdown		19.02.2025	LAMSCHICK
SFT01	S1	1	Safety shutdown		19.02.2025	LAMSCHICK
	S1	2	Monitoring tank		19.02.2025	LAMSCHICK
DA10	S1	1	IPC		20.02.2025	LAMSCHICK
DB01	S1	1	Operation		19.02.2025	LAMSCHICK
DD01	S1	1	Sensors Pressure IO-Link		19.02.2025	LAMSCHICK
	M	1	Valve terminal feed		20.02.2025	LAMSCHICK
EDS	S1	1	230V AC supply		20.02.2025	LAMSCHICK
	S1	2	24V DC supply		20.02.2025	LAMSCHICK

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Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>Directory : =BA01&amp;EFS1+S1/1</b> <b>- =EDS&amp;EFS1+S1/2</b>	<b>EU</b>	<b>PB4001</b>	==	Page 1.a Page 105
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EDS	S1	2.a	24V DC supply controller		20.02.2025	LAMSCHICK
	S1	3	24V DC distribution		20.02.2025	LAMSCHICK
	S1	4	24V DC Safty distribution		20.02.2025	LAMSCHICK
	S1	5	12V DC distribution		20.02.2025	LAMSCHICK
NC01	S1	1	Sensor waste tank		20.02.2025	LAMSCHICK
NC02	S1	1	Sensors Pressure tank		20.02.2025	LAMSCHICK
	M	1	Summarized parts list : SCHM.VZ-TR 4 AC 5 GMS - SMC.ISE20B-L-M5-W		20.02.2025	LAMSCHICK
DE01	S1	1	vacuum pump		20.02.2025	LAMSCHICK
	S1	2	Sonsor suction		20.02.2025	LAMSCHICK
	S1	1	Summarized parts list : ING.Erdungsschraube_Neu M6x16 - MTR.9200-4312-1000		20.02.2025	LAMSCHICK
	M.CO1	1	Summarized parts list : TE.61.232.11 - HAD.FHA-8C-30-D200-EK		20.02.2025	LAMSCHICK
	M	1	Summarized parts list : BECK.ZK4530-8010-0050 - SMC.D-A93L		20.02.2025	LAMSCHICK
	HP1	1	Summarized parts list : HAR.09100000800 - NOV.SSR-4810		20.02.2025	LAMSCHICK
	HP1	1.a	Summarized parts list : PXC.1689064 - SMC.SYJ5120-5LO-M5-Q		19.02.2025	LAMSCHICK
DA01	HP1	1	PLC structure Beckhoff		20.02.2025	LAMSCHICK
	HP1	3	PLC diagram : ==TAB1=DA01+HP1-KF2 - ==TAB1=DA01+HP1-KF2		19.02.2025	LAMSCHICK
	HP1	4	PLC diagram : ==TAB1=DA01+HP1-KF10 - ==TAB1=DA01+HP1-KF10		19.02.2025	LAMSCHICK
	HP1	5	PLC diagram : ==TAB1=DA01+HP1-KF20 - ==TAB1=DA01+HP1-KF20		20.02.2025	LAMSCHICK
	HP1	6	PLC diagram : ==TAB1=DA01+HP1-KF30 - ==TAB1=DA01+HP1-KF30		20.02.2025	LAMSCHICK
	HP1	1	SPS power supply		20.02.2025	LAMSCHICK
SFT01	S1	1	Emergency stop		20.02.2025	LAMSCHICK
	S1	2	Guard locking process housing		20.02.2025	LAMSCHICK
DC01	M	1	Control panel		20.02.2025	LAMSCHICK
DD01	M	1	Valve unit		20.02.2025	LAMSCHICK
	M	2	Valve unit		19.02.2025	LAMSCHICK
	M	3	Valve unit		19.02.2025	LAMSCHICK
COA	S1	1	Chuck Controller		19.02.2025	LAMSCHICK
	S1	2	Arm Controller		19.02.2025	LAMSCHICK

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1.c

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Directory :</b> =EDS&EFS1+S1/2.a - ==TAB1=COA&EFS1+S1/2	<b>EU</b>	==	Page 1.b Page 105
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COA	S1	3	Coater control		19.02.2025	LAMSCHICK
	S1	4	Arm control		19.02.2025	LAMSCHICK
HP	HP1	1	Power supply		19.02.2025	LAMSCHICK
	HP1	2	Feed N/PE		19.02.2025	LAMSCHICK
	HP1	3	Hotplate supply		19.02.2025	LAMSCHICK
	HP1	4	Hotplate control		19.02.2025	LAMSCHICK
	HP1	5	Hotplate control fluid		19.02.2025	LAMSCHICK
		M	1	Summarized parts list : BACH.916.170 - HAR.09150006202		19.02.2025
	HP2	1	Summarized parts list : Kalthoff.C16A - NOR.100290600		20.02.2025	LAMSCHICK
	HP2	1.a	Summarized parts list : SMC.VZ110-5MOZ-M5-Q - SMC.SYJ5120-5LO-M5-Q		20.02.2025	LAMSCHICK
DA01	HP2	1	PLC structure Beckhoff		19.02.2025	LAMSCHICK
	HP2	3	PLC diagram : ==TAB2=DA01+HP2-KF2 - ==TAB2=DA01+HP2-KF2		19.02.2025	LAMSCHICK
	HP2	4	PLC diagram : ==TAB2=DA01+HP2-KF10 - ==TAB2=DA01+HP2-KF10		19.02.2025	LAMSCHICK
	HP2	5	PLC diagram : ==TAB2=DA01+HP2-KF20 - ==TAB2=DA01+HP2-KF20		19.02.2025	LAMSCHICK
	HP2	6	PLC diagram : ==TAB2=DA01+HP2-KF30 - ==TAB2=DA01+HP2-KF30		19.02.2025	LAMSCHICK
	HP2	1	SPS power supply		19.02.2025	LAMSCHICK
HP	HP2	1	Power supply		19.02.2025	LAMSCHICK
	HP2	2	Feed N/PE		19.02.2025	LAMSCHICK
	HP2	3	Hotplate supply		19.02.2025	LAMSCHICK
	HP2	4	Hotplate control		19.02.2025	LAMSCHICK
	HP2	5	Hotplate control fluid		19.02.2025	LAMSCHICK

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Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>Directory :</b> <b>==TAB1=COA&amp;EFS1+S1/3 -</b> <b>==TAB2=HP&amp;EFS1+HP2/5</b>	<b>EU</b>	==	Page 1.c 105
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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
+S1-F1	1	HW	HW3	INGELA	
+S1-F2	1	HW	HW3	INGELA	
+S1-F3	1	HW	HW3	INGELA	
+S1-F4	1	HW	HW3	INGELA	
+S1-U1	1	Edelstahl Schaltschrank ohne Flanschplatte, BHT 415x570x400 mm	6005477	FIM	6005477
+S1-U1001	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1002	1	Kabelkanal GN-A6/4 LF 60X40	GN-A6/4 LF 60X40	SES	08390152013
+S1-U1003	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1004	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1005	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1006	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1007	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1008	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U1009	1	Kabelkanal GN-A6/4 LF 60X25	GN-A6/4 LF 60X25	SES	08390151013
+S1-U2000	1	Tragschiene	TS 35_7,5	EKV	3575ZG
+S1-U2001	1	Tragschiene	TS 35_7,5	EKV	3575ZG
+S1-U2002	1	Tragschiene	TS 35_7,5	EKV	3575ZG
+S1-U2003	1	Tragschiene	TS 35_7,5	EKV	3575ZG
+S1-U2004	1	Tragschiene	TS 35_7,5	EKV	3575ZG
+S1-U2005	1	Tragschiene	TS 35_7,5	EKV	3575ZG
+S1-U3000	4	Einnietmutter mit Flachkopf M8	0917280	WUE	0917280
+S1-U3005	1	KEL-ER-E 2 / Kabeleinführungsleiste, teilbar, einreihig, IP65	KEL-ER-E 2	ICO	48249
+S1-U3005	2	KT 2 4 gy / Kabeltülle, klein, 2 x ø 4 mm, IP54	KT 2 4 gy	ICO	39906
+S1-U3009	1	KEL-ER 16 8 / Kabeleinführungsleiste, teilbar, zweireihig, IP65	KEL-ER 16 8	ICO	48168
+S1-U3009	2	KT 10 gy / Kabeltülle, klein, ø 10 - 11 mm, IP65	KT 10 gy	ICO	41210
+S1-U3009	3	KT 5 gy / Kabeltülle, klein, ø 5 - 6 mm, IP65	KT 5 gy	ICO	41205
+S1-U3009	2	KT 2 4 gy / Kabeltülle, klein, 2 x ø 4 mm, IP54	KT 2 4 gy	ICO	39906
+S1-U3009	1	BTK gy / Blindtülle, klein, IP54	BTK gy	ICO	41251

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1.a

Date	20.02.2025	 <b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	 <b>INGELA</b> <b>mbH</b>	<b>Parts list : ING.Hinweis</b> <b>Mechanisch nachbearbeiten -</b> <b>ICO.41251</b>	<b>EU</b>	= = = +	Page	1
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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
+S1-U3028	1	Typ 7F.02 - Abluftfilter	7F.02.0.000.3000	FIN	
+S1-U3029	1	Kabelverschraubung Polyamid, M25x1,5, Kabeldurchmesser 10-17mm	SZ.2411631	RIT	2411631
+S1-U3030	1	KT 12 gy / Kabeltülle, klein, ø 12 - 13 mm, IP65	KT 12 gy	ICO	
+S1-U3031	1	KT 9 gy / Kabeltülle, klein, ø 9 - 10 mm, IP65	KT 9 gy	ICO	41209
+S1-U3031	1	KEL-ER-B4 / Kabeleinführungsleiste, teilbar, zweireihig, IP65	KEL-ER-B4	ICO	
+S1-U3032	1	BTK gy / Blindtülle, klein, IP54	BTK gy	ICO	41251
+S1-U3033	1	BTK gy / Blindtülle, klein, IP54	BTK gy	ICO	41251
+S1-U3022	2	Sonder_Absaugstutzen-D38x30mm	Sonder_Absaugstutzen-D38x30mm	ROB	
+S1-XD0	3	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XD0	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XD0	2	Schutzleiter-Reihenklemme	PT 2,5-QUATTRO-PE	PXC	3209594
+S1-XD0	2	Trennklemme	PT 2,5-TWIN-MT	PXC	3210169
+S1-XD0	2	Abschluss- und Zwischenplatte für Reihenklemme	D-PT 2,5-TWIN-MT	PXC	3211317
+S1-XD1	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XD1	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XD1	1	Schutzleiterklemme	PT 4-TWIN-PE	PXC	3211780
+S1-XD1	3	Durchgangsklemme	PT 4-TWIN	PXC	3211771
+S1-XD1	1	Durchgangsklemme	PT 4-TWIN BU	PXC	3211775
+S1-XD1	1	Abschluss- und Zwischenplatte für Reihenklemme	D-PT 4-TWIN	PXC	3208977
==TAB1+S1-XG1	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB1+S1-XG1	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB1+S1-XG1	7	Doppelstockklemme	PTTB 2,5	PXC	3210567
==TAB1+S1-XG1	1	Schutzleiter-Doppelstockklemme	PTTB 2,5 PE	PXC	3210596
==TAB1+S1-XG1	1	Abschluss- und Zwischenplatte für Reihenklemme	D-PTTB 2,5	PXC	3211634
+S1-XN	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XN	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XN	4	Durchgangsklemme	PT 4 BU	PXC	3211760
+S1-XN	1	Querverbinder/Brücker für Reihenklemme	FBS 4-6 BU	PXC	3036958

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1.b

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>Parts list :</b> <b>FIN.7F.02.0.000.3000 -</b> <b>PXC.3036958</b>	<b>EU</b>	<b>PB4001</b>	==	Page 1.a Page 105
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Modification	Date	Name	Original	Replacement of	Replaced by			

# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
+S1-XN	1	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	3030420
+S1-XPE	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XPE	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XPE	7	Schutzleiter-Reihenklemme	PT 4-PE	PXC	3211766
+S1-XPE	1	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	3030420
+S1-XS1	1	Einbausteckverbinder	SACC-E-FS-12CON-M16/0,5 SCO	PXC	1556252
+S1-XS1	1	Gegenmutter M16x1,5 MS	926004168	PLI	
+S1-XSV+	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XSV+	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XSV+	2	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
+S1-XSV+	1	Querverbinder/Brücker für Reihenklemme	FBS 2-5	PXC	3030161
+S1-XSV+	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
+S1-XSV-	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XSV-	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XSV-	2	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
+S1-XSV-	1	Querverbinder/Brücker für Reihenklemme	FBS 2-5 BU	PXC	3036877
+S1-XSV-	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
+S1-XV+	6	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
+S1-XV+	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
+S1-XV+	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XV-	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
+S1-XV-	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
+S1-XV-	6	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
+S1-XV-	1	Querverbinder/Brücker für Reihenklemme	FBS 10-5	PXC	3030213
+S1-XV-	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
+M-WD1	1	Sensor-/Aktor-Kabel	SAC-12P-MS/ 3,0-35T/FS SH SCO	PXC	
+M-XG1	1	Sensor-/Aktor-Box	SACB- 8/3-L-M12-M8 HD	PXC	
+RTCN-X1	1	CEE-Stecker 5-polig 16 A	33 16A5P 6H400V	MEN	33 16A5P 6H400V

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**ING**  
**PiBond - OPTIspin ST32 + OPTIhot SHT30**  
 Replacement of

**INGELA**  
 mbH

**Parts list : PXC.3030420 - MEN.33 16A5P 6H400V**

**EU**  
 PB4001

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
==TAB1+HP1-XPE	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB1+HP1-XPE	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB1+HP1-XPE	3	Schutzleiter-Reihenklemme	PT 4-PE	PXC	3211766
==TAB1+HP1-XPE	1	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	3030420
==TAB1+HP1-XV+	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB1+HP1-XV+	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB1+HP1-XV+	3	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
==TAB1+HP1-XV+	1	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	3030174
==TAB1+HP1-XV+	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
==TAB1+HP1-XV-	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB1+HP1-XV-	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB1+HP1-XV-	3	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
==TAB1+HP1-XV-	1	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	3030174
==TAB1+HP1-XV-	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
==TAB1+HP2-XPE	3	Schutzleiter-Reihenklemme	PT 4-PE	PXC	3211766
==TAB1+HP2-XPE	1	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	3030420
==TAB1+HP2-XPE	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB2+HP2-XPE	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB2+HP2-XPE	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB2+HP2-XPE	3	Schutzleiter-Reihenklemme	PT 4-PE	PXC	3211766
==TAB2+HP2-XPE	1	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	3030420
==TAB1+HP2-XV+	3	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
==TAB1+HP2-XV+	1	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	3030174
==TAB1+HP2-XV+	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
==TAB1+HP2-XV+	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB2+HP2-XV+	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB2+HP2-XV+	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB2+HP2-XV+	3	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578

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Replacement of	Replaced by

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**Parts list : PXC.3022276 - PXC.3209578**

<b>EU</b>	
	PB4001

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
==TAB2+HP2-XV+	1	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	3030174
==TAB2+HP2-XV+	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
==TAB1+HP2-XV-	3	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
==TAB1+HP2-XV-	1	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	3030174
==TAB1+HP2-XV-	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
==TAB1+HP2-XV-	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB2+HP2-XV-	2	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
==TAB2+HP2-XV-	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
==TAB2+HP2-XV-	3	Durchgangsklemme	PT 2,5-QUATTRO	PXC	3209578
==TAB2+HP2-XV-	1	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	3030174
==TAB2+HP2-XV-	1	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	3030514
=BA01+S1-MP1	1	Erdungsschraube M6x16	M6x16	INGELA	
=BA01+S1-MP2	1	Erdungsschraube M6x16	M6x16	INGELA	
=BA01+S1-QA1	1	NOT-AUS-SCH 16A/690V 400V/7,5KW	3LD2003-0TK53	SIE	3LD2003-0TK53
=BA01+S1-WF1	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 05 WS
=BA01+S1-WF2	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 1 WS
=BA01+S1-WF3	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 1 WS
==TAB1=BA01+S1-WF4	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 1 WS
=BA01+S1-XF1	1	RJ45 Einbaudose	RJ45 F/F 8/8 Cat.5e	LÜTZE	492075
=BA01+S1-XF2	1	RJ45 Einbaudose	RJ45 F/F 8/8 Cat.5e	LÜTZE	492075
=BA01+M-WZ1	1	Netzwerkabel	NBC-MSD/ 5,0-93B/R4AC SCO	PXC	
=DA01+S1-KF1	1	EtherCAT Koppler	EK1100	BECK	EK1100
=DA01+S1-KF20	1	8-Kanal DI	EL1008	BECK	EL1008
=DA01+S1-KF21	1	8-Kanal DI	EL1008	BECK	EL1008
=DA01+S1-KF22	1	8-Kanal DI	EL1008	BECK	EL1008
=DA01+S1-KF25	1	TwinSAFE 8-Kanal DI	EL1918	BECK	EL1918
=DA01+S1-KF29	1	IO-Link, Master	EL6224	BECK	EL6224
=DA01+S1-KF30	1	8-Kanal DO	EL2008	BECK	EL2008

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**Parts list : PXC.3030174 - BECK.EL2008**

<b>EU</b>	
	PB4001

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
=DA01+S1-KF35	1	TwinSafe 4-Kanal D0	EL2904	BECK	EL2904
=DA01+S1-PM10	1	1-Kanal-Motion-Interface	EL7411	BECK	
=DA01+S1-ST	1	Bus Endplatte	EL9011	BECK	EL9011
==TAB1=DA01+HP1-KF1	1	EtherCAT Koppler	EK1100	BECK	EK1100
==TAB1=DA01+HP1-KF2	1	Potenzialeinspeiseklemme mit Diagnose, 24 V DC	EL9110	BECK	EL9110
==TAB1=DA01+HP1-KF10	1	2-Kanal AI	EL3202-0010	BECK	
==TAB1=DA01+HP1-KF20	1	8-Kanal DI	EL1008	BECK	EL1008
==TAB1=DA01+HP1-KF30	1	8-Kanal DO	EL2008	BECK	EL2008
==TAB1=DA01+HP1-ST	1	Bus Endplatte	EL9011	BECK	EL9011
==TAB1=DA01+HP1-WF2	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 1 WS
==TAB2=DA01+HP2-KF1	1	EtherCAT Koppler	EK1100	BECK	EK1100
==TAB2=DA01+HP2-KF2	1	Potenzialeinspeiseklemme mit Diagnose, 24 V DC	EL9110	BECK	EL9110
==TAB2=DA01+HP2-KF10	1	2-Kanal AI	EL3202-0010	BECK	
==TAB2=DA01+HP2-KF20	1	8-Kanal DI	EL1008	BECK	EL1008
==TAB2=DA01+HP2-KF30	1	8-Kanal DO	EL2008	BECK	EL2008
==TAB2=DA01+HP2-ST	1	Bus Endplatte	EL9011	BECK	EL9011
==TAB2=DA01+HP2-WF2	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 1 WS
=SFT01+S1-KF1	1	Relaismodul	RIF-1-RPT-LDP-24DC/2X21/FG	PXC	2908215
=SFT01+S1-KF2	1	Relaismodul	RIF-1-RPT-LDP-24DC/2X21/FG	PXC	2908215
==TAB1=SFT01+S1-XS1	1	Einbausteckverbinder	SACC-E-FS-4CON-M16/0,5 SCO	PXC	1523434
==TAB1=SFT01+S1-XS1	1	Gegenmutter M16x1,5 MS	926004168	PLI	
==TAB1=SFT01+S1-XS2	1	Einbausteckverbinder	SACC-E-FS-4CON-M16/0,5 SCO	PXC	1523434
==TAB1=SFT01+S1-XS2	1	Gegenmutter M16x1,5 MS	926004168	PLI	
=SFT01+M-BS1	1	Kapazitive Sensoren	BCS M30TTH2-POCFAG-AT02	BAL	
=SFT01+M-BS2	1	Kapazitive Sensoren	BCS M30TTH2-POCFAG-AT02	BAL	
==TAB1=SFT01+M-FQ1	1	Sicherheitsschalter	AZM170-02ZRK-ST-2197	SCHM	
==TAB1=SFT01+M-SF1	1	NOT-AUS Taster	M22-PV	ETN	M22-PV
==TAB1=SFT01+M-SF1	1	Schild, NOT-HALT, H x B = 50 x 33 mm, gelb, NOT-HALT	M22-XZK1-D99	ETN	

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PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

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**Parts list : BECK.EL2904 - ETN.M22-XZK1-D99**

<b>EU</b>	
	PB4001

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
==TAB1=SFT01+M-SF1	1	Befestigungsadapter	M22-A	ETN	M22-A
==TAB1=SFT01+M-SF1	2	Kontaktelement, 1Ö, Frontbefestigung	M22-K01	ETN	M22-K01
==TAB1=SFT01+M-WG1	1	PVC-Steuerleitung JZ-500 16G0,5 mm² GR	JZ-500	HELU	10183
==TAB1=SFT01+M-WQ1	1	Sensor-/Aktor-Kabel	SAC-4P-MS/ 5,0-186/FS SCO	PXC	
==TAB1=SFT01+M-WQ1.1	1	Sensor-/Aktor-Kabel	SAC-4P-MS/ 5,0-186/FS SCO	PXC	
=SFT01+M-XBS1	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
=SFT01+M-XBS2	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
=DA10+S1-AF1	1	Ultra Kompakt-Industrie-PC C6015-0010 mit Hutschienenadapter	C6015-0010 M666/M667	BECK	
=DB01+S1-SF2	1	Kontaktelement 1 Schließer, Frontbefestigung, Federzuganschluss	M22-CK10	ETN	M22-CK10
=DB01+S1-SF2	1	Leuchtelement, LED, weiß, Frontbefestigung, 12 - 30 V AC/DC, Federzuganschluss	M22-CLED-W	ETN	M22-CLED-W
=DB01+S1-SF2	1	Leuchtdrucktaste, flach, weiß, tastend	M22-DL-W	ETN	M22-DL-W
=DB01+S1-SF2	1	Befestigungsadapter	M22-A	ETN	M22-A
=DB01+S1-SF2	1	Schildträger, ohne Schild, schwarz	M22S-ST-X	ETN	M22S-ST-X
==TAB1=DC01+M-PH1	1	Open Frame PCAP 10 Punkt-Touchmonitor	PROLITE	IYY	
=DD01+M-BP1	1	PS1*00, Elektronischer Druckschalter	PS1100-R06L-Q	SMC	
=DD01+M-BP2	1	PS1*00, Elektronischer Druckschalter	PS1100-R06L-Q	SMC	
=DD01+M-KK1	1	EX260, Serielles Übertragungssystem	EX260-SEC1	SMC	
=DD01+M-KK2	1	EX9, Leistungsblock	EX9-PE1	SMC	
=DD01+M-KK3	1	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3300-5U1	SMC	
=DD01+M-KK4	1	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3300-5U1	SMC	
=DD01+M-KK5	2	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3300-5U1	SMC	
=DD01+M-KK6	2	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3300-5U1	SMC	
=DD01+M-KK7	1	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3300-5U1	SMC	
=DD01+M-KK8	1	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3A00-5U1	SMC	
=DD01+M-KK9	1	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3A00-5U1	SMC	
=DD01+M-KK10	1	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3A00-5U1	SMC	
=DD01+M-WZ2	1	Netzwerkabel	NBC-MSD/ 5,0-93B/R4AC SCO	PXC	
=EDS+S1-FC1	1	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, B, 10A	5SY4110-6	SIE	5SY4110-6

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Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>Parts list : ETN.M22-A - SIE.5SY4110-6</b>	<b>EU</b>	<b>PB4001</b>	==	Page 1.f Page 105
Ed.	LAMSCHICK						=	
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Modification	Date	Name	Original	Replacement of	Replaced by			

# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
=EDS+S1-FC2	1	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, B, 10A	5SY4110-6	SIE	5SY4110-6
=EDS+S1-FC3	1	FI/LS-Schalter B16	5SU1356-6KK16	SIE	5SU1356-6KK16
=EDS+S1-FC4	1	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, B, 6A	5SY4106-6	SIE	5SY4106-6
=EDS+S1-FC5	1	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, B, 6A	5SY4106-6	SIE	5SY4106-6
=EDS+S1-FC6	1	Elektronischer Geräteschutzschalter	PTCB E1 24DC/1-8A NO	PXC	2908262
=EDS+S1-FC6	1	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	3022276
=EDS+S1-FC6	1	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	0814788
=EDS+S1-FC7	1	Elektronischer Geräteschutzschalter	PTCB E1 24DC/1-8A NO	PXC	2908262
=EDS+S1-FC7	1	Querverbinder/Brücker für Reihenklemme	FBS 10-5	PXC	3030213
=EDS+S1-FC8	1	Elektronischer Geräteschutzschalter	PTCB E1 24DC/1-8A NO	PXC	2908262
=EDS+S1-FC9	1	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, C, 6A	5SY4106-7	SIE	5SY4106-7
=EDS+S1-TA1	1	Stromversorgung	TRIO-PS-2G/1AC/24DC/10	PXC	2903149
=EDS+S1-TA2	1	Stromversorgung	TRIO-PS-2G/1AC/24DC/5	PXC	2903148
=EDS+S1-TA3	1	Stromversorgung	QUINT4-PS/1AC/12DC/2.5/PT	PXC	2904605
=EDS+S1-WD1	1	Daten- und Rechnerkabel TRONIC-CY 2x0,5 mm² GR	TRONIC-CY (LIY-CY)	HELU	16002
=EDS+S1-XD1	1	C19 Kaltgerätestecker schwarz	917.172	BACH	917.172
=EDS+S1-XD2	1	C19 Kaltgerätestecker schwarz	917.172	BACH	917.172
=EDS+S1-XD3	1	Anbausteckdose SCHUKO 3-polig 16 A	11031	MEN	11031
=EDS+S1-XS1	1	Gehäuse	Han 1A-agw	HAR	
=EDS+S1-XS1	1	Einsätze	Han 1A-5+PE-c-f Clip	HAR	09100053101
=EDS+S1-XS1	4	Buchsenkontakt 1 mm²	Han D®	HAR	09150006202
=EDS+S1-XS2	1	Gehäuse	Han 1A-agw	HAR	
=EDS+S1-XS2	1	Einsätze	Han 1A-5+PE-c-f Clip	HAR	09100053101
=EDS+S1-XS2	4	Buchsenkontakt 1 mm²	Han D®	HAR	09150006202
=EDS+S1-XS3	1	Einbausteckverbinder	SACC-E-FS-4CON-M16/0,5 SCO	PXC	1523434
=EDS+S1-XS3	1	Gegenmutter M16x1,5 MS	926004168	PLI	
=EDS+S1-XS4	1	Einbausteckverbinder	SACC-E-FS-4CON-M16/0,5 SCO	PXC	1523434
=EDS+S1-XS4	1	Gegenmutter M16x1,5 MS	926004168	PLI	

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<b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	
Replacement of	Replaced by

**INGELA**  
mbH



**Parts list : SIE.5SY4110-6 -  
PLI.926004168**

<b>EU</b>	
	<b>PB4001</b>

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+	Page 1.g
	Page 105

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
=EDS+M-HP1.WD1	1	PVC-Steuerleitung JZ-500 black 3G1,5 mm² SW	JZ-500 black	HELU	10365
=EDS+M-HP1.WD2	1	PVC-Steuerleitung OZ-500 4x1 mm² GR	OZ-500	HELU	10064
=EDS+M-HP2.WD1	1	PVC-Steuerleitung JZ-500 black 3G1,5 mm² SW	JZ-500 black	HELU	10365
=EDS+M-HP2.WD2	1	PVC-Steuerleitung OZ-500 4x1 mm² GR	OZ-500	HELU	10064
=EDS+M-WD1	1	Sensor-/Aktor-Kabel	SAC-4P-MS/ 5,0-186/FS SCO	PXC	
=EDS+M-WD2	1	Sensor-/Aktor-Kabel	SAC-4P-MS/ 5,0-186/FS SCO	PXC	
=EDS+M-XD1	1	C20 Kaltgerätestecker schwarz	915.175	BACH	
=EDS+M-XD2	1	C20 Kaltgerätestecker schwarz	915.175	BACH	
=EDS+M-XS1	1	Einsätze	Han 1A-5+PE-c-m Clip	HAR	09100053001
=EDS+M-XS1	1	Gehäuse	Han 1A-Kabeladapter 5,7-10mm	HAR	09100000400
=EDS+M-XS1	4	Stiftkontakt 1 mm²	Han D	HAR	09150006102
=EDS+M-XS2	1	Einsätze	Han 1A-5+PE-c-m Clip	HAR	09100053001
=EDS+M-XS2	1	Gehäuse	Han 1A-Kabeladapter 5,7-10mm	HAR	09100000400
=EDS+M-XS2	4	Stiftkontakt 1 mm²	Han D	HAR	09150006102
==TAB1=COA+S1-FC1	1	LEITUNGSSCHUTZSCHALTER 400V 6KA, 3POLIG, B, 13A	5SY6313-6	SIE	5SY6313-6
==TAB1=COA+S1-R1	1	Bremswiderstand	PWR-R300-12R-J	META	
==TAB1=COA+S1-R2	1	Bremswiderstand	PWR-R300-12R-J	META	
==TAB1=COA+S1-TB1	1	Metronix SmartServo Drives (BL 4000-C Series)	smartServo BL 4312-C	Metro	
==TAB1=COA+S1-WE01	2	Erdungsschraube M6x16	M6x16	INGELA	
==TAB1=COA+S1-XS1	1	Einbausteckverbinder	SACC-E-FS-12CON-M16/0,5 SCO	PXC	1556252
==TAB1=COA+S1-XS1	1	Gegenmutter M16x1,5 MS	926004168	PLI	
==TAB1=COA+M.CO1-MA1	1				
==TAB1=COA+M.CO1-MA2	1				
==TAB1=COA+M.CO1-XD2	1	Kupplung, Gerade, 9-polig , Kabelmontage	EKUB-201-NN00-31-0500-000	TE	
==TAB1=COA+M.CO1-XD2	4	Kontaktstift 1 mm	61.239.11	TE	
==TAB1=COA+M.CO1-XD20	1	Kupplung, Gerade, 15-polig , Kabelmontage	EKUB-204-NN00-33-0003-000	TE	
==TAB1=COA+M.CO1-XD20	3	Kontaktstift 1 mm	61.239.11	TE	
==TAB1=COA+M.CO1-XD20	12	Kontaktstift 1 mm	61.232.11	TE	

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Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>Parts list : HELU.10365 -</b> <b>TE.61.232.11</b>	<b>EU</b>	<b>PB4001</b>	==	Page 1.h Page 105
Ed.	LAMSCHICK						=	
Appr							+	
Modification	Date	Name	Original	Replacement of	Replaced by			

# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
==TAB1=COA+M-BE1	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE2	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE3	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE4	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE5	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE6	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE7	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BE8	1	Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L	SMC	
==TAB1=COA+M-BG1	2	Fotoelektrische Sensoren in U-Form	PM-T65-P	PANA	
==TAB1=COA+M-WBG1	2				
==TAB1=COA+M-WD1	1				
==TAB1=COA+M-WD1.1	1	Steuer- und Anschlussleitungen JZ-500 4 G 0.5	JZ-500	HELU	
==TAB1=COA+M-WD2.1	1	Daten- und Rechnerkabel TRONIC-CY 18x0,34 mm² GR	TRONIC-CY (LIY-CY)	HELU	
==TAB1=COA+M-WD3	1	Sensor-/Aktor-Kabel	SAC-12P-MS/ 3,0-35T/FS SH SCO	PXC	
==TAB1=COA+M-WG1	1				
==TAB1=COA+M-XBE1	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE2	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE3	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE4	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE5	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE6	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE7	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XBE8	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==TAB1=COA+M-XD2	1	Stecker, Gerade, 9-polig , Kabelmontage	ESTB-202-NN00-31-0500-000	TE	
==TAB1=COA+M-XD2	4	Kontaktbuchse 1 mm	60.265.11	TE	
==TAB1=COA+M-XD20	1	Stecker, Gerade, 15-polig , Kabelmontage	ESTB-205-NN00-33-0003-000	TE	
==TAB1=COA+M-XD20	3	Kontaktbuchse 1 mm	60.265.11	TE	
==TAB1=COA+M-XD20	12	Kontaktbuchse 1 mm	60.252.11	TE	

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**Parts list : SMC.D-A93L - TE.60.252.11**

<b>EU</b>	
	PB4001

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
==TAB1=COA+M-XG1	1	Sensor-/Aktor-Box	SACB- 8/3-L-M12-M8 HD	PXC	
=NC01+M-WBG2	1	Konfektionierte Sensor-Aktor-Leitung	SAC-3P-M 8MS/2,0-PUR/M12FR	PXC	
=NC01+M-XBE3	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
=NC01+M.T-BG1	1	Fotoschalter - Koaxiale Miniatur-Reflexionslichtschanke	E3T-SR43-C 2M	OMR	
=NC01+M.T-BG2	1	Kapazitive Sensoren	BCS M30BBM2-PPC30G-S04G	BAL	
=NC02+S1-KF1	1	Trennschaltverstärker	MACX MCR-EX-SL-2NAM-RO-SP	PXC	2924087
=NC02+M-BL1	1				
=NC02+M-BL2	1				
=NC02+M-WL1	1	PVC-Steuerleitung OZ-500 2x0,5 mm <sup>2</sup> GR	OZ-500	HELU	10001
=NC02+M-WL2	1	PVC-Steuerleitung OZ-500 2x0,5 mm <sup>2</sup> GR	OZ-500	HELU	10001
==TAB1=HP+M-WF1	1	Netzwerkkabel	NBC-R4ACS/5,0-93B/R4ACS	PXC	
==TAB1=HP+M-XS1.1	1	C15A Heißgerätedose schwarz	916.170	BACH	
==TAB1=HP+M-XS2.1	1	Gehäuse	Han 1A-Kabeladapter 5,7-10mm	HAR	0910000400
==TAB1=HP+M-XS2.1	1	Einsätze	Han 1A-5+PE-c-f Clip	HAR	09100053101
==TAB1=HP+M-XS2.1	4	Buchsenkontakt 1 mm <sup>2</sup>	Han D®	HAR	09150006202
==TAB2=HP+M-XS1.1	1	C15A Heißgerätedose schwarz	916.170	BACH	
==TAB2=HP+M-XS2.1	1	Gehäuse	Han 1A-Kabeladapter 5,7-10mm	HAR	0910000400
==TAB2=HP+M-XS2.1	1	Einsätze	Han 1A-5+PE-c-f Clip	HAR	09100053101
==TAB2=HP+M-XS2.1	4	Buchsenkontakt 1 mm <sup>2</sup>	Han D®	HAR	09150006202
==TAB1=HP+HP1	1	PiBond_Heizplatte_Gehäuse	PiBond_Heizplatte_Gehäuse	ROB	
==TAB1=HP+HP1-1	1	Faltenbalgventil, Edelstahl, mit Körperdichtscheibe, 6 mm Swagelok	SS-6BK-MM-1C	SWL	
==TAB1=HP+HP1-5	1	Gehäuse	Han 1A-agw	HAR	
==TAB1=HP+HP1-1	3	Schottverbindung (Mutter) 6mm Rohraußen	100290600	NOR	
==TAB1=HP+HP1-A1	1	Erdungsschraube M6x25	M6x25	INGELA	Erdungsschraube_M6x25
==TAB1=HP+HP1-BE4	1	PS1*00, Elektronischer Druckschalter	PS1100-R07L	SMC	
==TAB1=HP+HP1-EB1-BT2	1	Hochtemperaturschalter TB 97	TB97-330-5-65-3-500-9HA	Limitor	
==TAB1=HP+HP1-KF1	1	Erweiterungsmodul	PSR-SCF- 24UC/URM/2X21	PXC	2981363
==TAB1=HP+HP1-QA1	1	Halbleiterrelais 4-32VDC/70-480VAC/10A	SSR-4810	NOV	

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PiBond - OPTIspin ST32 + OPTIhot SHT30	
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**Parts list : PXC.1197575 - NOV.SSR-4810**

<b>EU</b>	
	PB4001

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# Parts list

[Rteu] F01\_001

Device tag	Quantity	Designation	Type number	Manufacturer	Part number
==TAB2=HP+HP2-QM2	1	3/2-Wege Ventil	VZ110-5MOZ-M5-Q	SMC	
==TAB2=HP+HP2-QM3	1	3/2-Wege Ventil	VZ110-5MOZ-M5-Q	SMC	
==TAB2=HP+HP2-QM4	1	3/2-Wege Ventil	VZ110-5MOZ-M5-Q	SMC	
==TAB2=HP+HP2-QM5	1	3/2-Wege Ventil	VZ110-5MOZ-M5-Q	SMC	
==TAB2=HP+HP2-QM1	1	5/3-Wege-Magnetventil mit weichdichtendem Schieber, Flanschversion und Rohrversion	SYJ5120-5LO-M5-Q	SMC	
==TAB2=HP+HP2-U1	1	Tragschiene	TS 35_7,5	EKV	3575ZG
==TAB2=HP+HP2-U10	1	Wandhalter	PS.4595000	RIT	4595000
==TAB2=HP+HP2-U11	1	Wandhalter	PS.4595000	RIT	4595000
==TAB2=HP+HP2-U12	1	Elektronikgehäuse	UTA 89	PXC	2853970
==TAB2=HP+HP2-U13	1	Kabelkanal GN-A6/4 LF 40X25	GN-A6/4 LF 40X25	SES	08390141013
==TAB2=HP+HP2-WF1	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	SLIM SL6 1 WS
==TAB2=HP+HP2-XF1	1	RJ45-Kupplung	VS-08-BU-RJ45/BU	PXC	1689064
==TAB2=HP+HP2-XF2	1	RJ45-Kupplung	VS-08-BU-RJ45/BU	PXC	1689064
==TAB2=HP+HP2-XS1	1				
==TAB2=HP+HP2-XS2	1	Gehäuse	Han 1A-agg	HAR	09100000300
==TAB2=HP+HP2-XS2	1	Einsätze	Han 1A-5+PE-c-m Clip	HAR	09100053001
==TAB2=HP+HP2-XS2	4	Stiftkontakt 1 mm <sup>2</sup>	Han D	HAR	09150006102
==TAB2=HP+HP2-XS1	1	Einbau-Schutzkontakt-Geraetestecker C16A schwarz	01049.0000.01.000	APSA	
==VAC=DE01+M-BP1	1	Digitaler Drucksensor	ISE20B-L-M5-W	SMC	
==VAC=DE01+M-BP2	1	Druckdifferenzschalter QBM81-3	QBM81-3	SIE	
==VAC=DE01+M-MA1	1				
==VAC=DE01+M-WBP2	1	PVC-Steuerleitung OZ-500 2x0,5 mm <sup>2</sup> GR	OZ-500	HELU	10001
==VAC=DE01+M-XBE5	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==VAC=DE01+M-XBE6	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==VAC=DE01+M-XBE7	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	
==VAC=DE01+M-XBE8	1	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	

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<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

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**Parts list :**  
**SMC.VZ110-5MOZ-M5-Q -**  
**PXC.1501252**

<b>EU</b>	
	PB4001

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# Total parts list for installation location: +S1

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
BACH.917.172	2	C19 Kaltgerätestecker schwarz	917.172	BACH	===EDS+S1-XD1;===EDS+S1-XD2	+S1	
ETN.M22-A	1	Befestigungsadapter	M22-A	ETN	===DB01+S1-SF2	+S1	
ETN.M22-CK10	1	Kontaktelement 1 Schließer, Frontbefestigung, Federzuganschluss	M22-CK10	ETN	===DB01+S1-SF2	+S1	
ETN.M22-CLED-W	1	Leuchtelement, LED, weiß, Frontbefestigung, 12 - 30 V AC/DC, Federzuganschluss	M22-CLED-W	ETN	===DB01+S1-SF2	+S1	
ETN.M22-DL-W	1	Leuchtdrucktaste, flach, weiß, tastend	M22-DL-W	ETN	===DB01+S1-SF2	+S1	
ETN.M22S-ST-X	1	Schildträger, ohne Schild, schwarz	M22S-ST-X	ETN	===DB01+S1-SF2	+S1	
FIM.6005477	1	Edelstahl Schaltschrank ohne Flanschplatte, BHT 415x570x400 mm	6005477	FIM	===+S1-U1	+S1	
FIN.7F.02.0.000.3000	1	Typ 7F.02 - Abluftfilter	7F.02.0.000.3000	FIN	===+S1-U3028	+S1	
HAR.0910000800	2	Gehäuse	Han 1A-agw	HAR	===EDS+S1-XS1;===EDS+S1-XS2	+S1	
HAR.09100053101	2	Einsätze	Han 1A-5+PE-c-f Clip	HAR	===EDS+S1-XS1;===EDS+S1-XS2	+S1	
HAR.09150006202	8	Buchsenkontakt 1 mm <sup>2</sup>	Han D®	HAR	===EDS+S1-XS1;===EDS+S1-XS2	+S1	
HELU.16002	1	Daten- und Rechnerkabel TRONIC-CY 2x0,5 mm <sup>2</sup> GR	TRONIC-CY (LIY-CY)	HELU	===EDS+S1-WD1	+S1	
ICO.39906	4	KT 2 4 gy / Kabeltülle, klein, 2 x ø 4 mm, IP54	KT 2 4 gy	ICO	===+S1-U3005;===+S1-U3009	+S1	
ICO.41205	3	KT 5 gy / Kabeltülle, klein, ø 5 - 6 mm, IP65	KT 5 gy	ICO	===+S1-U3009	+S1	
ICO.41209	1	KT 9 gy / Kabeltülle, klein, ø 9 - 10 mm, IP65	KT 9 gy	ICO	===+S1-U3031	+S1	
ICO.41210	2	KT 10 gy / Kabeltülle, klein, ø 10 - 11 mm, IP65	KT 10 gy	ICO	===+S1-U3009	+S1	
ICO.41212	1	KT 12 gy / Kabeltülle, klein, ø 12 - 13 mm, IP65	KT 12 gy	ICO	===+S1-U3030	+S1	
ICO.41251	3	BTK gy / Blindtülle, klein, IP54	BTK gy	ICO	===+S1-U3009;===+S1-U3032;===+S1-U3033	+S1	
ICO.48168	1	KEL-ER 16 8 / Kabeleinführungsleiste, teilbar, zweireihig, IP65	KEL-ER 16 8	ICO	===+S1-U3009	+S1	
ICO.48204	1	KEL-ER-B4 / Kabeleinführungsleiste, teilbar, zweireihig, IP65	KEL-ER-B4	ICO	===+S1-U3031	+S1	
ICO.48249	1	KEL-ER-E 2 / Kabeleinführungsleiste, teilbar, einreihig, IP65	KEL-ER-E 2	ICO	===+S1-U3005	+S1	
ING.Erdungsschraube_Neu M6x16	2	Erdungsschraube M6x16	M6x16	INGELA	===BA01+S1-MP1;===BA01+S1-MP2	+S1	
ING.Hinweis Mechanisch nachbearbeiten	4	HW	HW3	INGELA	===+S1-F1...===+S1-F4	+S1	
LUETZE.492075	2	RJ45 Einbaudose	RJ45 F/F 8/8 Cat.5e	LÜTZE	===BA01+S1-XF1;===BA01+S1-XF2	+S1	
MEN.11031	1	Anbausteckdose SCHUKO 3-polig 16 A	11031	MEN	===EDS+S1-XD3	+S1	
PLI.926004168	3	Gegenmutter M16x1,5 MS	926004168	PLI	===+S1-XS1;===EDS+S1-XS3;===EDS+S1-XS4	+S1	
PXC.2908215	2	Relaismodul	RIF-1-RPT-LDP-24DC/2X21/FG	PXC	===SFT01+S1-KF1;===SFT01+S1-KF2	+S1	
PXC.3030420	2	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	==+S1-XN:4;==+S1-XPE:7	+S1	

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Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>BACH.917.172 - PXC.3030420</b>	<b>EU</b>	==	Page 1 Page 105
Ed.	LAMSCHICK						=	
Appr							+ S1	
Modification	Date	Name	Original	Replacement of	Replaced by		PB4001	

# Total parts list for installation location: +S1

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
PXC.3036958	1	Querverbinder/Brücker für Reihenklemme	FBS 4-6 BU	PXC	==+S1-XN:1	+S1	
PXC.3211760	4	Durchgangsklemme	PT 4 BU	PXC	==+S1-XN:1...==+S1-XN:4	+S1	
PXC.3208977	1	Abschluss- und Zwischenplatte für Reihenklemme	D-PT 4-TWIN	PXC	==+S1-XD1:5	+S1	
PXC.3211775	1	Durchgangsklemme	PT 4-TWIN BU	PXC	==+S1-XD1:5	+S1	
PXC.3022276	14	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	==+S1-XD0;==+S1-XD0:2;==+S1-XD0:4;==+S1-XD1 ==+S1-XN;==+S1-XPE;==+S1-XPE:7;==+S1-XSV+ ==+S1-XSV-;==+S1-XSV-:2;==+S1-XV+:6;==+S1-XV- ==+S1-XV-:6;===EDS+S1-FC6	+S1	
PXC.3211766	7	Schutzleiter-Reihenklemme	PT 4-PE	PXC	==+S1-XPE:1...==+S1-XPE:7	+S1	
PXC.3211780	1	Schutzleiterklemme	PT 4-TWIN-PE	PXC	==+S1-XD1:PE1	+S1	
PXC.3209594	2	Schutzleiter-Reihenklemme	PT 2,5-QUATTRO-PE	PXC	==+S1-XD0:1;==+S1-XD0:3	+S1	
PXC.1523434	2	Einbausteckverbinder	SACC-E-FS-4CON-M16/0,5 SCO	PXC	===EDS+S1-XS3;===EDS+S1-XS4	+S1	
PXC.1556252	1	Einbausteckverbinder	SACC-E-FS-12CON-M16/0,5 SCO	PXC	===+S1-XS1	+S1	
PXC.2924087	1	Trennschaltverstärker	MACX MCR-EX-SL-2NAM-RO-SP	PXC	===NC02+S1-KF1	+S1	
PXC.0814788	8	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	==+S1-XD0;==+S1-XD1;==+S1-XN;==+S1-XPE;==+S1-XSV+ ==+S1-XSV-;==+S1-XV-;===EDS+S1-FC6	+S1	
PXC.2908262	3	Elektronischer Geräteschutzschalter	PTCB E1 24DC/1-8A NO	PXC	===EDS+S1-FC6...===EDS+S1-FC8	+S1	
PXC.3030213	2	Querverbinder/Brücker für Reihenklemme	FBS 10-5	PXC	==+S1-XV-:1;===EDS+S1-FC7	+S1	
PXC.3211771	3	Durchgangsklemme	PT 4-TWIN	PXC	==+S1-XD1:2...==+S1-XD1:4	+S1	
PXC.3030161	1	Querverbinder/Brücker für Reihenklemme	FBS 2-5	PXC	==+S1-XSV+:1	+S1	
PXC.3030514	4	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	==+S1-XSV+:2;==+S1-XSV-:2;==+S1-XV+:6;==+S1-XV-:6	+S1	
PXC.3036877	1	Querverbinder/Brücker für Reihenklemme	FBS 2-5 BU	PXC	==+S1-XSV-:1	+S1	
PXC.3209578	16	Durchgangsklemme	PT 2,5-QUATTRO	PXC	==+S1-XSV+:1;==+S1-XSV+:2;==+S1-XSV-:1;==+S1-XSV-:2 ==+S1-XV+:1...==+S1-XV+:6;==+S1-XV-:1...==+S1-XV-:6	+S1	
PXC.3210169	2	Trennklemme	PT 2,5-TWIN-MT	PXC	==+S1-XD0:2;==+S1-XD0:4	+S1	
PXC.3211317	2	Abschluss- und Zwischenplatte für Reihenklemme	D-PT 2,5-TWIN-MT	PXC	==+S1-XD0:2;==+S1-XD0:4	+S1	
PXC.2903148	1	Stromversorgung	TRIO-PS-2G/1AC/24DC/5	PXC	===EDS+S1-TA2	+S1	
PXC.2903149	1	Stromversorgung	TRIO-PS-2G/1AC/24DC/10	PXC	===EDS+S1-TA1	+S1	
PXC.2904605	1	Stromversorgung	QUINT4-PS/1AC/12DC/2.5/PT	PXC	===EDS+S1-TA3	+S1	
REICH.SLIM SL6 1 WS	2	Patchkabel Slim Cat.6	SLIM SL6	REICH	===BA01+S1-WF2;===BA01+S1-WF3	+S1	
REICH.SLIM SL6 05 WS	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	===BA01+S1-WF1	+S1	

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1.b

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>PXC.3036958 - REICH.SLIM</b> <b>SL6 05 WS</b>	<b>EU</b>	==	Page 1.a Page 105
Ed.	LAMSCHICK						=	
Appr							+ S1	
Modification	Date	Name	Original	Replacement of	Replaced by		PB4001	

# Total parts list for installation location: +S1

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
RIT.2411631	1	Kabelverschraubung Polyamid, M25x1,5, Kabeldurchmesser 10-17mm	SZ.2411631	RIT	===+S1-U3029	+S1	
SIE.5SY4106-6	2	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, B, 6A	5SY4106-6	SIE	===EDS+S1-FC4;===EDS+S1-FC5	+S1	
SIE.5SY4106-7	1	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, C, 6A	5SY4106-7	SIE	===EDS+S1-FC9	+S1	
SIE.5SY4110-6	2	LEITUNGSSCHUTZSCHALTER 230V 10KA, 1POLIG, B, 10A	5SY4110-6	SIE	===EDS+S1-FC1;===EDS+S1-FC2	+S1	
SIE.5SU1356-6KK16	1	FI/LS-Schalter B16	5SU1356-6KK16	SIE	===EDS+S1-FC3	+S1	
SIE.3LD2003-0TK53	1	NOT-AUS-SCH 16A/690V 400V/7,5KW	3LD2003-0TK53	SIE	===BA01+S1-QA1	+S1	
WUE.0917280	4	Einnietmutter mit Flachkopf M8	0917280	WUE	===+S1-U3000	+S1	
BECK.C6015-0010 M666/M667	1	Ultra Kompakt-Industrie-PC C6015-0010 mit Hutschienenadapter	C6015-0010 M666/M667	BECK	===DA10+S1-AF1	+S1	Beistellung RTEU
BECK.EK1100	1	EtherCAT Koppler	EK1100	BECK	===DA01+S1-KF1	+S1	Beistellung RTEU
BECK.EL1008	3	8-Kanal DI	EL1008	BECK	===DA01+S1-KF20...===DA01+S1-KF22	+S1	Beistellung RTEU
BECK.EL1918	1	TwinSAFE 8-Kanal DI	EL1918	BECK	===DA01+S1-KF25	+S1	Beistellung RTEU
BECK.EL2008	1	8-Kanal DO	EL2008	BECK	===DA01+S1-KF30	+S1	Beistellung RTEU
BECK.EL2904	1	TwinSafe 4-Kanal D0	EL2904	BECK	===DA01+S1-KF35	+S1	Beistellung RTEU
BECK.EL6224	1	IO-Link, Master	EL6224	BECK	===DA01+S1-KF29	+S1	Beistellung RTEU
BECK.EL7411	1	1-Kanal-Motion-Interface	EL7411	BECK	===DA01+S1-PM10	+S1	Beistellung RTEU
BECK.EL9011	1	Bus Endplatte	EL9011	BECK	===DA01+S1-ST	+S1	Beistellung RTEU
ROB.Sonder_Absaugstutzen-D38x30mm	2	Sonder_Absaugstutzen-D38x30mm	Sonder_Absaugstutzen-D38x30mm	ROB	===+S1-U3022	+S1	Beistellung RTEU

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+M/1

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>RIT.2411631 -</b> <b>ROB.Sonder_Absaugstutzen-D38x30mm</b>	<b>EU</b>	<b>PB4001</b>	==	Page 1.b Page 105
Ed.	LAMSCHICK							=	
Appr								<b>+ S1</b>	
Modification	Date	Name	Original	Replacement of	Replaced by				

# Total parts list for installation location: +M

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
BACH.915.175	2	C20 Kaltgerätestecker schwarz	915.175	BACH	===EDS+M-XD1;===EDS+M-XD2	+M	
HAR.0910000400	2	Gehäuse	Han 1A-Kabeladapter 5,7-10mm	HAR	===EDS+M-XS1;===EDS+M-XS2	+M	
HAR.09100053001	2	Einsätze	Han 1A-5+PE-c-m Clip	HAR	===EDS+M-XS1;===EDS+M-XS2	+M	
HAR.09150006102	8	Stiftkontakt 1 mm²	Han D	HAR	===EDS+M-XS1;===EDS+M-XS2	+M	
HELU.10064	10,00	PVC-Steuerleitung OZ-500 4x1 mm² GR	OZ-500	HELU	===EDS+M-HP1.WD2;===EDS+M-HP2.WD2	+M	
HELU.10365	10,10	PVC-Steuerleitung JZ-500 black 3G1,5 mm² SW	JZ-500 black	HELU	===EDS+M-HP1.WD1;===EDS+M-HP2.WD1	+M	
PXC.1407501	2	Netzwerkkabel	NBC-MSD/ 5,0-93B/R4AC SCO	PXC	===BA01+M-WZ1;===DD01+M-WZ2	+M	
PXC.1555729	2	Sensor-/Aktor-Kabel	SAC-4P-MS/ 5,0-186/FS SCO	PXC	===EDS+M-WD1;===EDS+M-WD2	+M	
GMS.LS-400E-O-X-C-X-1	1				===NC02+M-BL2	+M	Extern RTEU
KSR.RPP1,5-PPS-L390/12-PP44A-1PVC	1				===NC02+M-BL1	+M	Extern RTEU
BAL.BCS0087	2	Kapazitive Sensoren	BCS M30TTH2-POCFAG-AT02	BAL	===SFT01+M-BS1;===SFT01+M-BS2	+M	Extern RTEU
HELU.10001	2	PVC-Steuerleitung OZ-500 2x0,5 mm² GR	OZ-500	HELU	===NC02+M-WL1;===NC02+M-WL2	+M	Extern RTEU
PXC.1402551	1	Sensor-/Aktor-Kabel	SAC-12P-MS/ 3,0-35T/FS SH SCO	PXC	===+M-WD1	+M	Extern RTEU
PXC.1500169	1	Konfektionierte Sensor-Aktor-Leitung	SAC-3P-M 8MS/2,0-PUR/M12FR	PXC	===NC01+M-WBG2	+M	Extern RTEU
PXC.1197575	1	Sensor-/Aktor-Box	SACB- 8/3-L-M12-M8 HD	PXC	===+M-XG1	+M	Extern RTEU
PXC.1501252	3	Steckverbinder	SACC-M 8MS-3CON-M-SW	PXC	===NC01+M-XBE3;===SFT01+M-XBS1;===SFT01+M-XBS2	+M	Extern RTEU
SMC.EX9-PE1	1	EX9, Leistungsblock	EX9-PE1	SMC	===DD01+M-KK2	+M	Extern RTEU
SMC.EX260-SEC1	1	EX260, Serielles Übertragungssystem	EX260-SEC1	SMC	===DD01+M-KK1	+M	Extern RTEU
SMC.PS1100-R06L-Q	2	PS1*00, Elektronischer Druckschalter	PS1100-R06L-Q	SMC	===DD01+M-BP1;===DD01+M-BP2	+M	Extern RTEU
SMC.SY3A00-5U1	3	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3A00-5U1	SMC	===DD01+M-KK8...===DD01+M-KK10	+M	Extern RTEU
SMC.SY3300-5U1	7	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, alle Typen (Neue Produkte)	SY3300-5U1	SMC	===DD01+M-KK3...===DD01+M-KK7	+M	Extern RTEU

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+S1/1.b

+RTCN/1

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>BACH.915.175 -</b> <b>SMC.SY3300-5U1</b>	<b>EU</b>	==	Page 1 Page 105
Ed.	LAMSCHICK						=	
Appr							+ M	
Modification	Date	Name	Original	Replacement of	Replaced by		PB4001	

# Total parts list for installation location: +RTCN

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
MEN.33 16A5P 6H400V	1	CEE-Stecker 5-polig 16 A	33 16A5P 6H400V	MEN	===+RTCN-X1	+RTCN	

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+M/1

+M.T/1

			Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>MEN.33 16A5P 6H400V -</b> <b>MEN.33 16A5P 6H400V</b>	<b>EU</b>	==	
			Ed.	LAMSCHICK						=	
			Appr							+ RTCN	Page 1
Modification	Date	Name	Original		Replacement of	Replaced by					Page 105

# Total parts list for installation location: +M.T

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
BAL.BCS007F	1	Kapazitive Sensoren	BCS M30BBM2-PPC30G-S04G	BAL	===NC01+M.T-BG2	+M.T	Extern RTEU
OMR.E3T-SR43-C 2M	1	Fotoschalter - Koaxiale Miniatur-Reflexionslichtschanke	E3T-SR43-C 2M	OMR	===NC01+M.T-BG1	+M.T	Extern RTEU

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+RTCN/1

+Extern/1

		Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b> 	<b>Summarized parts list :</b> <b>BAL.BCS007F -</b> <b>OMR.E3T-SR43-C 2M</b>	<b>EU</b>		==			
		Ed.	LAMSCHICK									
		Appr										
Modification	Date	Name	Original	Replacement of	Replaced by							
								PB4001	+ M.T	Page 1		
										Page 105		

# Summarized parts list

F02\_001

Order number	Quantity	Description Designation	Type number Part number	Manufacturer Supplier	Unit price	Total price	Pos.
	1	Tisch 1	FEM.CM100SSx0D11xx07x			0,00	
	1	Tisch 1	HAD.FHA-8C-30-D200-EK		0,00	0,00	
EKUB-201-NN00-31-0500-000	1	Tisch 1 Kupplung, Gerade, 9-polig , Kabelmontage	EKUB-201-NN00-31-0500-000 TE.EKUB-201-NN00-31-0500-000	TE TE	0,00	0,00	
61-0239-011-000	7 piece	Tisch 1 Kontaktstift 1 mm	61.239.11 TE.61.239.11	TE TE	0,00	0,00	
EKUB-204-NN00-33-0003-000	1	Tisch 1 Kupplung, Gerade, 15-polig , Kabelmontage	EKUB-204-NN00-33-0003-000 TE.EKUB-204-NN00-33-0003-000	TE TE	0,00	0,00	
61-0232-011-000	12 piece	Tisch 1 Kontaktstift 1 mm	61.232.11 TE.61.232.11	TE TE	0,00	0,00	
D-A93L	8 Piece	Tisch 1 Reedschalter, Direktmontage, Eingegossene Kabel, axial	D-A93L SMC.D-A93L	SMC	0,00	0,00	
PM-T65-P	2 Piece	Tisch 1 Fotoelektrische Sensoren in U-Form	PM-T65-P PANA.PM-T65-P	PANA PANA	0,00	0,00	
RPP1,5-PPS-L390/12-PP44A-1PVC	1		KSR.RPP1,5-PPS-L390/12-PP44A-1PVC			0,00	
	1		GMS.LS-400E-O-X-C-X-1			0,00	
PS1100-R06L-Q	2 Piece	PS1*00, Elektronischer Druckschalter	PS1100-R06L-Q SMC.PS1100-R06L-Q	SMC SMC	0,00	0,00	
ISE20B-L-M5-W	1	Vakuum-Erzeugung Digitaler Drucksensor	ISE20B-L-M5-W SMC.ISE20B-L-M5-W	SMC SMC	0,00	0,00	
QBM81-3	1	Vakuum-Erzeugung Druckdifferenzschalter QBM81-3	QBM81-3 SIE.QBM81-3	SIE SIE	0,00	0,00	
BCS0087	2 Piece	Kapazitive Sensoren	BCS M30TTH2-POCFAG-AT02 BAL.BCS0087	BAL	0,00	0,00	
101141430	1 Piece	Tisch 1 Sicherheitsschalter	AZM170-02ZRK-ST-2197 SCHM.AZM170-02ZRK-ST-2197	SCHM SCHM	0,00	0,00	
10365	10,10 meter	PVC-Steuerleitung JZ-500 black 3G1,5 mm² SW	JZ-500 black HELU.10365	HELU HELU	0,00	0,00	
10064	10,00 meter	PVC-Steuerleitung OZ-500 4x1 mm² GR	OZ-500 HELU.10064	HELU HELU	0,00	0,00	
EX260-SEC1	1 Piece	EX260, Serielles Übertragungssystem	EX260-SEC1 SMC.EX260-SEC1	SMC	0,00	0,00	
EX9-PE1	1 Piece	EX9, Leistungsblock	EX9-PE1 SMC.EX9-PE1	SMC	0,00	0,00	

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1.a

Date	20.02.2025	<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30	<b>INGELA</b> mbH		Summarized parts list : <b>FEM.CM100SSx0D11xx07x - SMC.EX9-PE1</b>	<b>EU</b>	PB4001	==	Page 1
Ed.	LAMSCHICK							=	
Appr								+ Extern	
Modification	Date	Name	Original	Replacement of	Replaced by			Page	105

# Summarized parts list

F02\_001

Order number	Quantity	Description Designation	Type number Part number	Manufacturer Supplier	Unit price	Total price	Pos.
SY3300-5U1	7 Piece	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, als Typ SY3000-5U1 Produkte)	SY3300-5U1	SMC	0,00	0,00	
SY3A00-5U1	3 Piece	SY3000, 5/3-, 5/2-Wege-Elektromagnetventil mit weichdichtendem Schieber, als Typ SY3A00-5U1 Produkte)	SY3A00-5U1	SMC	0,00	0,00	
	1	Vakuum-Erzeugung	SCHM.VZ-TR 4 AC 5 GMS		0,00	0,00	
	1 Piece	Tisch 1 Open Frame PCAP 10 Punkt-Touchmonitor	PROLITE IIY.TF1015MC-B2	IIY IIY	0,00	0,00	
216876	1 Piece	Tisch 1 NOT-AUS Taster	M22-PV ETN.M22-PV	ETN ETN	0,00	0,00	
121089	1 Piece	Tisch 1 Schild, NOT-HALT, H x B = 50 x 33 mm, gelb, NOT-HALT	M22-XZK1-D99 ETN.M22-XZK1-D99	ETN ETN	0,00	0,00	
216374	1 Piece	Tisch 1 Befestigungsadapter	M22-A ETN.M22-A	ETN ETN	0,00	0,00	
216378	2 Piece	Tisch 1 Kontaktelement, 1Ö, Frontbefestigung	M22-K01 ETN.M22-K01	ETN ETN	0,00	0,00	
	2	Tisch 1	PANA.CN-14A-C3			0,00	
1500169	1 Piece	Konfektionierte Sensor-Aktor-Leitung	SAC-3P-M 8MS/2,0-PUR/M12FR PXC.1500169	PXC	0,00	0,00	
10001	3 meter	Vakuum-Erzeugung PVC-Steuerleitung OZ-500 2x0,5 mm² GR	OZ-500 HELU.10001	HELU HELU	0,00	0,00	
1402551	2 Piece	Tisch 1 Sensor-/Aktor-Kabel	SAC-12P-MS/ 3,0-35T/FS SH SCO PXC.1402551	PXC	0,00	0,00	
1555729	4 Piece	Tisch 1 Sensor-/Aktor-Kabel	SAC-4P-MS/ 5,0-186/FS SCO PXC.1555729	PXC	0,00	0,00	
	1	Tisch 1	BECK.ZK4800-8023-0050			0,00	
10004	3,50 meter	Tisch 1 Steuer- und Anschlussleitungen JZ-500 4 G 0.5	JZ-500 HELU.10004	HELU	0,00	0,00	
20066	3,50 meter	Tisch 1 Daten- und Rechnerkabel TRONIC-CY 18x0,34 mm² GR	TRONIC-CY (LiY-CY) HELU.20066	HELU HELU	0,00	0,00	
1112856	1 Piece	Tisch 1 Netzwerkkabel	NBC-R4ACS/5,0-93B/R4ACS PXC.1112856	PXC	0,00	0,00	
10183	1 meter	Tisch 1 PVC-Steuerleitung JZ-500 16G0,5 mm² GR	JZ-500 HELU.10183	HELU HELU	0,00	0,00	
	1	Tisch 1	BECK.ZK4530-8010-0050			0,00	

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# Summarized parts list

F02\_001

Order number	Quantity	Description Designation	Type number Part number	Manufacturer Supplier	Unit price	Total price	Pos.
1407501	2 Piece	Netzwerkkabel	NBC-MSD/ 5,0-93B/R4AC SCO PXC.1407501	PXC	0,00	0,00	
1501252	15 Piece	Tisch 1;Vakuum-Erzeugung Steckverbinder	SACC-M 8MS-3CON-M-SW PXC.1501252	PXC	0,00	0,00	
915.175	2 Piece	C20 Kaltgerätestecker schwarz	915.175 BACH.915.175	BACH BACH	0,00	0,00	
ESTB-202-NN00-31-0500-000	1	Tisch 1 Stecker, Gerade, 9-polig , Kabelmontage	ESTB-202-NN00-31-0500-000 TE.ESTB-202-NN00-31-0500-000	TE TE	0,00	0,00	
60-0265-011-000	7 piece	Tisch 1 Kontaktbuchse 1 mm	60.265.11 TE.60.265.11	TE TE	0,00	0,00	
ESTB-205-NN00-33-0003-000	1	Tisch 1 Stecker, Gerade, 15-polig , Kabelmontage	ESTB-205-NN00-33-0003-000 TE.ESTB-205-NN00-33-0003-000	TE TE	0,00	0,00	
60-0252-011-000	12 piece	Tisch 1 Kontaktbuchse 1 mm	60.252.11 TE.60.252.11	TE TE	0,00	0,00	
1197575	2 Piece	Tisch 1 Sensor-/Aktor-Box	SACB- 8/3-L-M12-M8 HD PXC.1197575	PXC	0,00	0,00	
09100053001	2 Piece	Einsätze	Han 1A-5+PE-c-m Clip HAR.09100053001	HAR HAR	0,00	0,00	
09100000400	4 Piece	Tisch 1;Tisch 2 Gehäuse	Han 1A-Kabeladapter 5,7-10mm HAR.09100000400	HAR HAR	0,00	0,00	
09150006102	8 Piece	Stiftkontakt 1 mm <sup>2</sup>	Han D HAR.09150006102	HAR HAR	0,00	0,00	
916.170	2 Piece	Tisch 1;Tisch 2 C15A Heißgerätedose schwarz	916.170 BACH.916.170	BACH BACH	0,00	0,00	
09100053101	2 Piece	Tisch 1;Tisch 2 Einsätze	Han 1A-5+PE-c-f Clip HAR.09100053101	HAR HAR	0,00	0,00	
09150006202	8 Piece	Tisch 1;Tisch 2 Buchsenkontakt 1 mm <sup>2</sup>	Han D® HAR.09150006202	HAR HAR	0,00	0,00	
33 16A5P 6H400V	1 Piece	CEE-Stecker 5-polig 16 A	33 16A5P 6H400V MEN.33 16A5P 6H400V	MEN MEN	0,00	0,00	
E3T-SR43-C 2M	1 Piece	Fotoschalter - Koaxiale Miniatur-Reflexionslichtschranke	E3T-SR43-C 2M OMR.E3T-SR43-C 2M	OMR OMR	0,00	0,00	
BCS007F	1 Piece	Kapazitive Sensoren	BCS M30BBM2-PPC30G-S04G BAL.BCS007F	BAL BAL	0,00	0,00	

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1.a

=BA01&EFS1+S1/1

Date	20.02.2025
Ed.	LAMSCHICK
Appr	
Modification	Date
	Name
Original	

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA**  
mbH

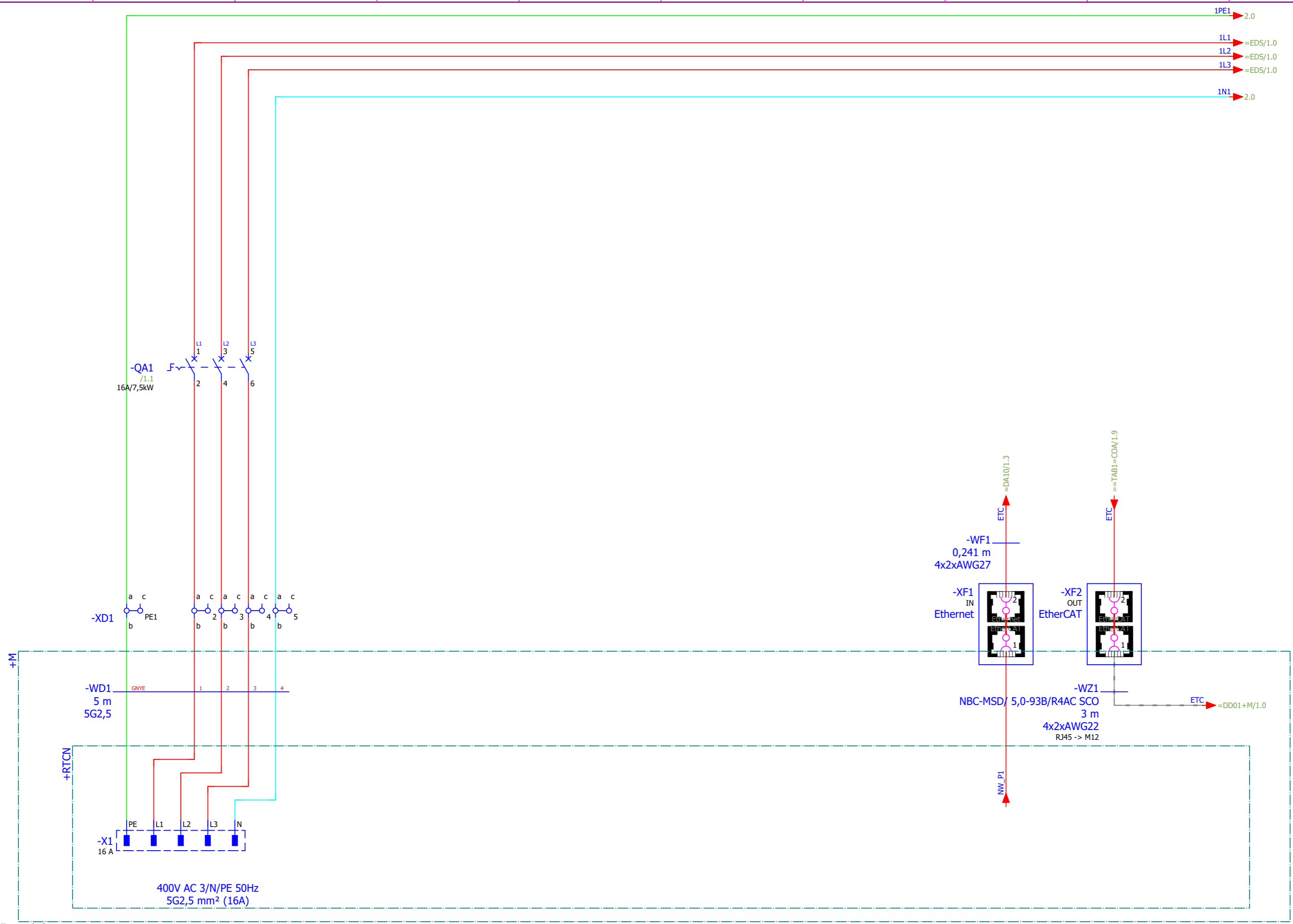


**Summarized parts list :**  
**PXC.1407501 - BAL.BCS007F**

<b>EU</b>	
	PB4001
<b>+ Extern</b>	Page 1.b
	Page 105

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=	

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=&EPC2+Extern/1.b

Modification	Date	Name	Original

Date	20.02.2025
Ed.	LAMSCHICK
Appr	
Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

**INGELA**  
mbH

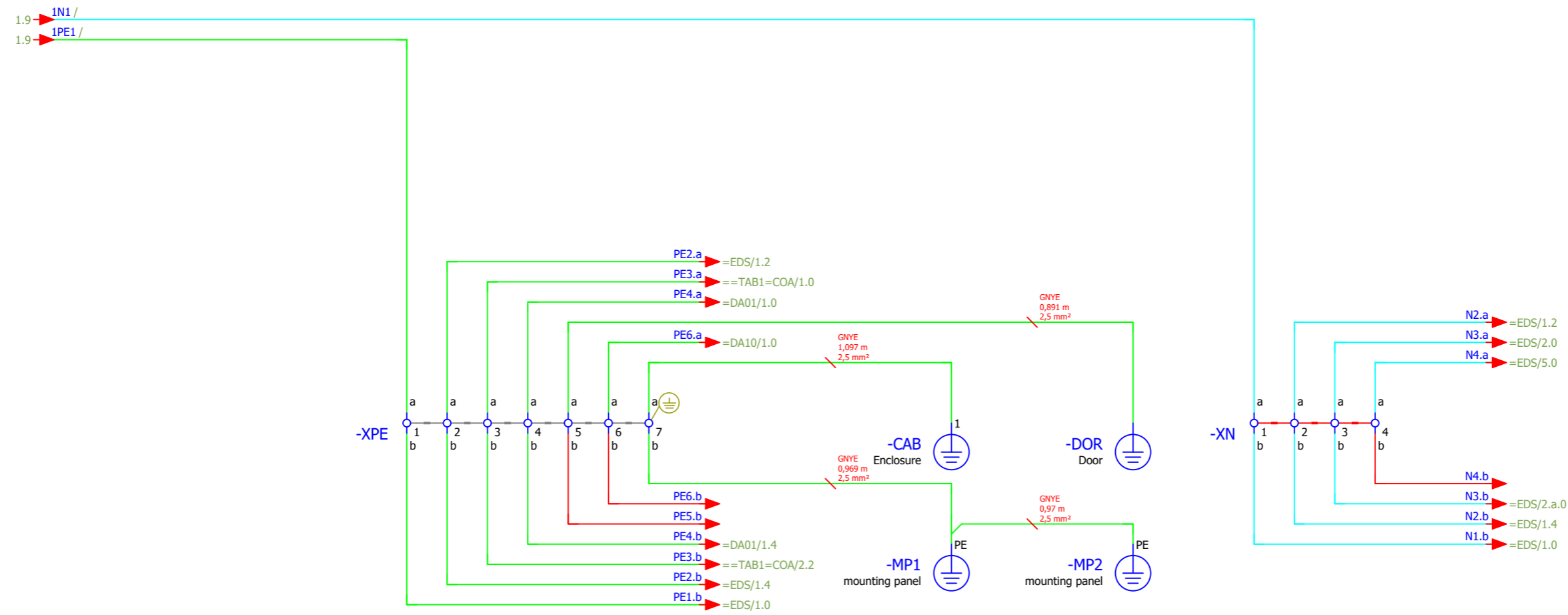
**Power supply**

**EU**

PB4001

==	BA01	Page	1
+ S1		Page	105

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1

=CK01/1

			Date	19.02.2025	<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30	<b>INGELA</b> mbH		Feed N/PE	<b>EU</b>	==	
			Ed.	LAMSCHICK						= BA01	
			Appr							+ S1	Page 2
Modification	Date	Name	Original		Replacement of	Replaced by			PB4001	Page 105	

Passive via external extraction Approx. 130m³/h

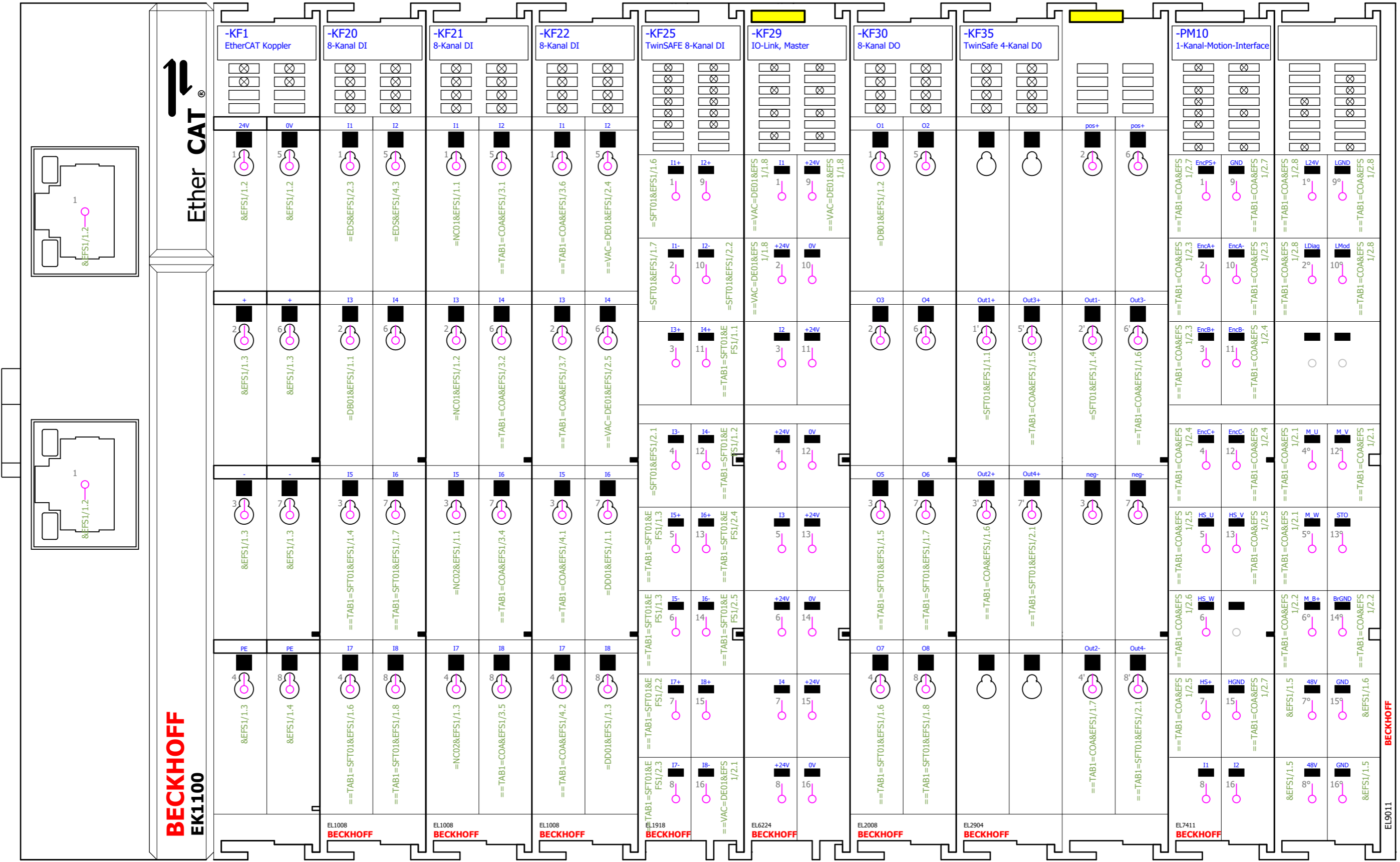
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=BA01/2

=DA01&EFA1/1

			Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b> 	<b>Cooling fan</b>	<b>EU</b>	==		
			Ed.	LAMSCHICK					= CK01		
			Appr						+ S1	Page 1	
Modification	Date	Name	Original		Replacement of	Replaced by				PB4001	Page 105

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**BECKHOFF**  
**EK1100**

**BECKHOFF**

=CK01&EFS1/1

Modification	Date	Name	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA mbH**

**PLC structure Beckhoff**

**EU**

PB4001

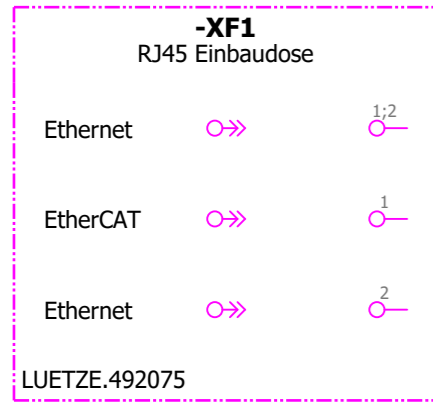
==	DA01	Page	1
==	S1	Page	105

# PLC diagram

===BA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



&EFS1/1.7	IN	
&EFS1/1.7		
&EFS1/1.7	IPC process.	=DA10-AF1:RJ45

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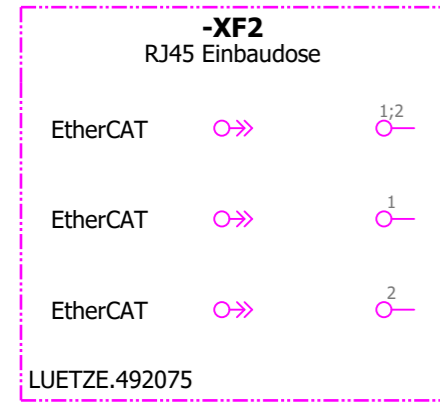
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	Ed.	LAMSCHICK						Page	105
	Appr								
Modification	Date	Name	Original	Replacement of	Replaced by				

# PLC diagram

===**BA01+S1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



&EFS1/1.8

OUT

&EFS1/1.8

Pneumatics.

=DD01+M-KK1:1-4

&EFS1/1.8

Coater.

==TAB1=COA-TB1-X21-RET1:1-8

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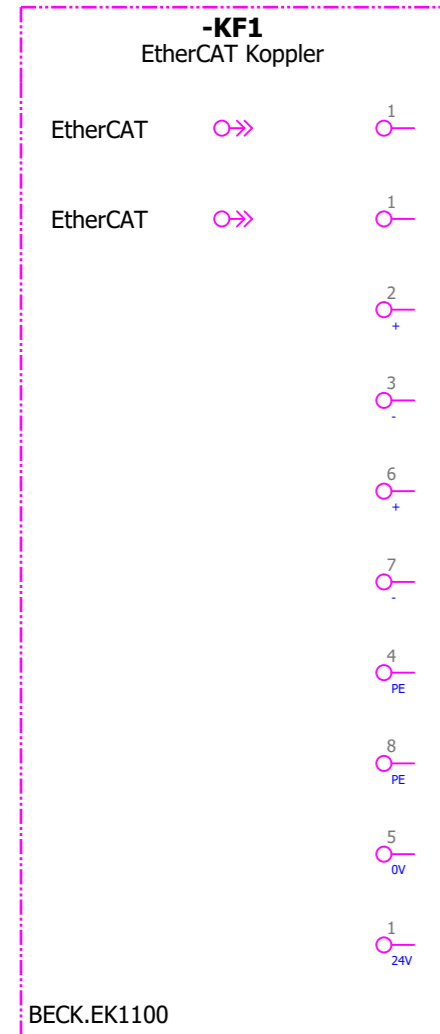
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			Ed.	LAMSCHICK					= DA01	
			Appr						+ S1	
Modification	Date	Name	Original		Replacement of	Replaced by		PB4001	Page	105

# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



EtherCAT	1	&EFS1/1.2	IPC process.	=DA10-AF1:RJ45
EtherCAT	2	&EFS1/1.2	Coater.	==TAB1=COA-TB1-X21-RET0:1-8
	3	&EFS1/1.3		-XV+:3
	4	&EFS1/1.3		-XV-:3
	5	&EFS1/1.3		
	6	&EFS1/1.3		
	7	&EFS1/1.3		
	8	&EFS1/1.3		-XPE:4
	9	&EFS1/1.4		
	10	&EFS1/1.2		-XV-:2
	11	&EFS1/1.2		-XV+:2

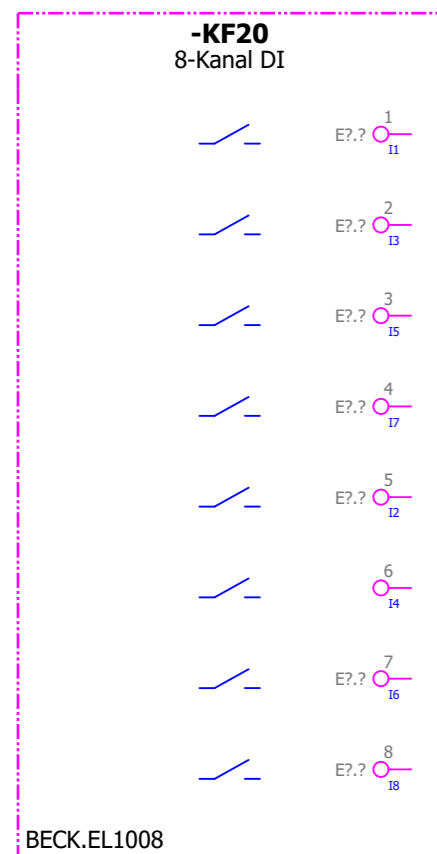
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# PLC diagram

===**DA01+S1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



	E7.2 11	=EDS&EFS1/2.3	power supply. Power supply 24V DC OK	=EDS-TA1:14
	E7.2 13	=DB01&EFS1/1.1	Operate (and visualize). reset	=DB01-SF2
	E7.2 15	==TAB1=SFT01&EFS1/1.4	[Reserve] Control panel	==TAB1-XG1:7
	E7.2 17	==TAB1=SFT01&EFS1/1.6	[Reserve] Control panel	==TAB1-XG1:9
	E7.2 12	=EDS&EFS1/4.3	power supply. Load circuit monitoring alarm	=EDS-FC8:14
	E7.2 14	&EFA1/1.2		
	E7.2 16	==TAB1=SFT01&EFS1/1.7	[Reserve] Control panel	==TAB1-XG1:11
	E7.2 18	==TAB1=SFT01&EFS1/1.8	[Reserve] Control panel	==TAB1-XG1:13

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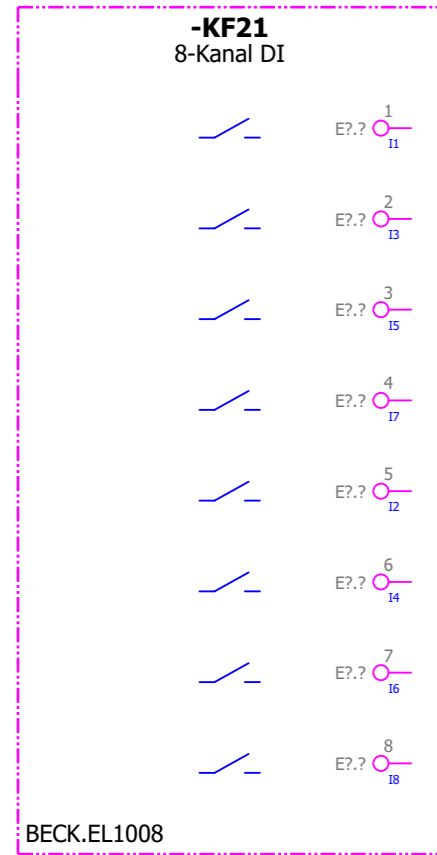
			Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>PLC diagram :</b> <b>===DA01+S1-KF20 -</b> <b>===DA01+S1-KF20</b>	<b>EU</b>		==		
			Ed.	LAMSCHICK							= DA01		
			Appr								+ S1		Page
Modification	Date	Name	Original		Replacement of	Replaced by			PB4001	Page	105		

# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
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	E?/?	=NC01&EFS1/1.1	Waste tank 10l connected	-XS1:6
	E?/?	=NC01&EFS1/1.2	Waste tank 10l not full	-XS1:8
	E?/?	=NC02&EFS1/1.1	Pressure tank 10l PEHD TMAH not empty	=NC02-KF1:3.2
	E?/?	=NC02&EFS1/1.3	Pressure tank 10l A2 PGMEA not empty	=NC02-KF1:2.2
	E?/?	==TAB1=COA&EFS1/3.1	Coater. [Reserve] Top pins	==TAB1=COA-XS1:3
	E?/?	==TAB1=COA&EFS1/3.2	Coater. [Reserve] Pins Bottom	==TAB1=COA-XS1:4
	E?/?	==TAB1=COA&EFS1/3.4	Coater. [Reserve] Lift cover	==TAB1=COA-XS1:6
	E?/?	==TAB1=COA&EFS1/3.5	Coater. [Reserve] Lower cover	==TAB1=COA-XS1:8

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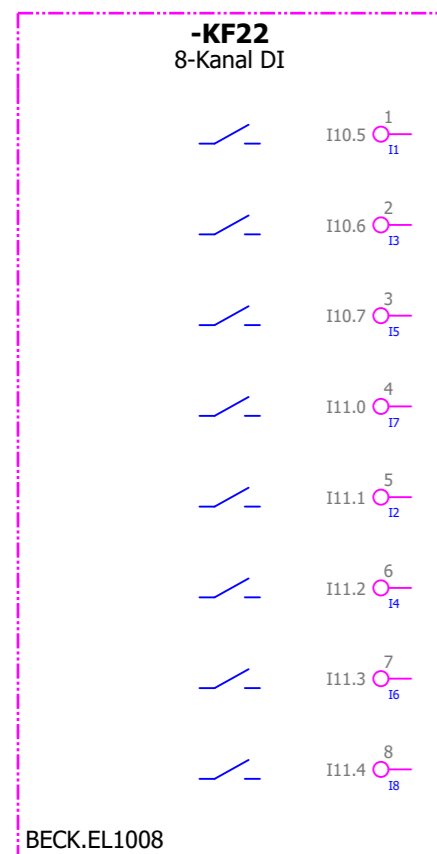
			Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>PLC diagram :</b> <b>===DA01+S1-KF21 -</b> <b>===DA01+S1-KF21</b>	<b>EU</b>	<b>==</b> <b>= DA01</b> <b>+ S1</b>	Page	6
			Ed.	LAMSCHICK							Page	105
			Appr									
Modification	Date	Name	Original		Replacement of	Replaced by						

# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



I10.5	1 11	==TAB1=COA&EFS1/3.6	Coater. [Reserve] Cover open	==TAB1=COA-XS1:5
I10.6	2 13	==TAB1=COA&EFS1/3.7	Coater. [Reserve] Cover closed	==TAB1=COA-XS1:9
I10.7	3 15	==TAB1=COA&EFS1/4.1	Coater. Arm top	==TAB1=COA-XS1:7
I11.0	4 17	==TAB1=COA&EFS1/4.2	Coater. Arm down	==TAB1=COA-XS1:10
I11.1	5 12	==VAC=DE01&EFS1/2.4	Arm rotation end positions 1 Dark-ON	-XS1:7
I11.2	6 14	==VAC=DE01&EFS1/2.5	Arm rotation end positions 2 Dark-ON	-XS1:10
I11.3	7 16	=DD01&EFS1/1.1	Pneumatics. Compressed air CDA (supply)	=DD01+M-BP1:2
I11.4	8 18	=DD01&EFS1/1.3	Pneumatics. N2 Pressure (supply)	=DD01+M-BP2:2

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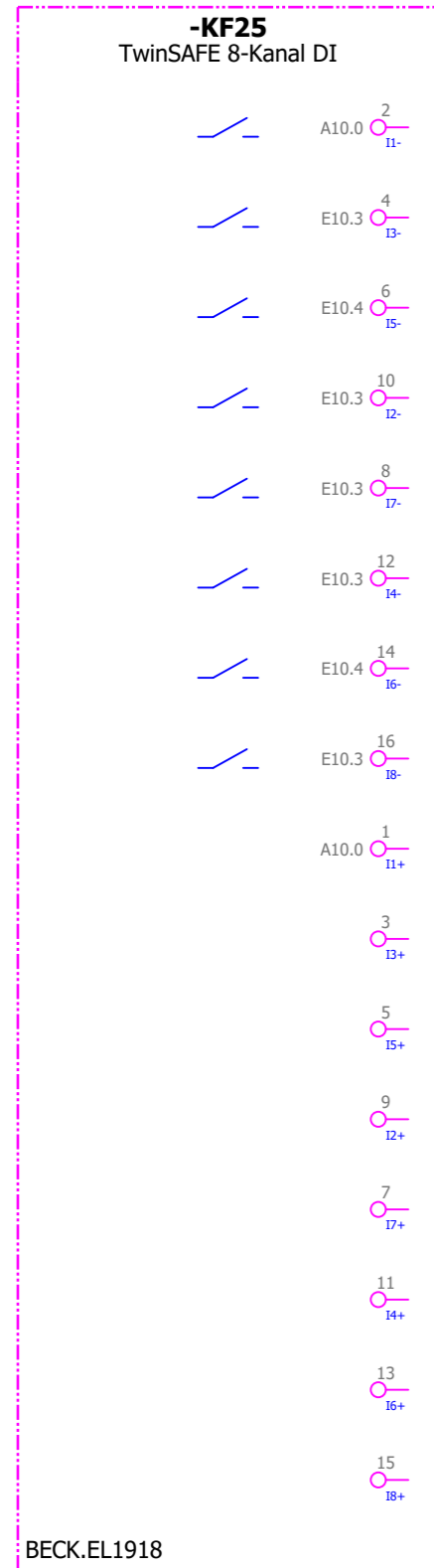
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			Ed.	LAMSCHICK						<b>+ S1</b>		
			Appr							Page	7	
Modification	Date	Name	Original		Replacement of	Replaced by				PB4001	Page	105

# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



A10.0	2 11-	=SFT01&EFS1/1.7	Safety. RFK emergency stop	=SFT01-KF2
E10.3	4 13-	=SFT01&EFS1/2.1	Leakage monitoring 1	-XS1:3
E10.4	6 15-	==TAB1=SFT01&EFS1/1.3	Emergency stop CH2	==TAB1-XG1:4
E10.3	10 12-	=SFT01&EFS1/2.2	Leakage monitoring 2	-XS1:4
E10.3	8 17-	==TAB1=SFT01&EFS1/2.3	Safety. Locking cover	==TAB1=SFT01-XS2:2
E10.3	12 14-	==TAB1=SFT01&EFS1/1.2	Emergency stop CH1	==TAB1-XG1:2
E10.4	14 16-	==TAB1=SFT01&EFS1/2.5	Safety. Locking cover	==TAB1=SFT01-XS2:4
E10.3	16 18-	==VAC=DE01&EFS1/2.1	Suction Okay	-XS1:5
A10.0	1 11+	=SFT01&EFS1/1.6	Safety. RFK emergency stop	=SFT01-KF1
	3 13+	&EFA1/1.4		
	5 15+	==TAB1=SFT01&EFS1/1.3	Emergency stop CH2	==TAB1-XG1:3
	9 12+	&EFA1/1.4		
	7 17+	==TAB1=SFT01&EFS1/2.2	Safety. Locking cover	==TAB1=SFT01-XS2:1
	11 14+	==TAB1=SFT01&EFS1/1.1	Emergency stop CH1	==TAB1-XG1:1
	13 16+	==TAB1=SFT01&EFS1/2.4	Safety. Locking cover	==TAB1=SFT01-XS2:3
	15 18+	&EFA1/1.4		

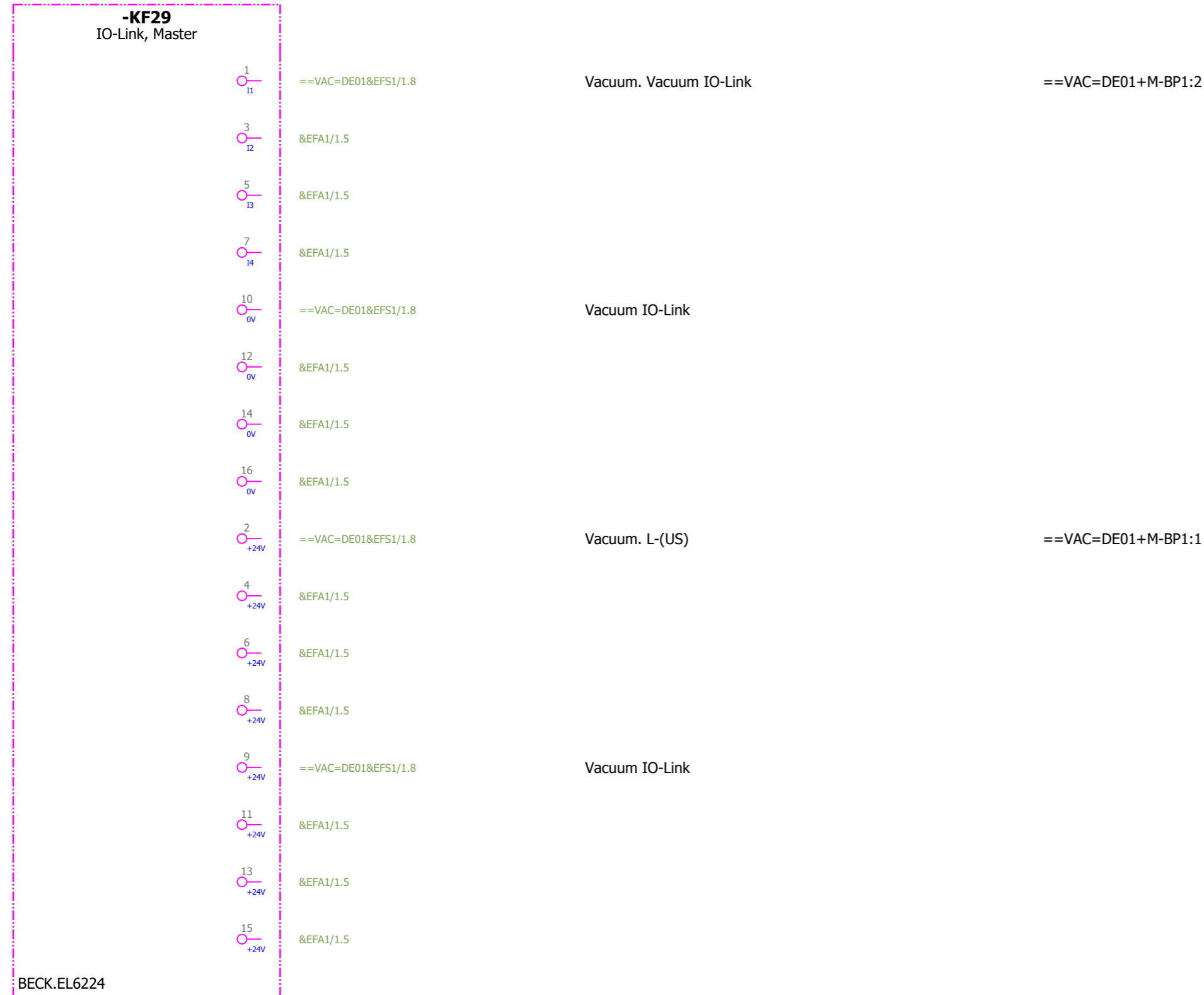
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# PLC diagram

===**DA01+S1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



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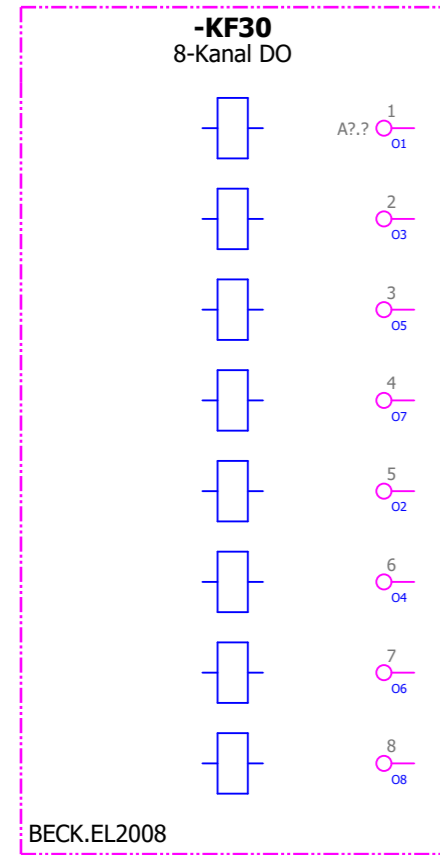
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Ed.	LAMSCHICK					Replacement of Replaced by		PB4001	Page	105
Appr										
Modification	Date	Name	Original							

# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



1 01	=DB01&EFS1/1.2	Operate (and visualize). LED reset	=DB01-SF2
2 03	&EFA1/1.5		
3 05	==TAB1=SFT01&EFS1/1.5	[Reserve] Control panel	==TAB1-XG1:8
4 07	==TAB1=SFT01&EFS1/1.6	[Reserve] Control panel	==TAB1-XG1:10
5 02	&EFA1/1.6		
6 04	&EFA1/1.6		
7 06	==TAB1=SFT01&EFS1/1.7	[Reserve] Control panel	==TAB1-XG1:12
8 08	==TAB1=SFT01&EFS1/1.8	[Reserve] Control panel	==TAB1-XG1:14

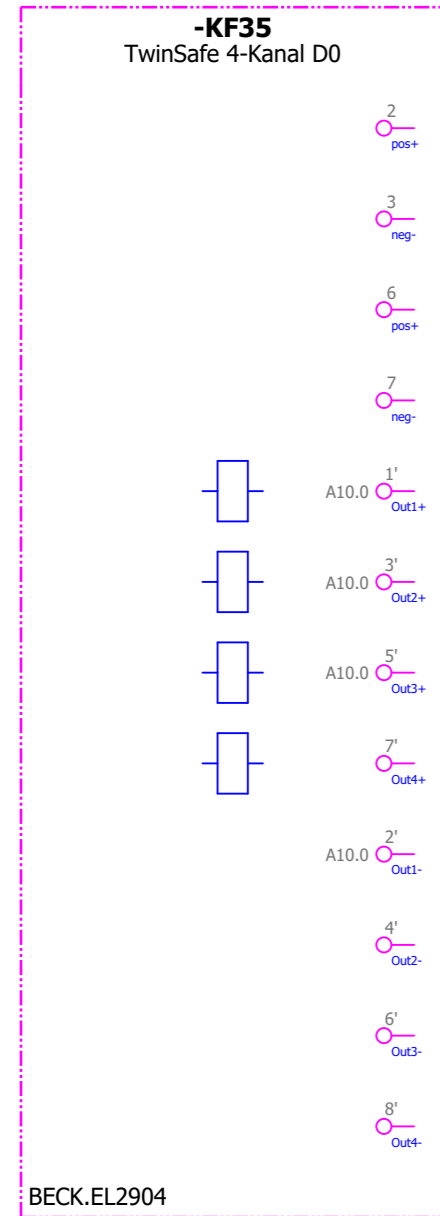
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# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



2 pos+	&EFA1/1.7			
3 neg-	&EFA1/1.7			
6 pos+	&EFA1/1.7			
7 neg-	&EFA1/1.7			
A10.0 1' Out1+	=SFT01&EFS1/1.1	Safety. Emergency stop	=SFT01-KF1	
A10.0 3' Out2+	==TAB1=COA&EFS1/1.6	Coater. STO_B Servo	==TAB1=COA-TB1:3	
A10.0 5' Out3+	==TAB1=COA&EFS1/1.5	Coater. STO_A Servo	==TAB1=COA-TB1:1	
A10.0 7' Out4+	==TAB1=SFT01&EFS1/2.1	Safety. Locking cover	==TAB1=SFT01-XS1:1	
A10.0 2' Out1-	=SFT01&EFS1/1.4	Safety. Emergency stop	=SFT01-KF2	
A10.0 4' Out2-	==TAB1=COA&EFS1/1.7	Coater. STO_B Servo	==TAB1=COA-TB1:4	
A10.0 6' Out3-	==TAB1=COA&EFS1/1.6	Coater. STO_B Servo	==TAB1=COA-TB1:2	
A10.0 8' Out4-	==TAB1=SFT01&EFS1/2.1	Safety. Locking cover	==TAB1=SFT01-XS1:3	

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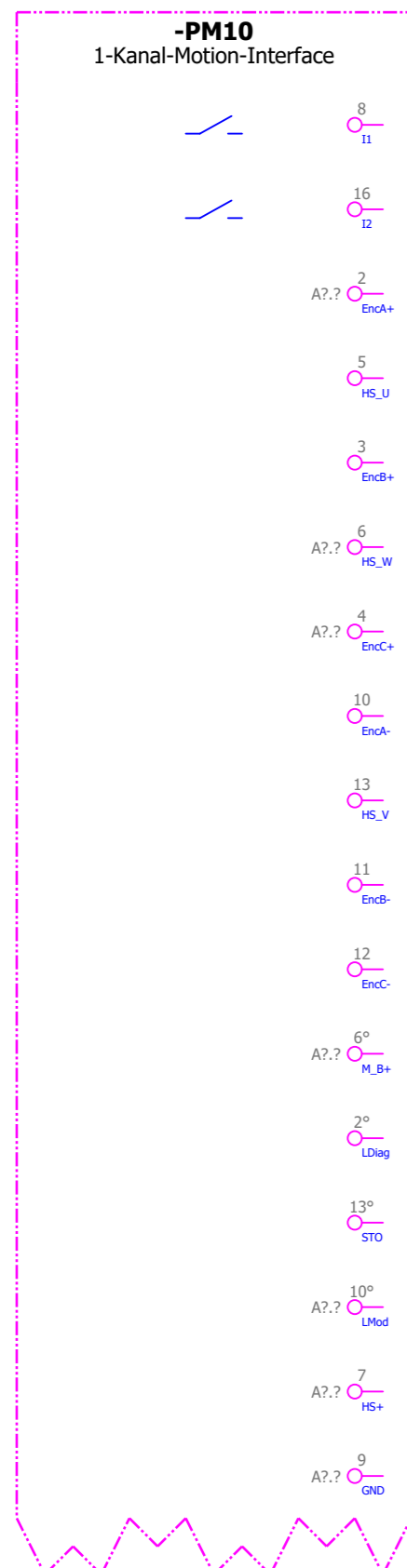
			Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>PLC diagram :</b> <b>===DA01+S1-KF35 -</b> <b>===DA01+S1-KF35</b>	<b>EU</b>		== = DA01 + S1			
			Ed.	LAMSCHICK						PB4001		Page	11
			Appr									Page	105
Modification	Date	Name	Original		Replacement of	Replaced by							

# PLC diagram

===DA01+S1

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



Symbolic address	Function text	Device tag actuator / sensor
&EFA1/1.7		
&EFA1/1.8		
==TAB1=COA&EFS1/2.3	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:1
==TAB1=COA&EFS1/2.5	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:8
==TAB1=COA&EFS1/2.3	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:3
==TAB1=COA&EFS1/2.6	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:12
==TAB1=COA&EFS1/2.4	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:5
==TAB1=COA&EFS1/2.3	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:2
==TAB1=COA&EFS1/2.5	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:10
==TAB1=COA&EFS1/2.4	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:4
==TAB1=COA&EFS1/2.4	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:6
==TAB1=COA&EFS1/2.2	Rotate servo motor arm	
==TAB1=COA&EFS1/2.8	Rotate servo motor arm	
&EFA1/1.8		
==TAB1=COA&EFS1/2.8	Rotate servo motor arm	
==TAB1=COA&EFS1/2.5	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:7
==TAB1=COA&EFS1/2.7	Coater. Rotate servo motor arm	==TAB1=COA+M-XD20:A

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12.a

Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>PLC diagram :</b> <b>===DA01+S1-PM10 -</b> <b>===DA01+S1-PM10</b>	<b>EU</b>	<b>==</b> <b>= DA01</b> <b>+ S1</b>	Page	12
Ed.	LAMSCHICK						Page	105
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Modification	Date	Name	Original	Replacement of	Replaced by			

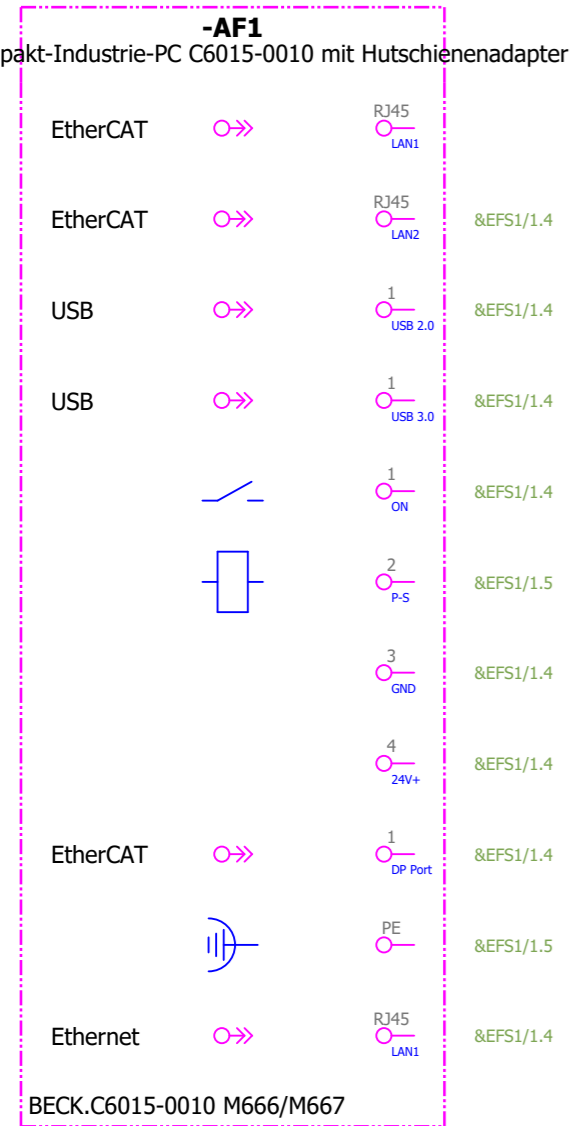


# PLC diagram

===**DA10+S1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
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Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
EtherCAT				
EtherCAT		&EFS1/1.4	PLC.	=DA01-KF1:1
USB		&EFS1/1.4		
USB		&EFS1/1.4		
		&EFS1/1.4		
		&EFS1/1.5		
		&EFS1/1.4		-XV-:4
		&EFS1/1.4		-XV+:4
EtherCAT		&EFS1/1.4		
		&EFS1/1.5		-XPE:6
Ethernet		&EFS1/1.4	Power supply.	=BA01-XF1:2

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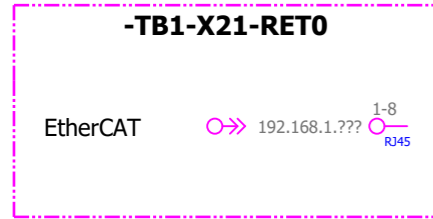
Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>PLC diagram :</b> <b>===DA10+S1-AF1 -</b> <b>===DA10+S1-AF1</b>	<b>EU</b>	<b>==</b> <b>= DA01</b> <b>+ S1</b>	Page	13
Ed.	LAMSCHICK						Page	105
Appr								
Modification	Date	Name	Original	Replacement of	Replaced by	PB4001		

# PLC diagram

**==TAB1=COA+S1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



&EFS1/1.8

PLC. STO\_B Servo

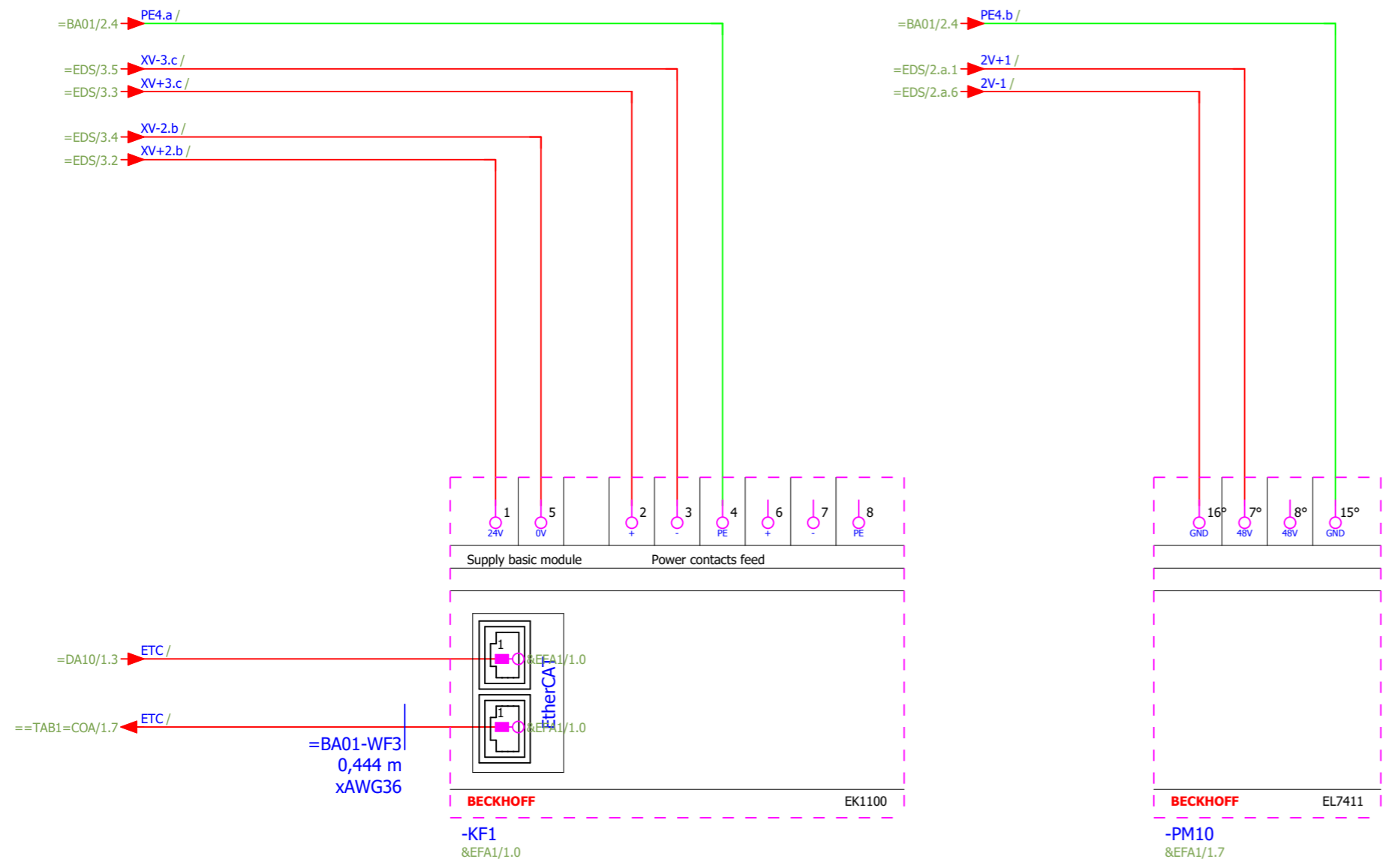
=DA01-KF1:1

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			Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b> 	<b>PLC diagram :</b> <b>==TAB1=COA+S1-TB1-X21-RETO</b> -	<b>EU</b> PB4001	==			
			Ed.	LAMSCHICK					= DA01			
			Appr						+ S1	Page	14	
Modification	Date	Name	Original		Replacement of	Replaced by				Page	105	



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Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

**INGELA**  
mbH

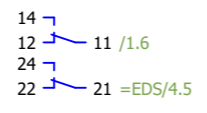
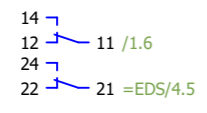
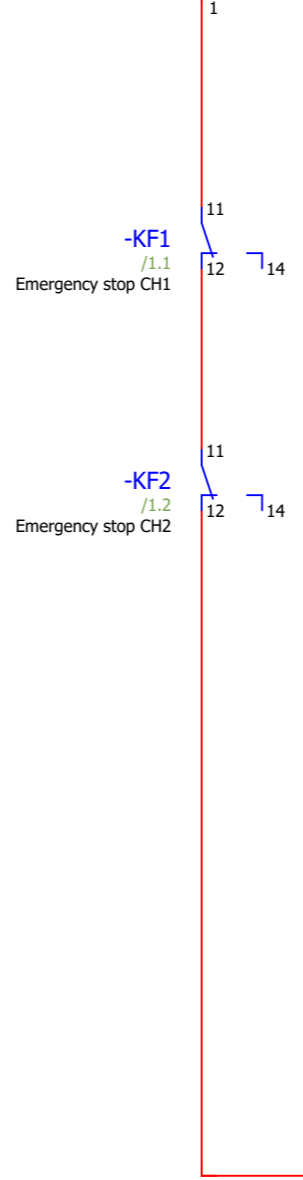
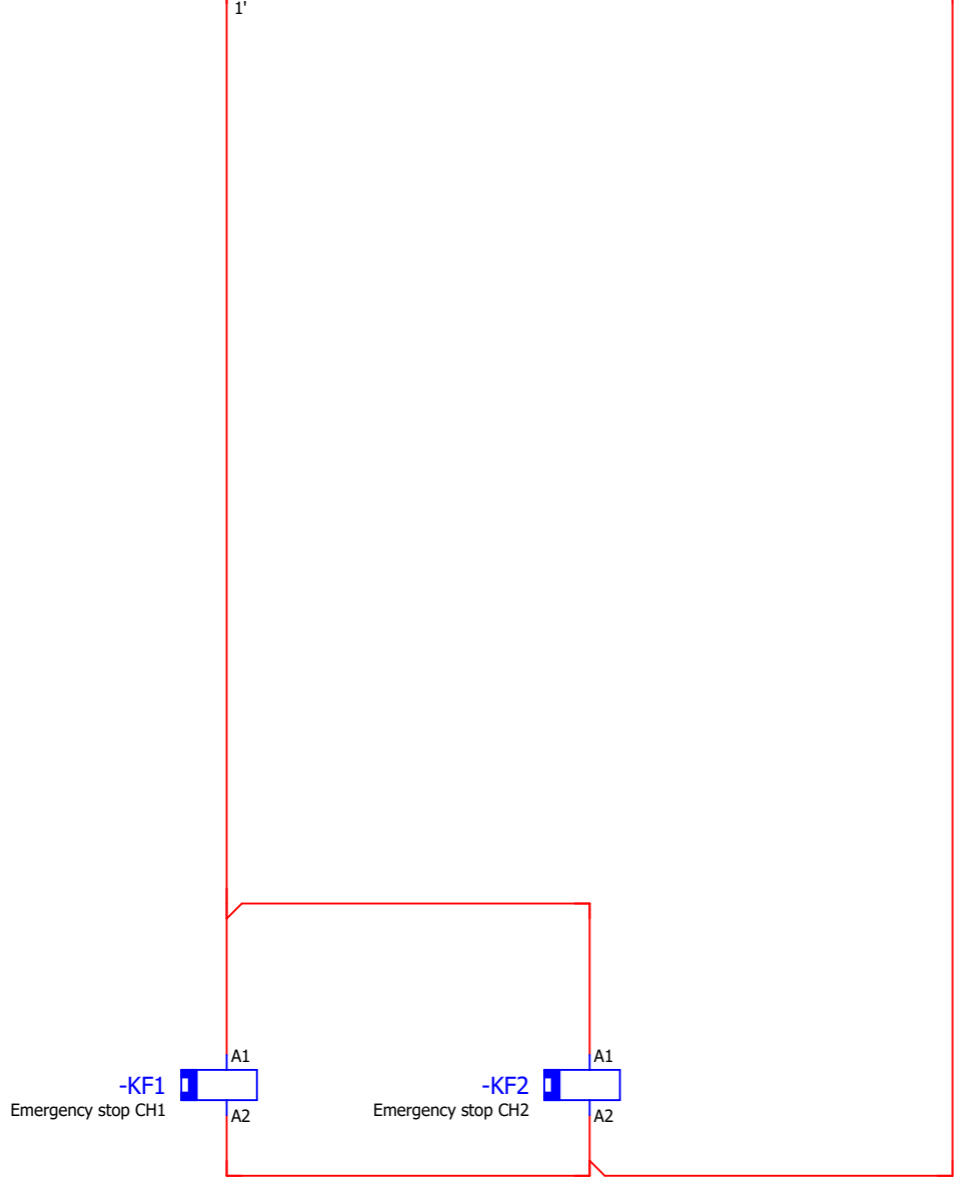
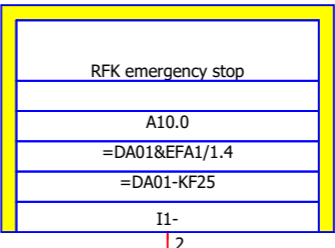
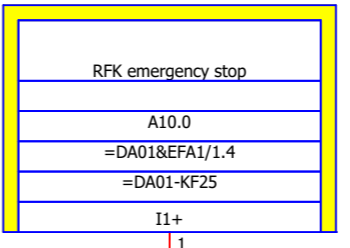
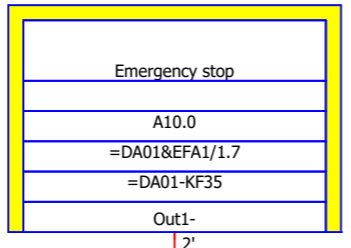
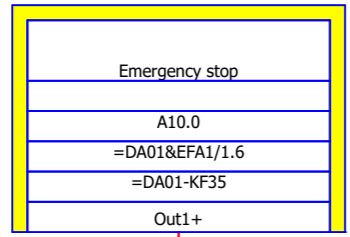
**Power supply**

**EU**

PB4001

=	
= DA01	
+ S1	Page 1
	Page 105

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Emergency stop

RFK emergency stop

RFK emergency stop

=DA01/1

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Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

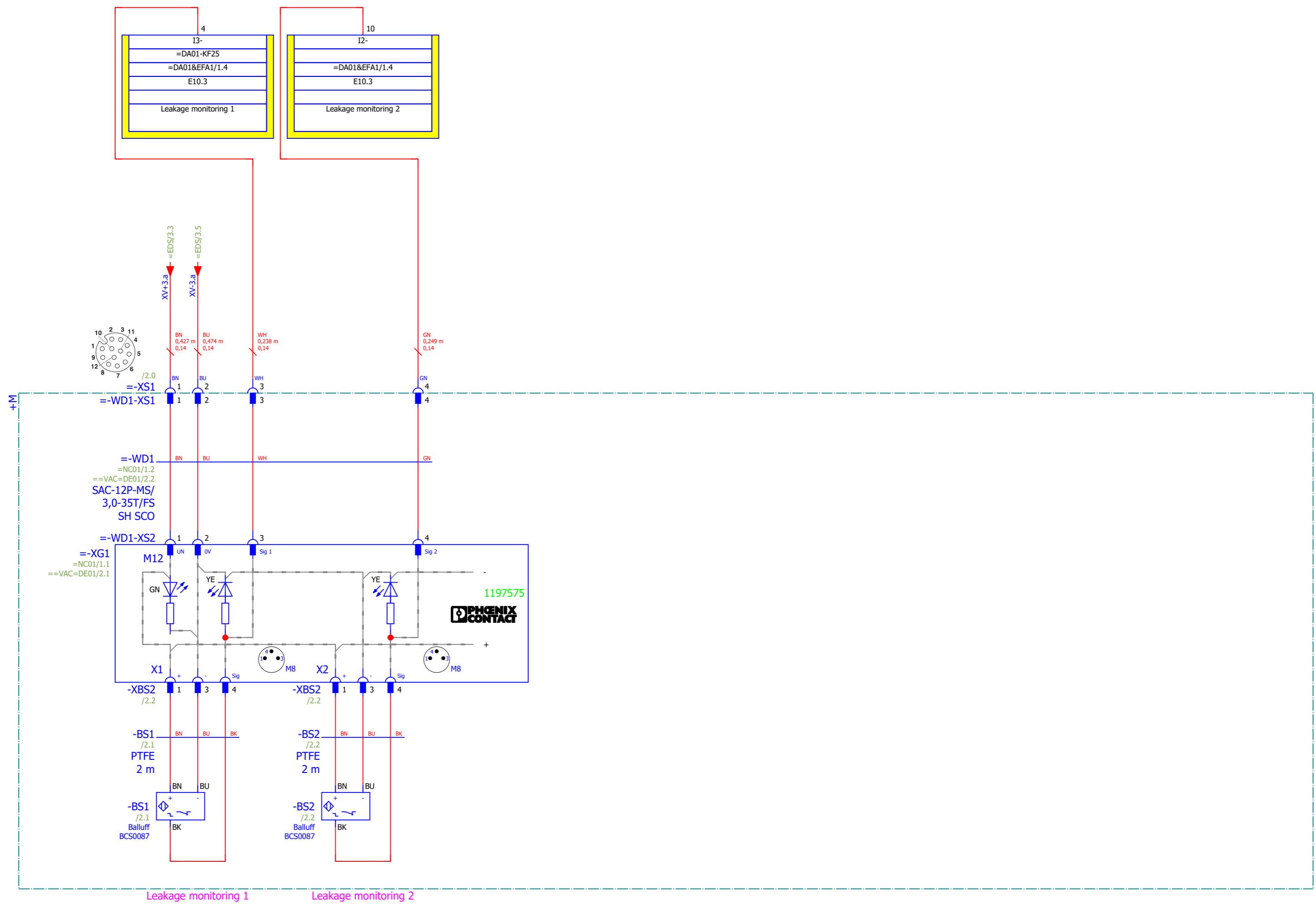
**INGELA** mbH

**Safety shutdown**

<b>EU</b>	
	PB4001

==	
= SFT01	
+ S1	Page 1
	Page 105

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1

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	Name
	Original

<b>ING</b>
<b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>
Replacement of
Replaced by

**INGELA** mbH

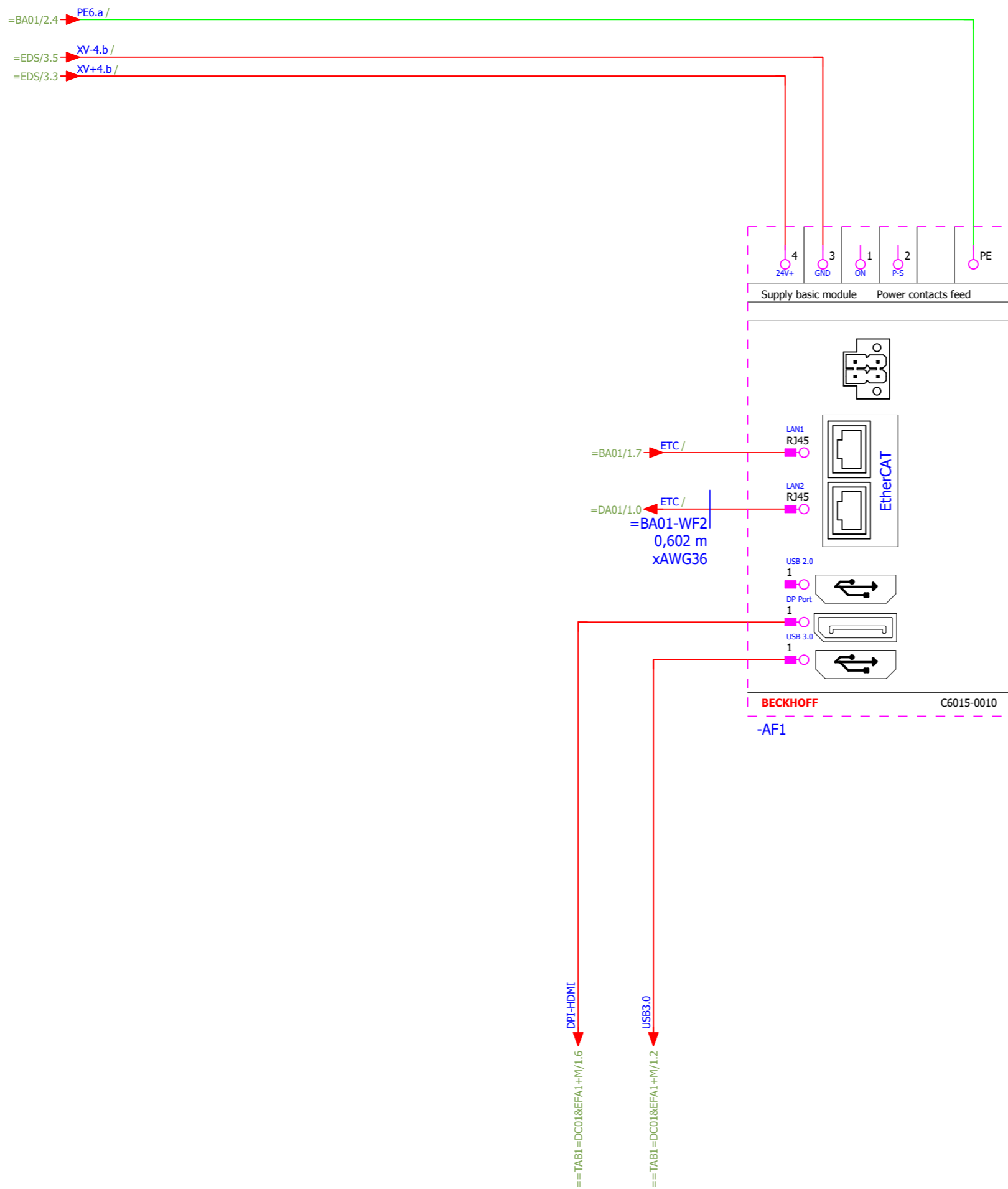
**Monitoring tank**

<b>EU</b>
PB4001

==
= SFT01
+ S1
Page 2
Page 105

=DA10/1

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=SFT01/2

=DB01/1

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Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA mbH**

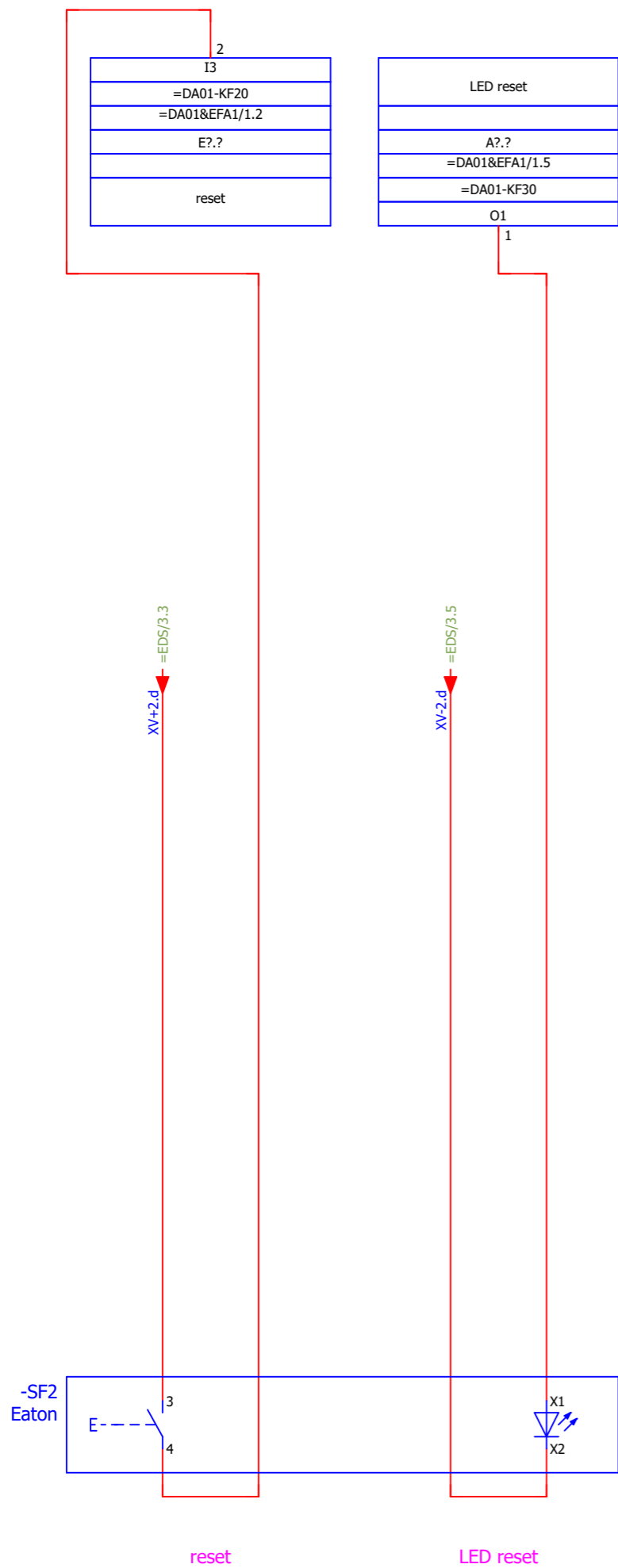
**IPC**

**EU**

=	
= DA10	
+ S1	Page 1
	Page 105

PB4001

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=DA10/1

=DD01/1

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Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA**  
mbH

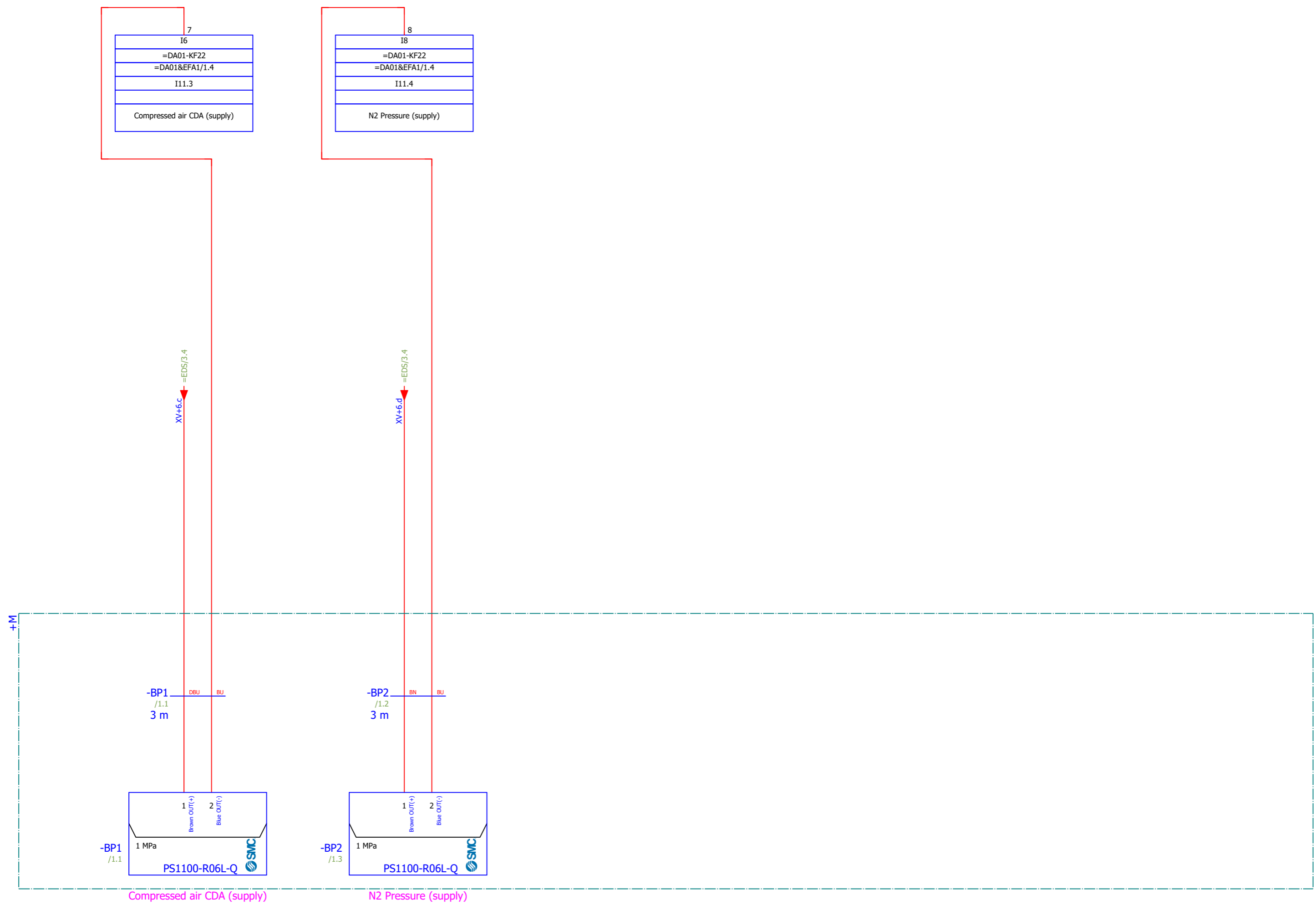
**Operation**

**EU**

=	
= DB01	
+ S1	Page 1
	Page 105

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=DB01/1

+M/1

Modification	Date	Name	Original

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Appr	
Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

**INGELA**  
mbH

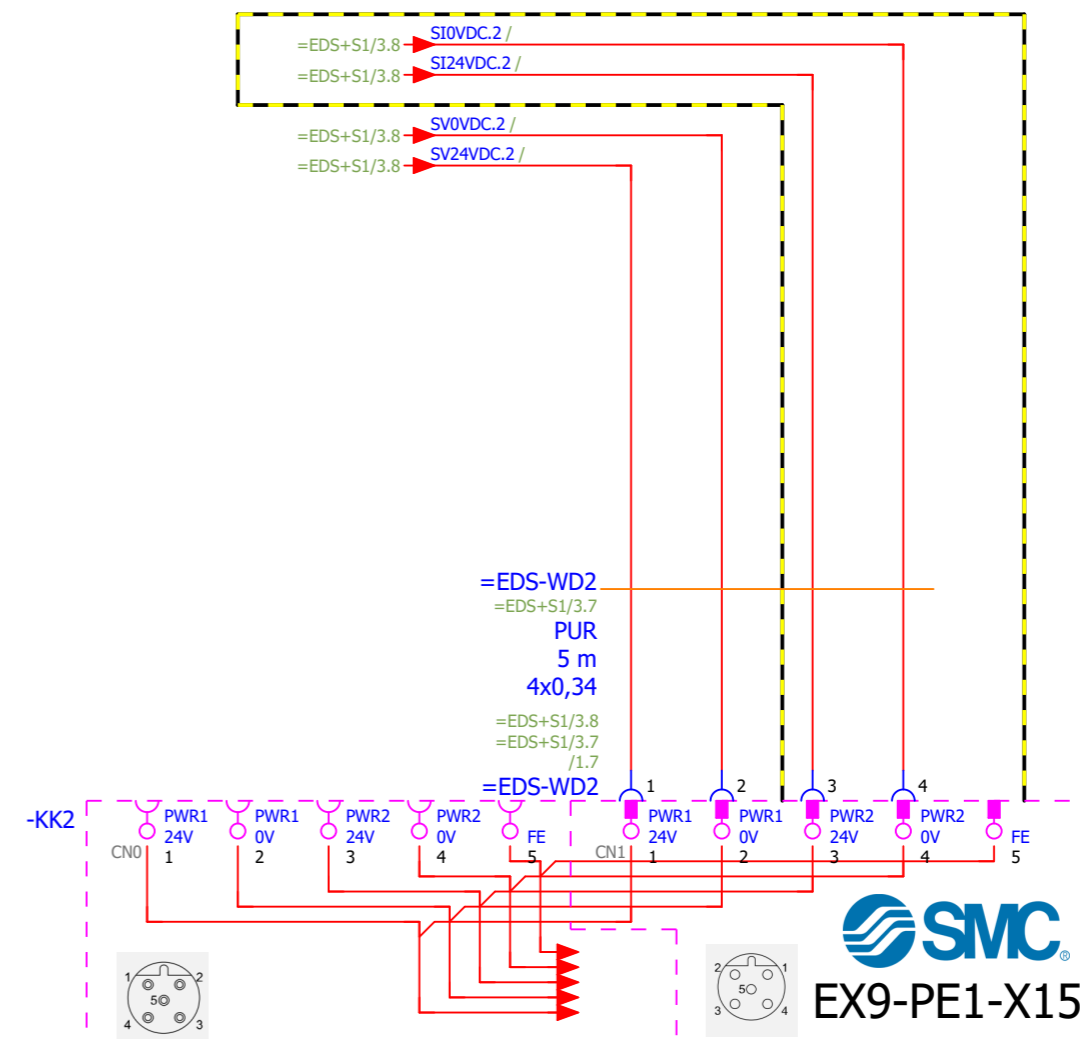
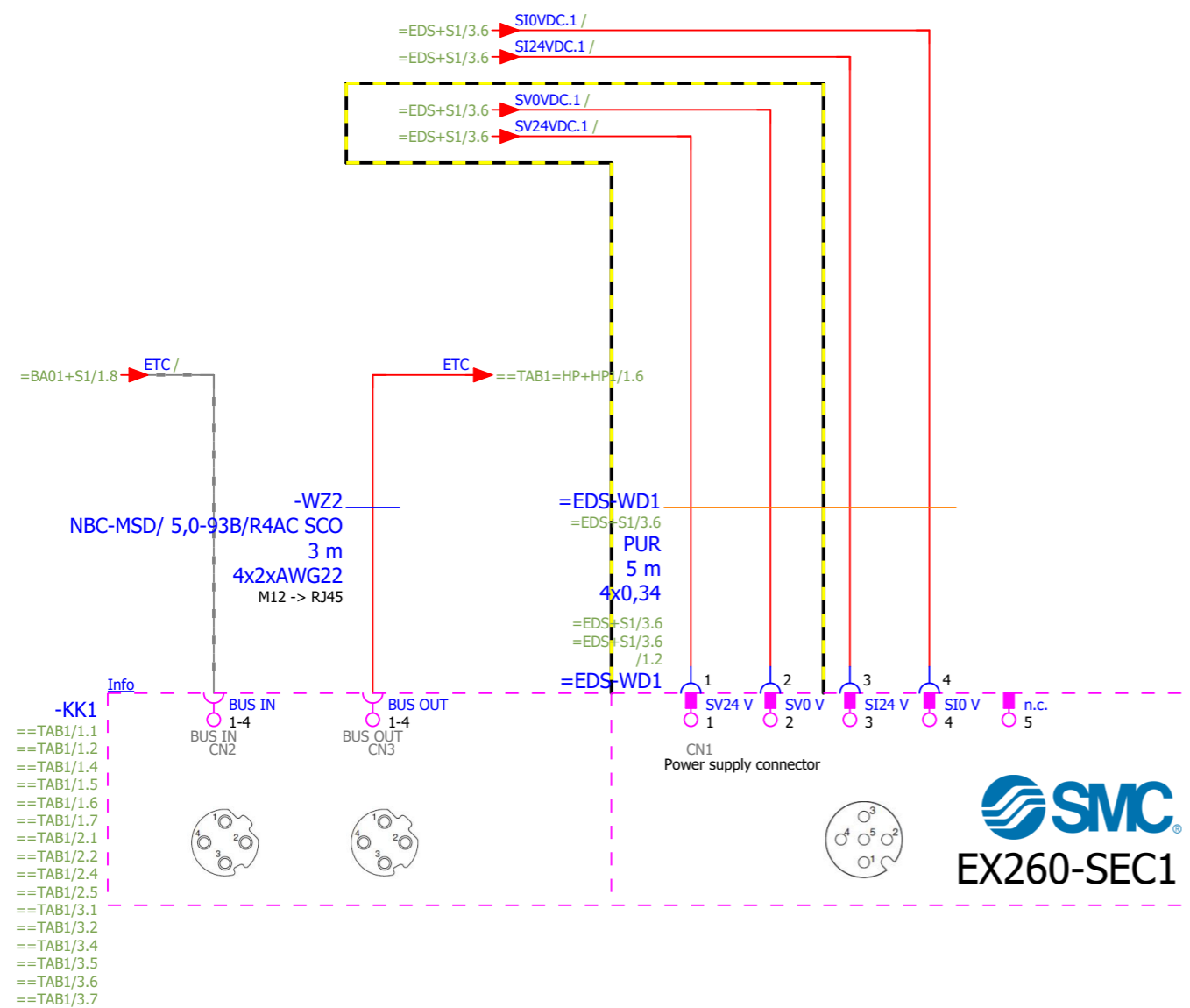
**Sensors Pressure IO-Link**

**EU**

PB4001

==	
= DD01	
+ S1	Page 1
	Page 105

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+S1/1

=EDS+S1/1

Modification	Date	Name	Original

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Appr	
Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

**INGELA**  
mbH

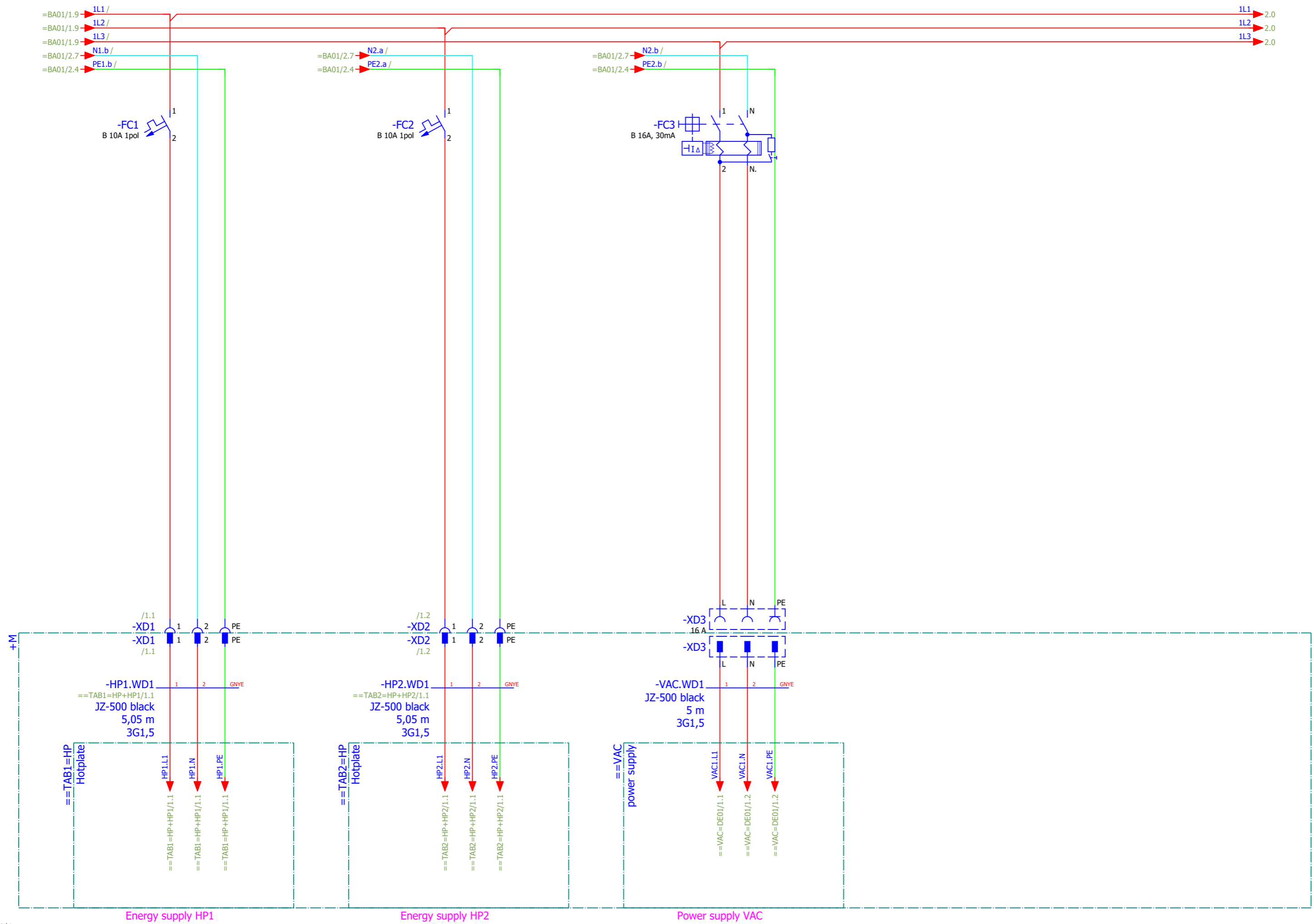
**Valve terminal feed**

**EU**

PB4001

==	DD01	Page	1
+ M		Page	105

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=DD01+M/1

Date	20.02.2025
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Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

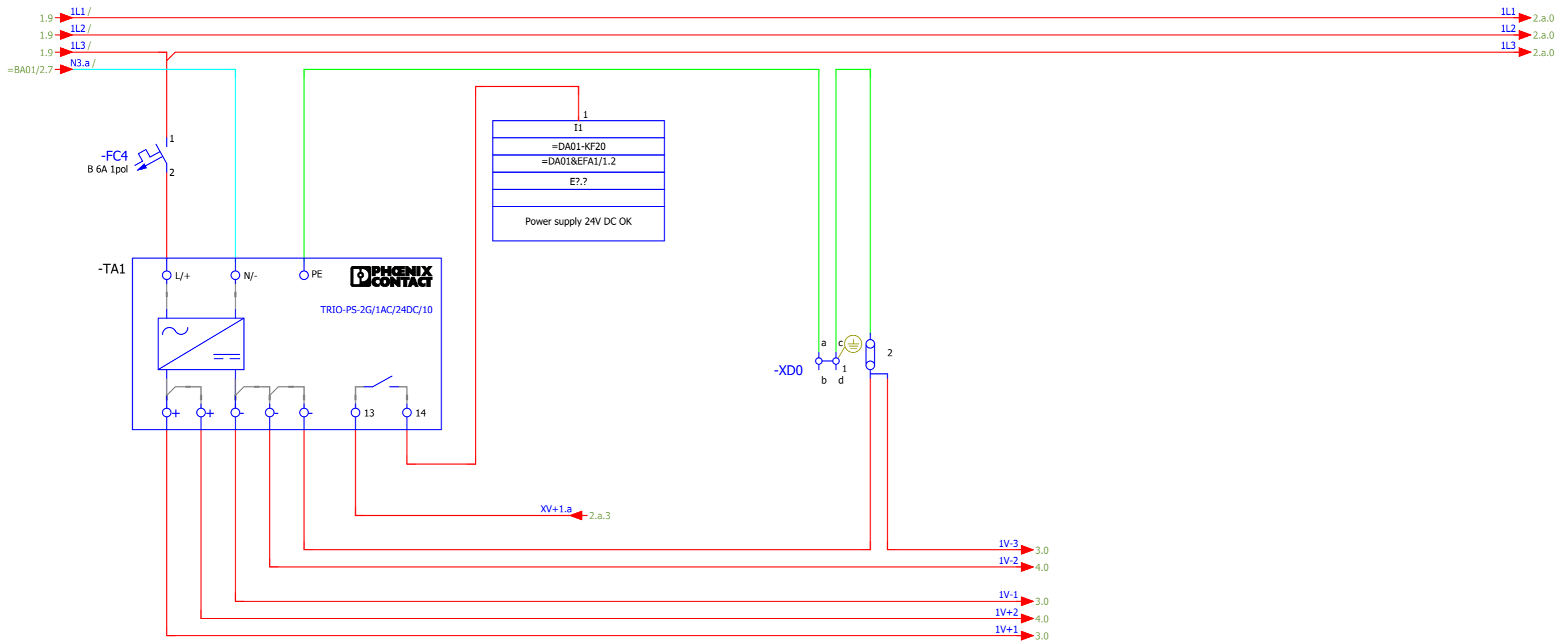
**INGELA**  
mbH

**230V AC supply**

**EU**

==	
= EDS	
+ S1	Page 1
	Page 105

PB4001

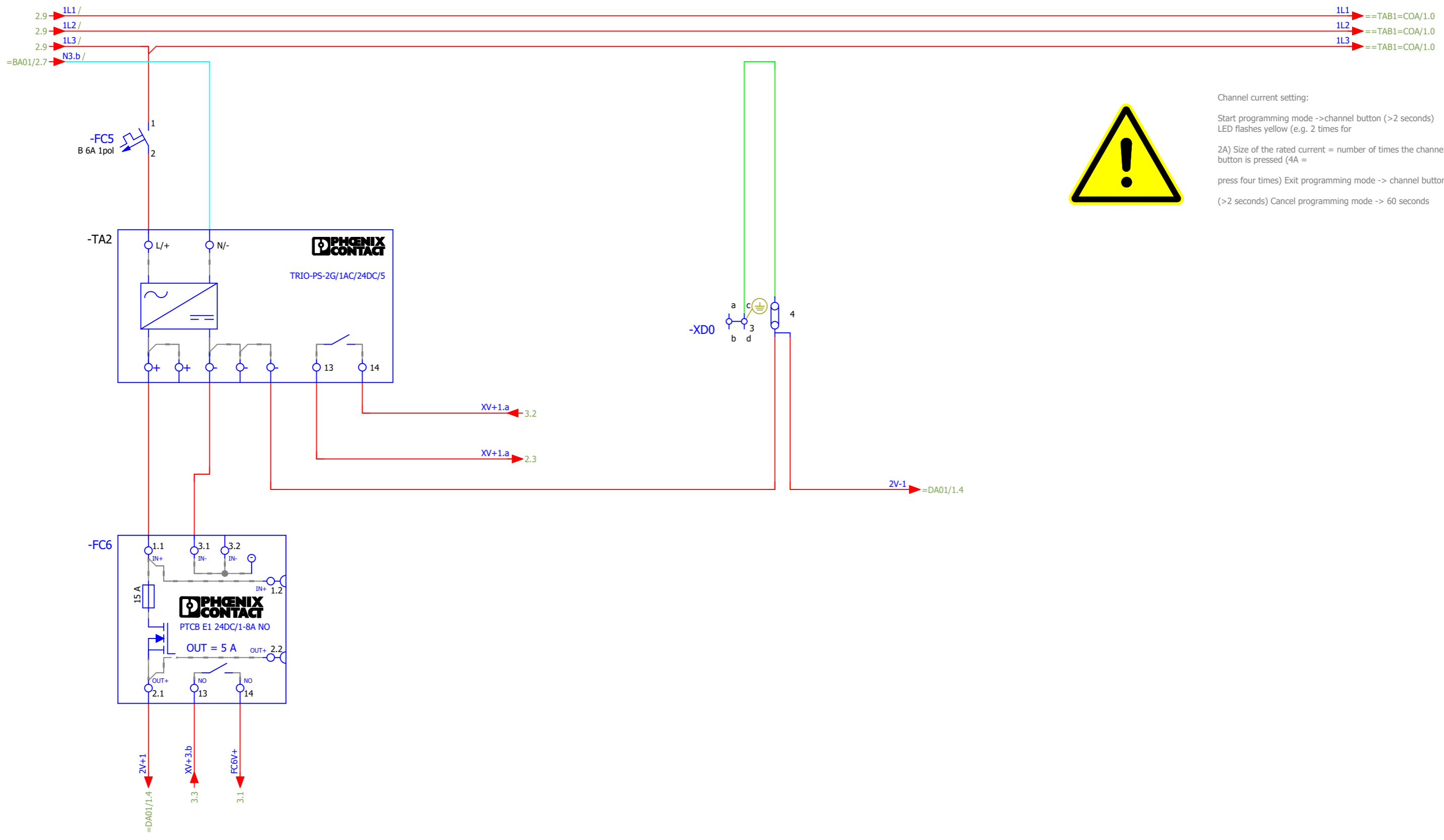


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Power supply 24V DC OK

1				Date 20.02.2025		<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>INGELA</b>	<b>24V DC supply</b>	<b>EU</b>	== = EDS + S1	
				Ed. LAMSCHICK							Page 2	
				Appr.							Page 105	
Modification	Date	Name	Original	Replacement of	Replaced by					PB4001		

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Channel current setting:  
 Start programming mode -> channel button (>2 seconds)  
 LED flashes yellow (e.g. 2 times for  
 2A) Size of the rated current = number of times the channel  
 button is pressed (4A =  
 press four times) Exit programming mode -> channel button  
 (>2 seconds) Cancel programming mode -> 60 seconds

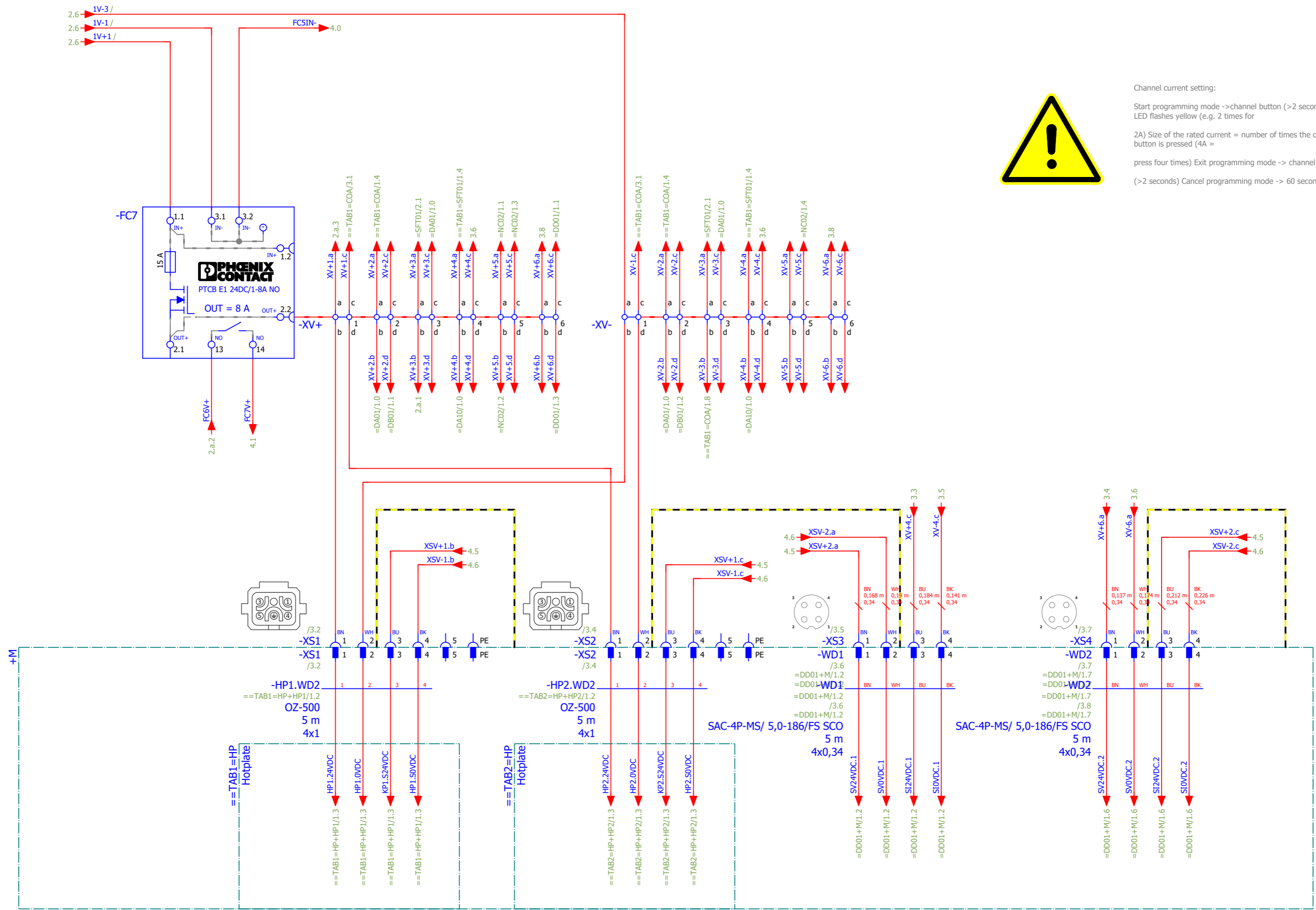


Power supply 24V DC OK

				Date 20.02.2025		<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>INGELA</b>	24V DC supply controller		EU		== = EDS + S1		
				Ed. LAMSCHICK					Replacement of		Replaced by		PB4001		Page 2.a
				Appr											Page 105
Modification	Date	Name	Original												



Channel current setting:  
 Start programming mode -> channel button (>2 seconds)  
 LED flashes yellow (e.g. 2 times for  
 2A) Size of the rated current = number of times the channel  
 button is pressed (4A =  
 press four times) Exit programming mode -> channel button  
 (>2 seconds) Cancel programming mode -> 60 seconds



Before emergency stop      Energy supply HP1      Energy supply HP2

2.a

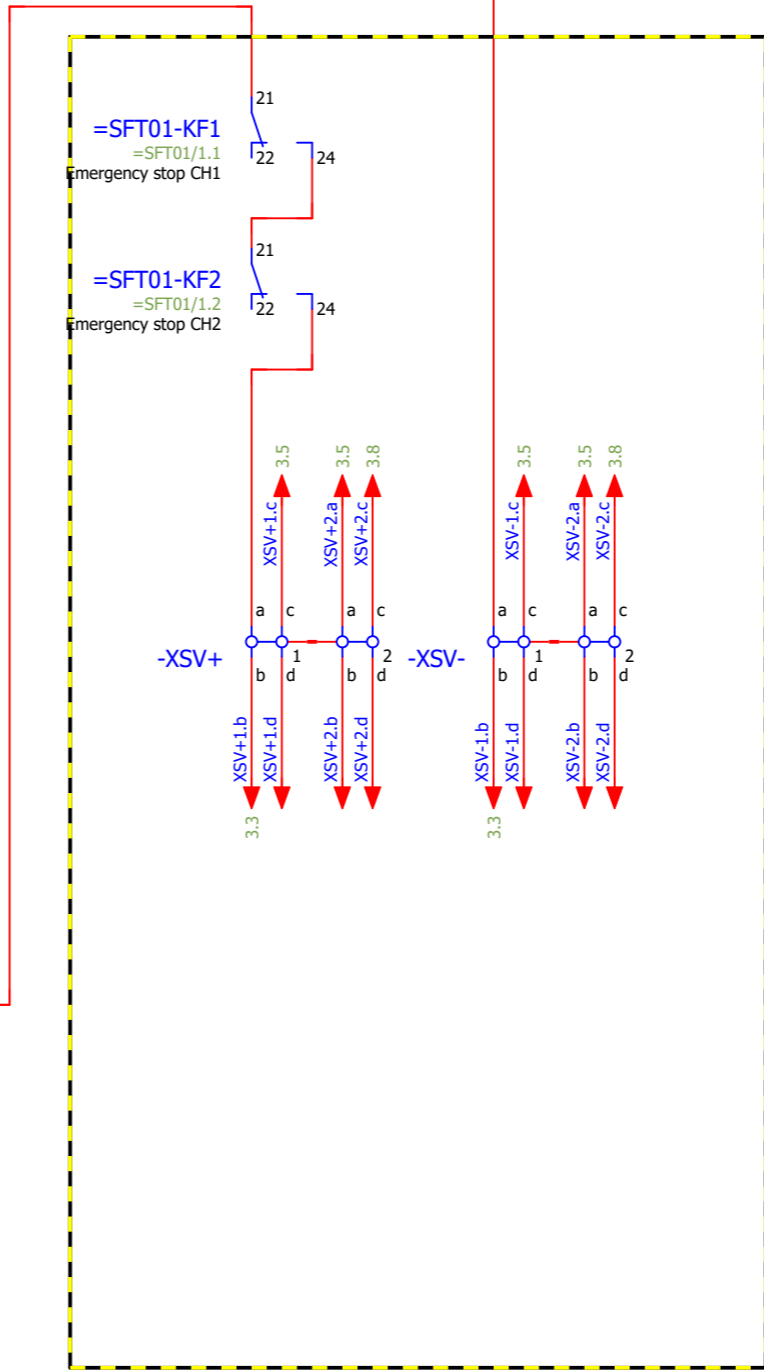
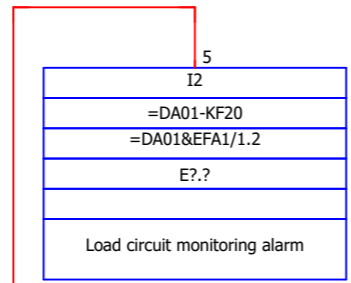
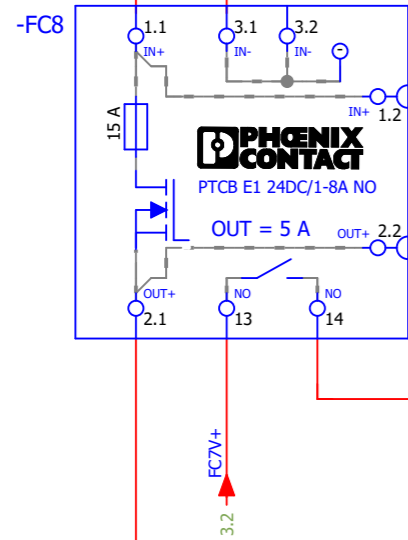
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Date	
Name	
Original	

<b>ING</b>	<b>INGELA</b>
PiBond - OPTIspin ST32 + OPTIhot SHT30	mbH
Replacement of	Replaced by

<b>24V DC distribution</b>	<b>EU</b>
	PB4001

==	==
= EDS	Page 3
+ S1	Page 105

2.6 1V-2 /  
 3.2 FC5IN- /  
 2.6 1V+2 /



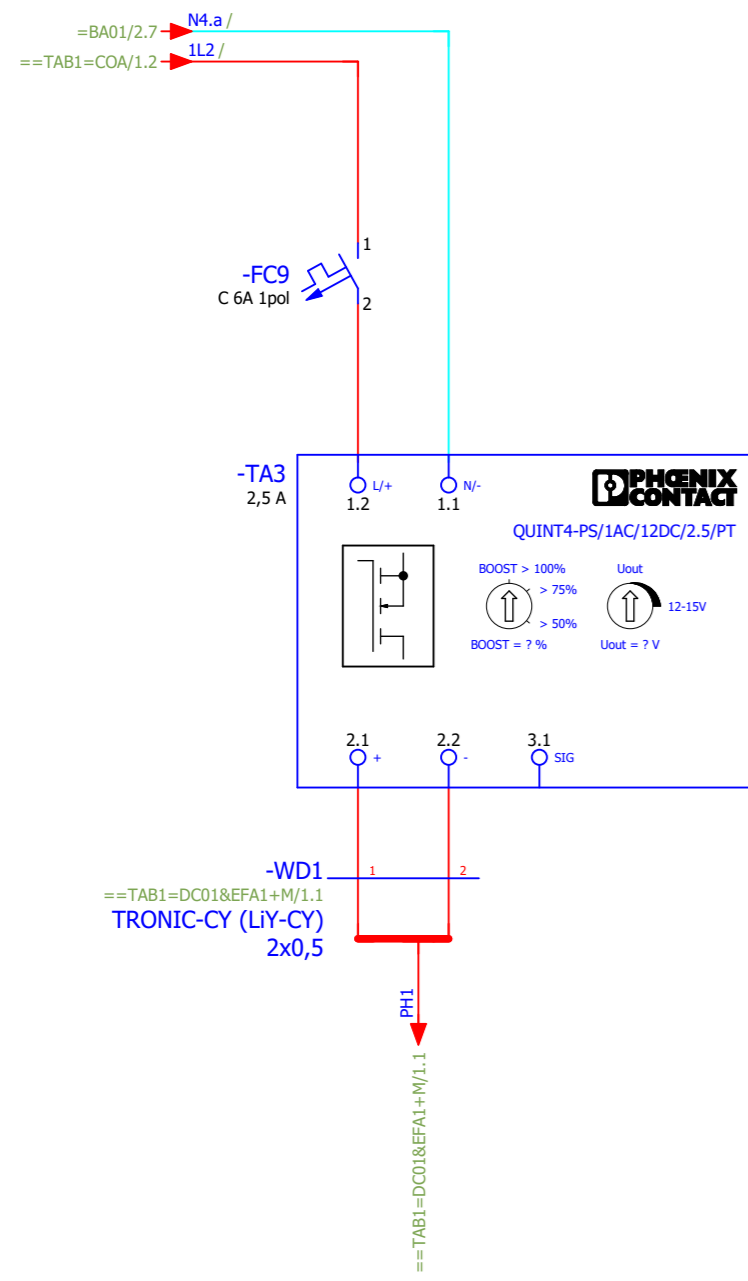
Channel current setting:  
 Start programming mode -> channel button (>2 seconds)  
 LED flashes yellow (e.g. 2 times for  
 2A) Size of the rated current = number of times the channel  
 button is pressed (4A =  
 press four times) Exit programming mode -> channel button  
 (>2 seconds) Cancel programming mode -> 60 seconds

After emergency stop

Load circuit monitoring alarm

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				Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>INGELA</b>	<b>24V DC Safty distribution</b>	<b>EU</b>	<b>==</b> <b>= EDS</b>			
				Ed.	LAMSCHICK						<b>+ S1</b>		Page	4
				Appr							Page	105		
Modification	Date	Name	Original	Replacement of	Replaced by									

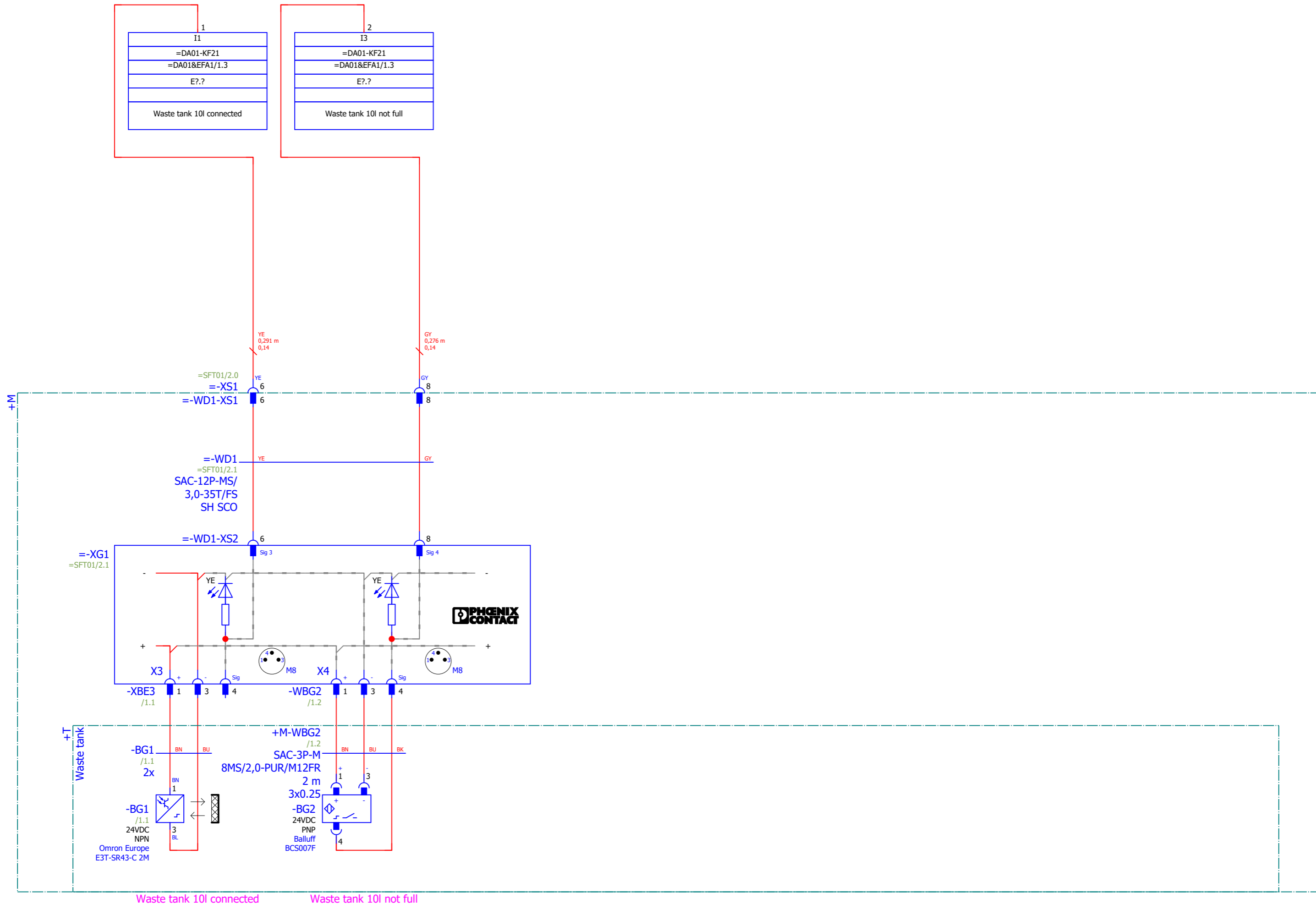


12V DC control panel

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				Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>12V DC distribution</b>	<b>EU</b>	<b>==</b> <b>= EDS</b>			
				Ed.	LAMSCHICK						<b>+ S1</b>		Page	5
				Appr							Page	105		
Modification	Date	Name	Original	Replacement of	Replaced by									

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=EDS/5

=NC02/1

Modification	Date	Name	Original

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Appr	
Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

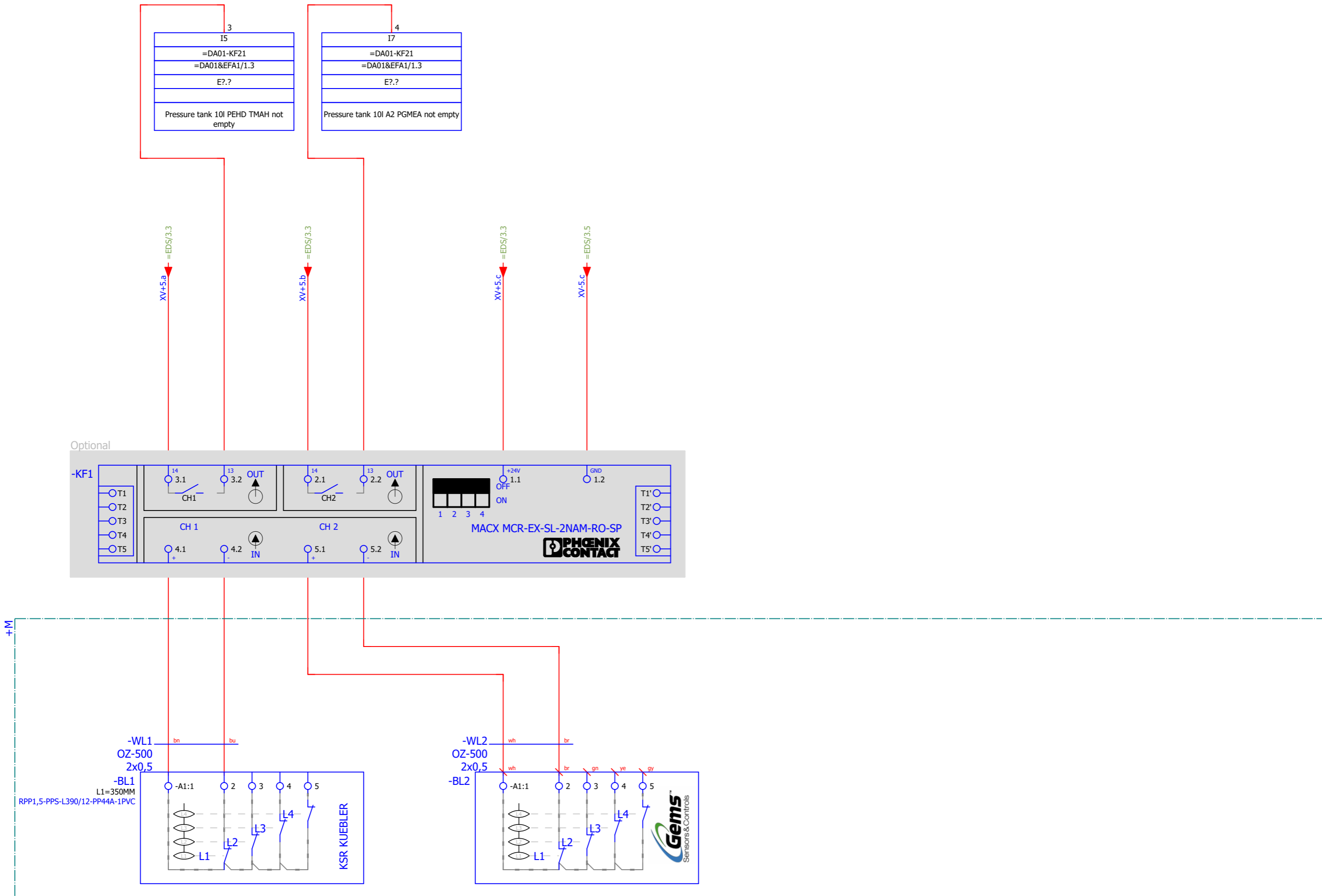
**INGELA**  
mbH

**Sensor waste tank**

<b>EU</b>
PB4001

==	NC01	Page	1
+ S1		Page	105

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=NC01/1

Pressure tank 10I  
PEHD TMAH not empty

Pressure tank 10I  
A2 PGMEA not empty

==VAC=&EPC2+M/1

Date	20.02.2025
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Appr.	
Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA**  
mbH

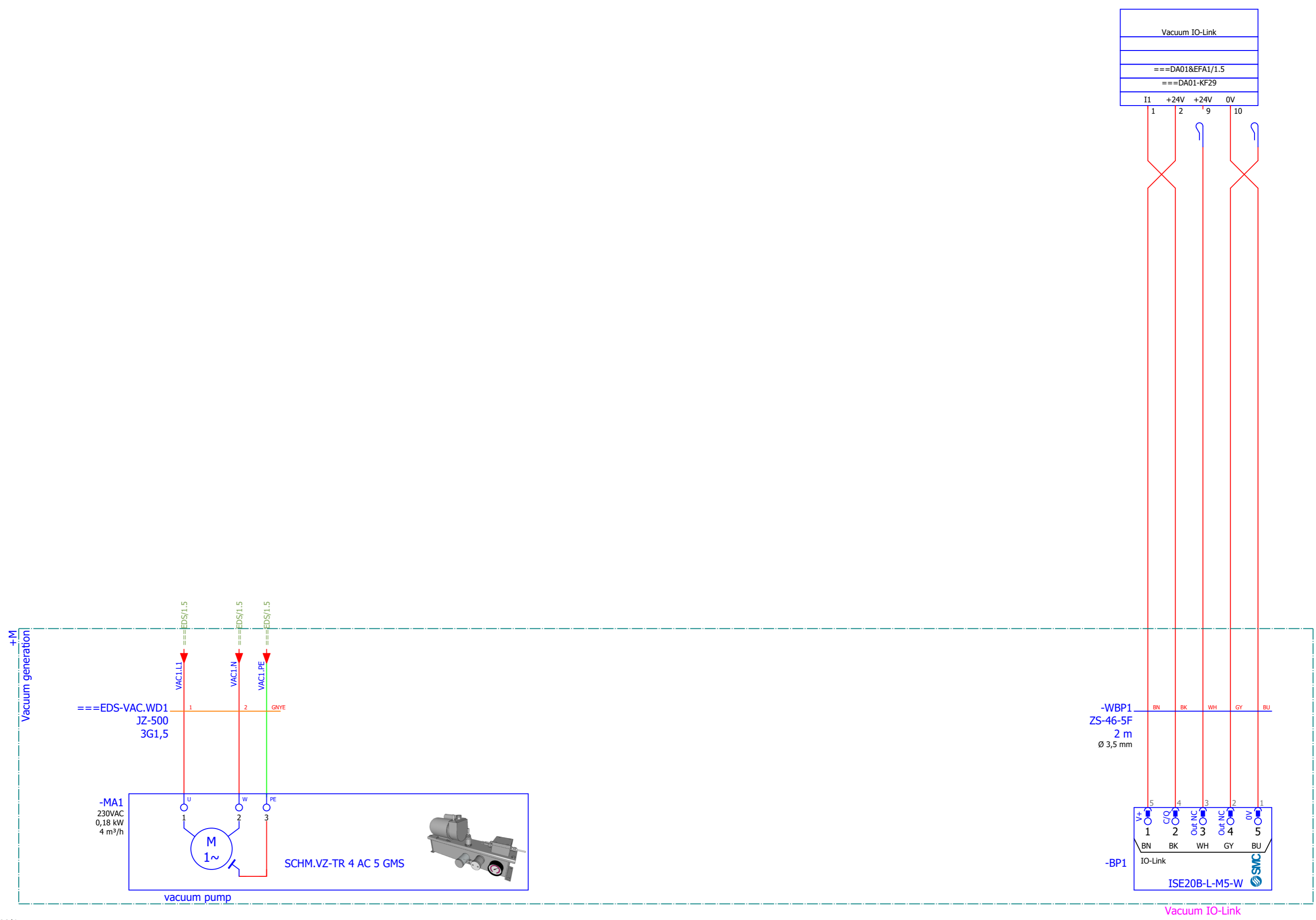
**Sensors Pressure tank**

**EU**

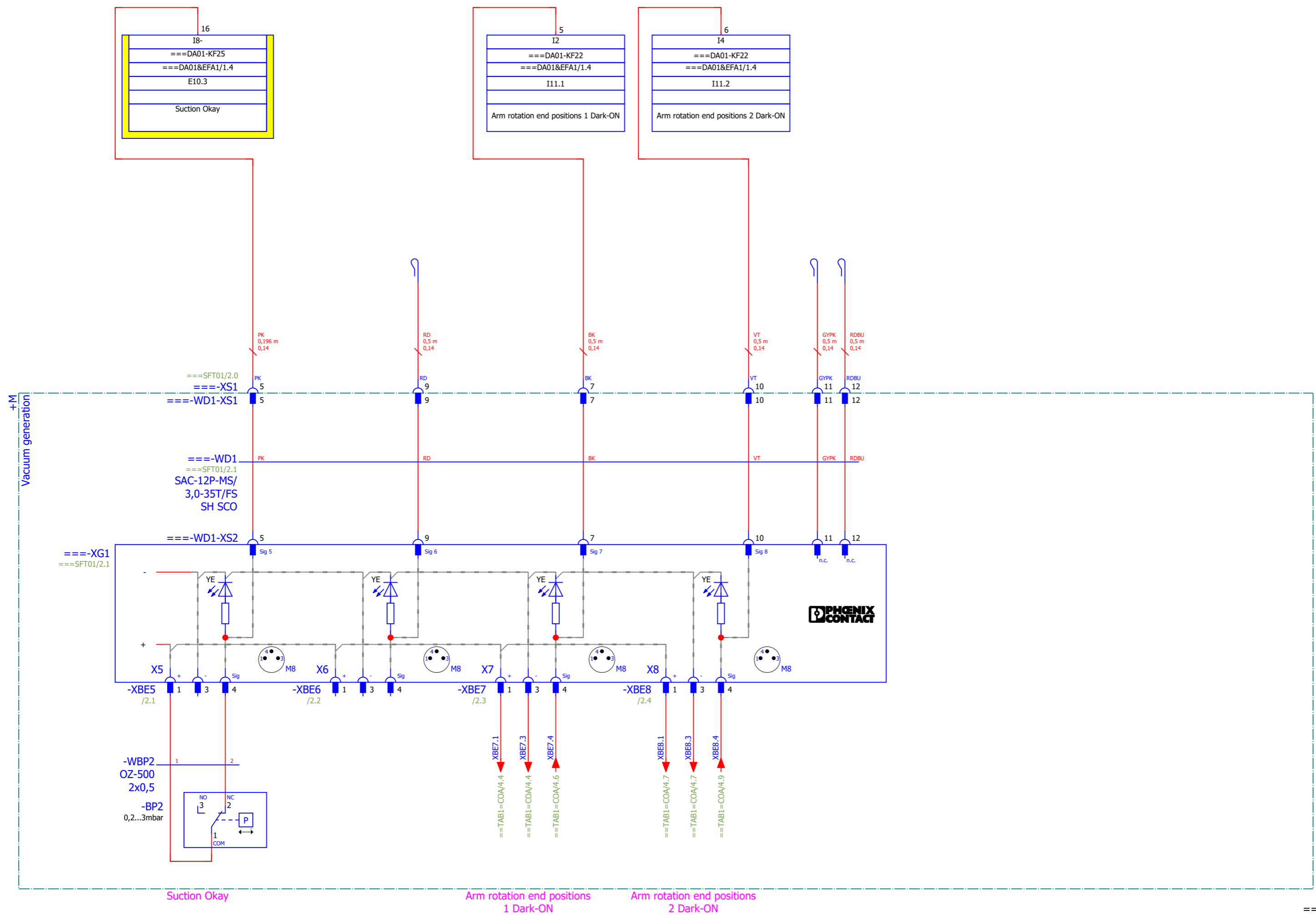
==	
= NC02	
+ S1	Page 1
	Page 105



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Suction Okay

Arm rotation end positions  
1 Dark-ON

Arm rotation end positions  
2 Dark-ON

==TAB1=&EPC2/1

				<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30 Replacement of _____ Replaced by _____		<b>INGELA</b> mbH 		<b>Sensor suction</b>		<b>EU</b>		== VAC = DE01 + S1		Page 2 Page 105
Modification	Date	Name	Original	Date	20.02.2025	Ed.	LAMSCHICK	Appr						

# Total parts list for installation location: +S1

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
ING.Erdungsschraube_Neu M6x16	2	Erdungsschraube M6x16	M6x16	INGELA	==TAB1=COA+S1-WE01;==TAB1=COA+S1-WE01:PE	+S1	
PLI.926004168	3	Gegenmutter M16x1,5 MS	926004168	PLI	==TAB1=COA+S1-XS1;==TAB1=SFT01+S1-XS1 ==TAB1=SFT01+S1-XS2	+S1	
PXC.3022276	2	End bracket for terminal block	CLIPFIX 35-5	PXC	==TAB1+S1-XG1;==TAB1+S1-XG1:15	+S1	
PXC.3210596	1	Protective conductor double-level terminal block	PTTB 2,5 PE	PXC	==TAB1+S1-XG1:15	+S1	
PXC.3211634	1	End and partition plate for terminal block	D-PTTB 2,5	PXC	==TAB1+S1-XG1:15	+S1	
PXC.1523434	2	Flush-type connector	SACC-E-FS-4CON-M16/0,5 SCO	PXC	==TAB1=SFT01+S1-XS1;==TAB1=SFT01+S1-XS2	+S1	
PXC.1556252	1	Flush-type connector	SACC-E-FS-12CON-M16/0,5 SCO	PXC	==TAB1=COA+S1-XS1	+S1	
PXC.0814788	1	Terminal strip marker carrier	KLM 3-L	PXC	==TAB1+S1-XG1	+S1	
PXC.3210567	7	Double-level terminal	PTTB 2,5	PXC	==TAB1+S1-XG1:1;==TAB1+S1-XG1:3;==TAB1+S1-XG1:5 ==TAB1+S1-XG1:7;==TAB1+S1-XG1:9;==TAB1+S1-XG1:11 ==TAB1+S1-XG1:13	+S1	
REICH.SLIM SL6 1 WS	1	Patchkabel Slim Cat.6	SLIM SL6	REICH	==TAB1=BA01+S1-WF4	+S1	
SIE.5SY6313-6	1	LEITUNGSSCHUTZSCHALTER 400V 6KA, 3POLIG, B, 13A	5SY6313-6	SIE	==TAB1=COA+S1-FC1	+S1	
META.PWR-R300-12R-J	2	breaking resstor	PWR-R300-12R-J	META	==TAB1=COA+S1-R1;==TAB1=COA+S1-R2	+S1	Beistellung RTEU
MTR.9200-4312-1000	1	Metronix SmartServo Drives (BL 4000-C Series)	smartServo BL 4312-C	Metro	==TAB1=COA+S1-TB1	+S1	Beistellung RTEU

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==VAC=DE01&EFS1/2

+M.CO1/1

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												<b>+ S1</b>	Page 1 Page 105

# Total parts list for installation location: +M.CO1

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
TE.61.232.11	12	Kontaktstift 1 mm	61.232.11	TE	==TAB1=COA+M.CO1-XD20	+M.CO1	
TE.61.239.11	7	Kontaktstift 1 mm	61.239.11	TE	==TAB1=COA+M.CO1-XD2;==TAB1=COA+M.CO1-XD20	+M.CO1	
TE.EKUB-201-NN00-31-0500-000	1	Kupplung, Gerade, 9-polig , Kabelmontage	EKUB-201-NN00-31-0500-000	TE	==TAB1=COA+M.CO1-XD2	+M.CO1	
TE.EKUB-204-NN00-33-0003-000	1	Kupplung, Gerade, 15-polig , Kabelmontage	EKUB-204-NN00-33-0003-000	TE	==TAB1=COA+M.CO1-XD20	+M.CO1	
FEM.CM100SSx0D11xx07x	1				==TAB1=COA+M.CO1-MA1	+M.CO1	Extern RTEU
HAD.FHA-8C-30-D200-EK	1				==TAB1=COA+M.CO1-MA2	+M.CO1	Extern RTEU

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+S1/1

+M/1

Modification		Date	Name	Original	Replacement of	Replaced by	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>TE.61.232.11 -</b> <b>HAD.FHA-8C-30-D200-EK</b>	<b>EU</b>	<b>== TAB1</b> <b>=</b>	
												<b>+ M.CO1</b>	Page 1 Page 105

PB4001



# Total parts list for installation location: +HP1

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
HAR.0910000800	1	Hoods/Housings	Han 1A-agw	HAR	==TAB1=HP+HP1-5	+HP1	
HAR.0910000300	1	Hoods/Housings	Han 1A-agg	HAR	==TAB1=HP+HP1-XS2	+HP1	
HAR.09100053001	1	Inserts	Han 1A-5+PE-c-m Clip	HAR	==TAB1=HP+HP1-XS2	+HP1	
HAR.09150006102	4	Stiftkontakt 1 mm <sup>2</sup>	Han D	HAR	==TAB1=HP+HP1-XS2	+HP1	
ING.Erdungsschraube_M6x25	1	Erdungsschraube M6x25	M6x25	INGELA	==TAB1=HP+HP1-A1	+HP1	
MIS.FACAS-AM-T2-A100-B30-L100-NA5-S17,5-V70-Y15	1	Blechverbinder-Montagewinkel / FACAS	FACAS-AM-T2-A100-B30-L100-NA5-S17,5-V70-Y15	MIS	==TAB1=HP+HP1-U13	+HP1	
PXC.2981363	1	Extension module	PSR-SCF- 24UC/URM/2X21	PXC	==TAB1=HP+HP1-KF1	+HP1	
PXC.3022276	6	End bracket for terminal block	CLIPFIX 35-5	PXC	==TAB1+HP1-XPE;==TAB1+HP1-XPE:3;==TAB1+HP1-XV+ ==TAB1+HP1-XV+:3;==TAB1+HP1-XV-;==TAB1+HP1-XV-:3	+HP1	
PXC.3030420	1	End and partition plate for terminal block	D-ST 4	PXC	==TAB1+HP1-XPE:3	+HP1	
PXC.3211766	3	Ground modular terminal block	PT 4-PE	PXC	==TAB1+HP1-XPE:1...==TAB1+HP1-XPE:3	+HP1	
PXC.0814788	3	Terminal strip marker carrier	KLM 3-L	PXC	==TAB1+HP1-XPE;==TAB1+HP1-XV+;==TAB1+HP1-XV-	+HP1	
PXC.3030174	2	Cross-connector for terminal block	FBS 3-5	PXC	==TAB1+HP1-XV+:1;==TAB1+HP1-XV-:1	+HP1	
PXC.3030514	2	End cover	D-ST 2,5-QUATTRO	PXC	==TAB1+HP1-XV+:3;==TAB1+HP1-XV-:3	+HP1	
PXC.3209578	6	Feed-through terminal	PT 2,5-QUATTRO	PXC	==TAB1+HP1-XV+:1...==TAB1+HP1-XV+:3 ==TAB1+HP1-XV-:1...==TAB1+HP1-XV-:3	+HP1	
PXC.2853970	1	Electronic housing	UTA 89	PXC	==TAB1=HP+HP1-U12	+HP1	
REICH.SLIM SL6 1 WS	2	Patchkabel Slim Cat.6	SLIM SL6	REICH	==TAB1=DA01+HP1-WF2;==TAB1=HP+HP1-WF1	+HP1	
RIT.4595000	2	TS Wall bracket, sheet steel, galvanized	PS.4595000	RIT	==TAB1=HP+HP1-U10;==TAB1=HP+HP1-U11	+HP1	
ROB.PiBond_Heizplatte_Gehäuse	1	PiBond_Heizplatte_Gehäuse	PiBond_Heizplatte_Gehäuse	ROB	==TAB1=HP+HP1	+HP1	
SWL.SS-6BK-MM-1C	1	Faltenbalgventil, Edelstahl, mit Körperdichtscheibe, 6 mm Swagelok	SS-6BK-MM-1C	SWL	==TAB1=HP+HP1-1	+HP1	
APSA.01049.0000.01.000	1	Einbau-Schutzkontakt-Geraetestecker C16A schwarz	01049.0000.01.000	APSA	==TAB1=HP+HP1-XS1	+HP1	Beistellung RTEU
BECK.EK1100	1	EtherCAT Koppler	EK1100	BECK	==TAB1=DA01+HP1-KF1	+HP1	Beistellung RTEU
BECK.EL1008	1	8-Kanal DI	EL1008	BECK	==TAB1=DA01+HP1-KF20	+HP1	Beistellung RTEU
BECK.EL2008	1	8-Kanal DO	EL2008	BECK	==TAB1=DA01+HP1-KF30	+HP1	Beistellung RTEU
BECK.EL3202-0010	1	2-Kanal AI	EL3202-0010	BECK	==TAB1=DA01+HP1-KF10	+HP1	Beistellung RTEU
BECK.EL9011	1	Bus Endplatte	EL9011	BECK	==TAB1=DA01+HP1-ST	+HP1	Beistellung RTEU
BECK.EL9110	1	Power supply terminal with diagnostics, 24 V DC	EL9110	BECK	==TAB1=DA01+HP1-KF2	+HP1	Beistellung RTEU
NOR.100290600	3	Schottverbindung (Mutter) 6mm Rohraußen	100290600	NOR	==TAB1=HP+HP1-1	+HP1	Beistellung RTEU
NOV.SSR-4810	1	Halbleiterrelais 4-32VDC/70-480VAC/10A	SSR-4810	NOV	==TAB1=HP+HP1-QA1	+HP1	Beistellung RTEU

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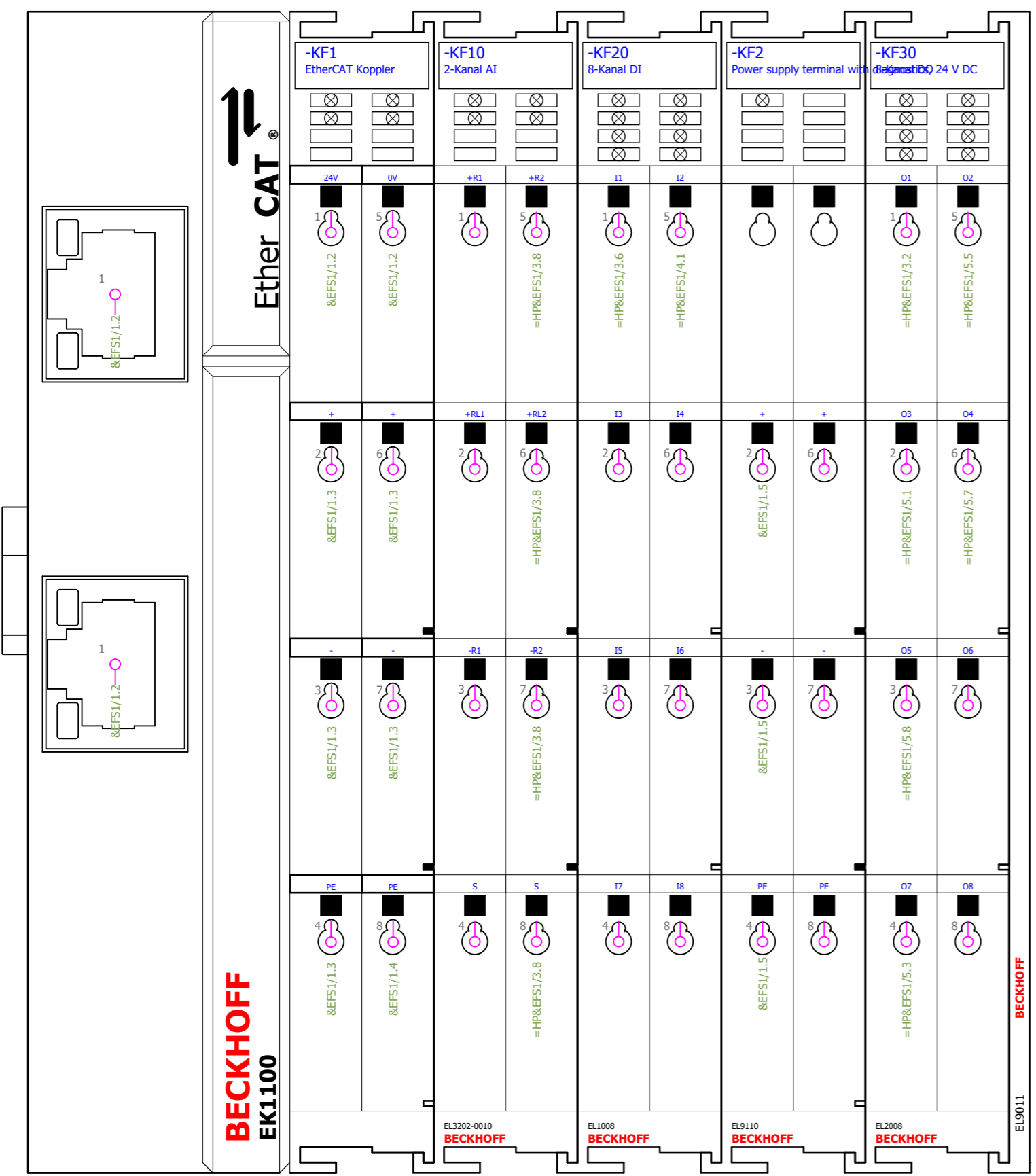
+M/1

1.a

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>HAR.0910000800 -</b> <b>NOV.SSR-4810</b>	<b>EU</b>	<b>== TAB1</b> <b>=</b> <b>+ HP1</b>	Page	1
Ed.	LAMSCHICK							Page	105
Appr									
Modification	Date	Name	Original	Replacement of	Replaced by				



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**ING**  
**PiBond - OPTIspin ST32 + OPTIhot SHT30**

**INGELA mbH**

**PLC structure Beckhoff**

<b>EU</b>	
	PB4001

<b>== TAB1</b>	
<b>= DA01</b>	
<b>+ HP1</b>	Page 1
	Page 105

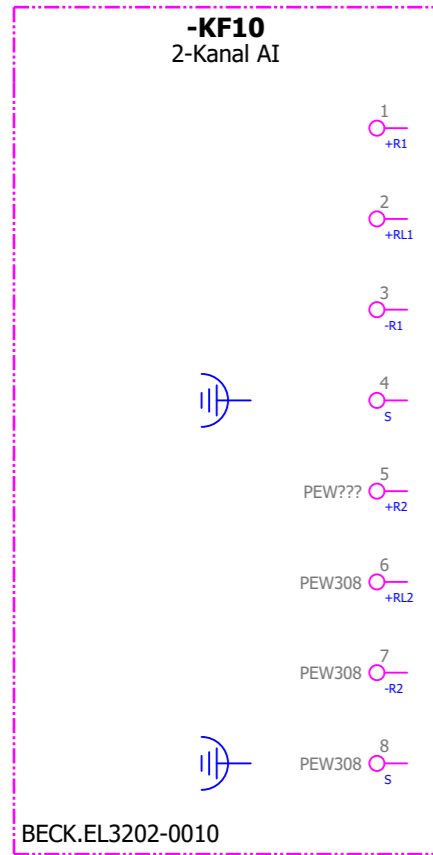


# PLC diagram

**==TAB1=DA01+HP1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



1 &EFA1/1.2  
2 &EFA1/1.2  
3 &EFA1/1.2  
4 &EFA1/1.2  
5 =HP&EFS1/3.8  
6 =HP&EFS1/3.8  
7 =HP&EFS1/3.8  
8 =HP&EFS1/3.8

Hotplate. Temperature EB1  
Hotplate. Temperature EB1  
Hotplate. Temperature EB1  
Temperature EB1

=HP-EB1-BT1  
=HP-EB1-BT1  
=HP-EB1-BT1

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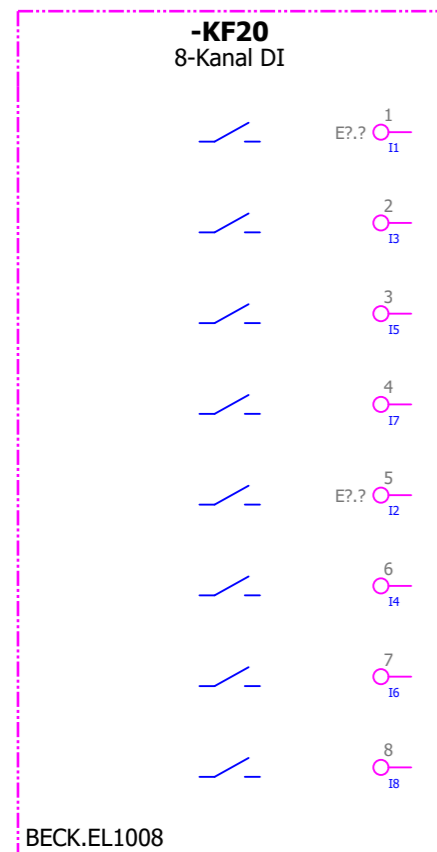
# PLC diagram

ING\_F19\_006

**==TAB1=DA01+HP1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



=HP&EFS1/3.6  
&EFA1/1.3  
&EFA1/1.3  
&EFA1/1.3  
=HP&EFS1/4.1  
&EFA1/1.3  
&EFA1/1.3  
&EFA1/1.3

Hotplate. Safety temperature heating plate EB1  
  
  
  
Hotplate. Vacuum

=HP-KF1  
  
  
  
=HP-BE4:2

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			Date	20.02.2025	<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30	<b>INGELA</b> mbH		PLC diagram : ==TAB1=DA01+HP1-KF20 - ==TAB1=DA01+HP1-KF20	EU	PB4001	== TAB1 = DA01 + HP1	Page	5
			Ed.	LAMSCHICK								Page	105
			Appr										
Modification	Date	Name	Original		Replacement of	Replaced by							

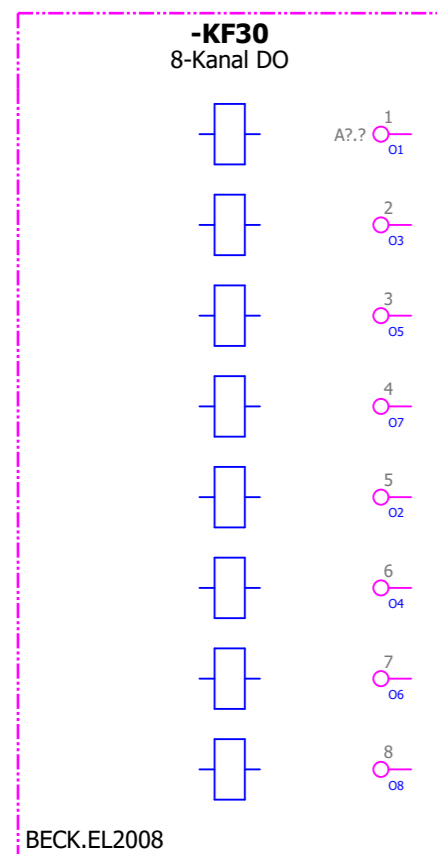
# PLC diagram

ING\_F19\_006

**==TAB1=DA01+HP1**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



1 01	=HP&EFS1/3.2	Hotplate. Heating plate controller EB1	=HP-QA1:3
2 03	=HP&EFS1/5.1	Hotplate. Lifting/lowering pins	=HP-QM1-MB1:1
3 05	=HP&EFS1/5.8	Hotplate. N2 flush	=HP-QM5-MB1:1
4 07	=HP&EFS1/5.3	Hotplate. Vacuum Center On	=HP-QM2-MB1:1
5 02	=HP&EFS1/5.5	Hotplate. Vacuum D116 On	=HP-QM3-MB1:1
6 04	=HP&EFS1/5.7	Hotplate. Vacuum D240 On	=HP-QM4-MB1:1
7 06	&EFA1/1.4		
8 08	&EFA1/1.4		

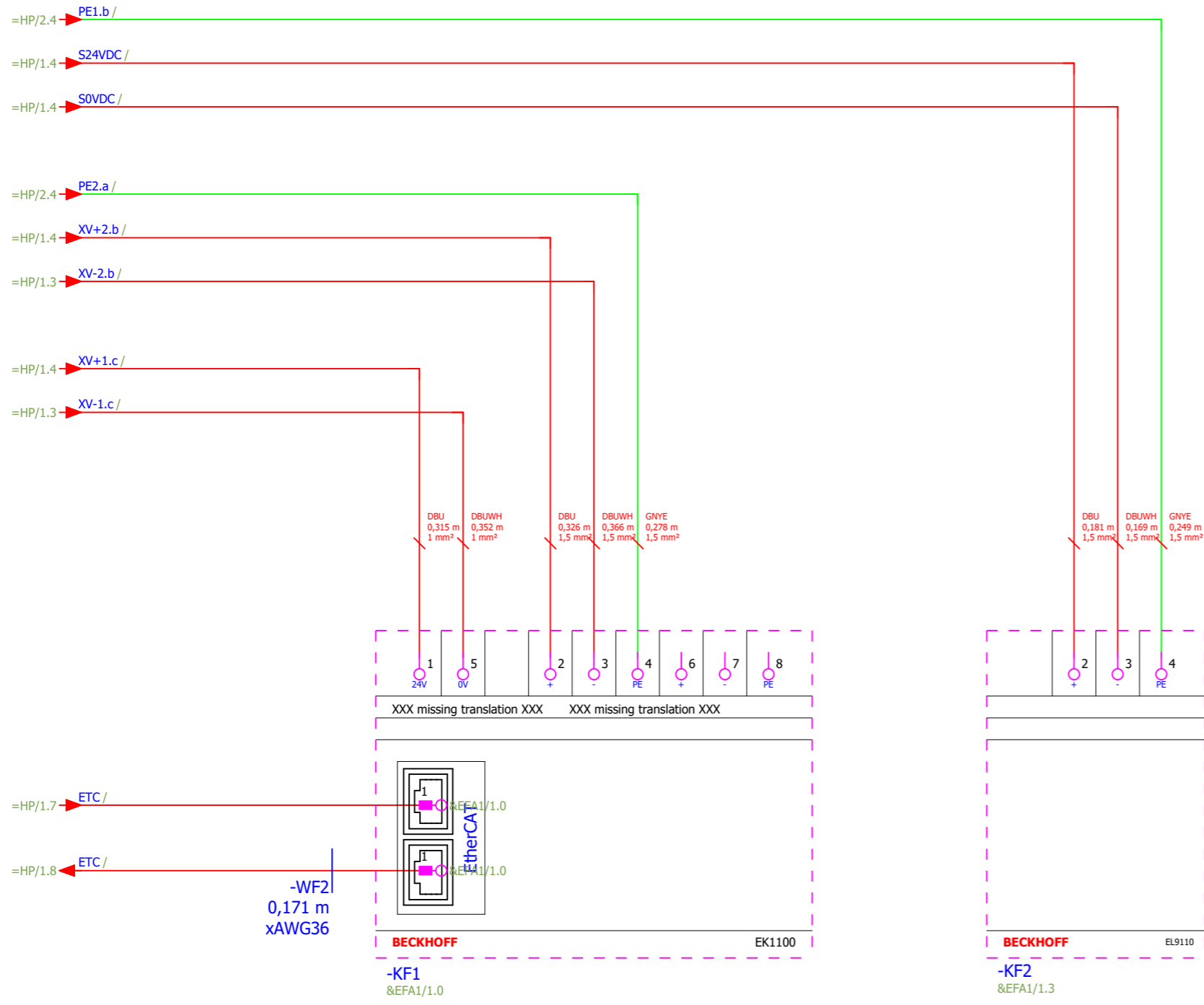
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5

				<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>		<b>INGELA</b> <b>mbH</b>		<b>PLC diagram :</b> <b>==TAB1=DA01+HP1-KF30 -</b> <b>==TAB1=DA01+HP1-KF30</b>		<b>EU</b>		<b>== TAB1</b> <b>= DA01</b> <b>+ HP1</b>	
Date	20.02.2025	Ed.	LAMSCHICK	Replacement of		Replaced by						Page	6
Appr		Original										Page	105
Modification	Date	Name	Original										

&EFS1/1

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Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

**INGELA**  
mbH

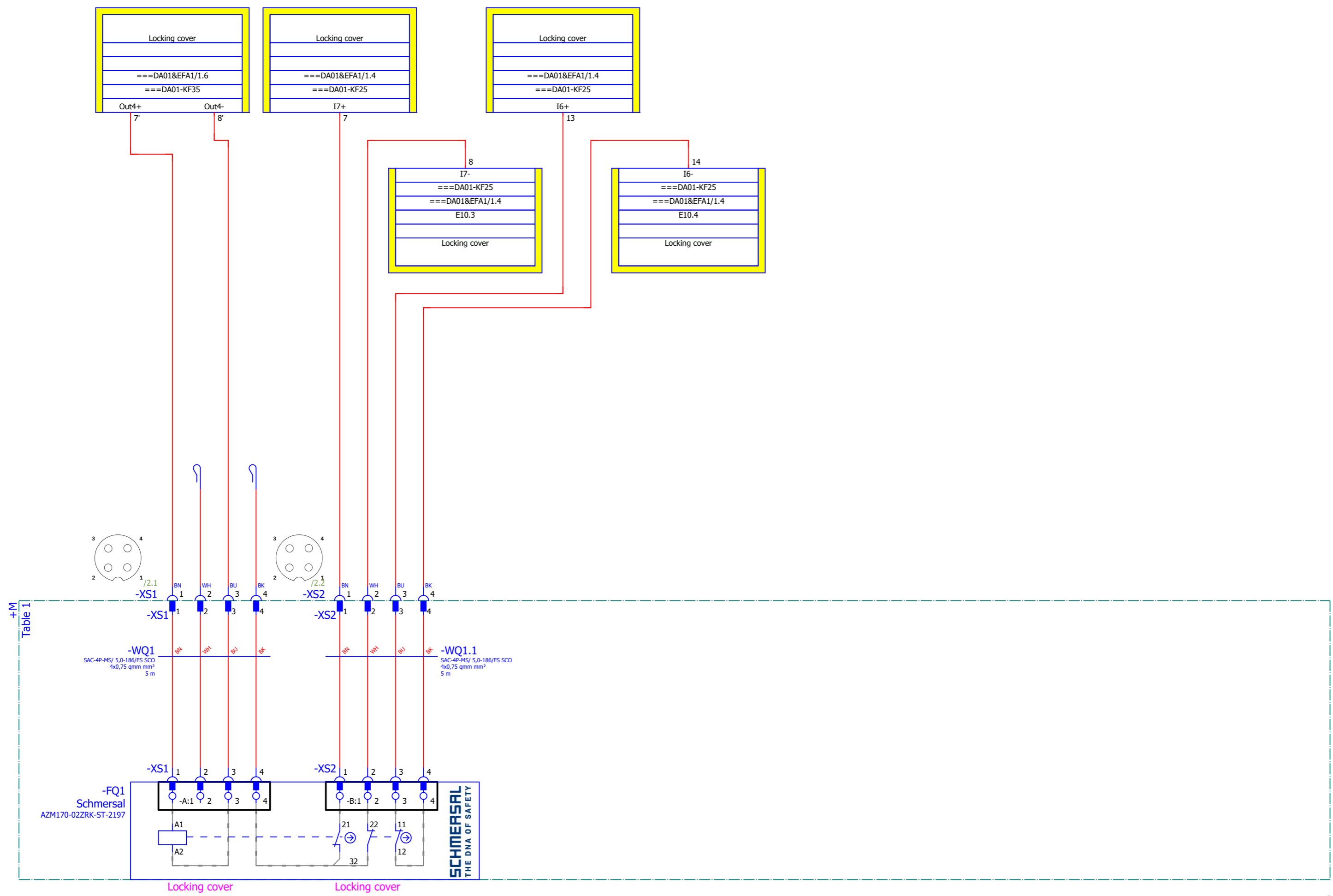
**SPS power supply**

<b>EU</b>	
	PB4001

<b>== TAB1</b>	
<b>= DA01</b>	
<b>+ HP1</b>	Page 1
	Page 105



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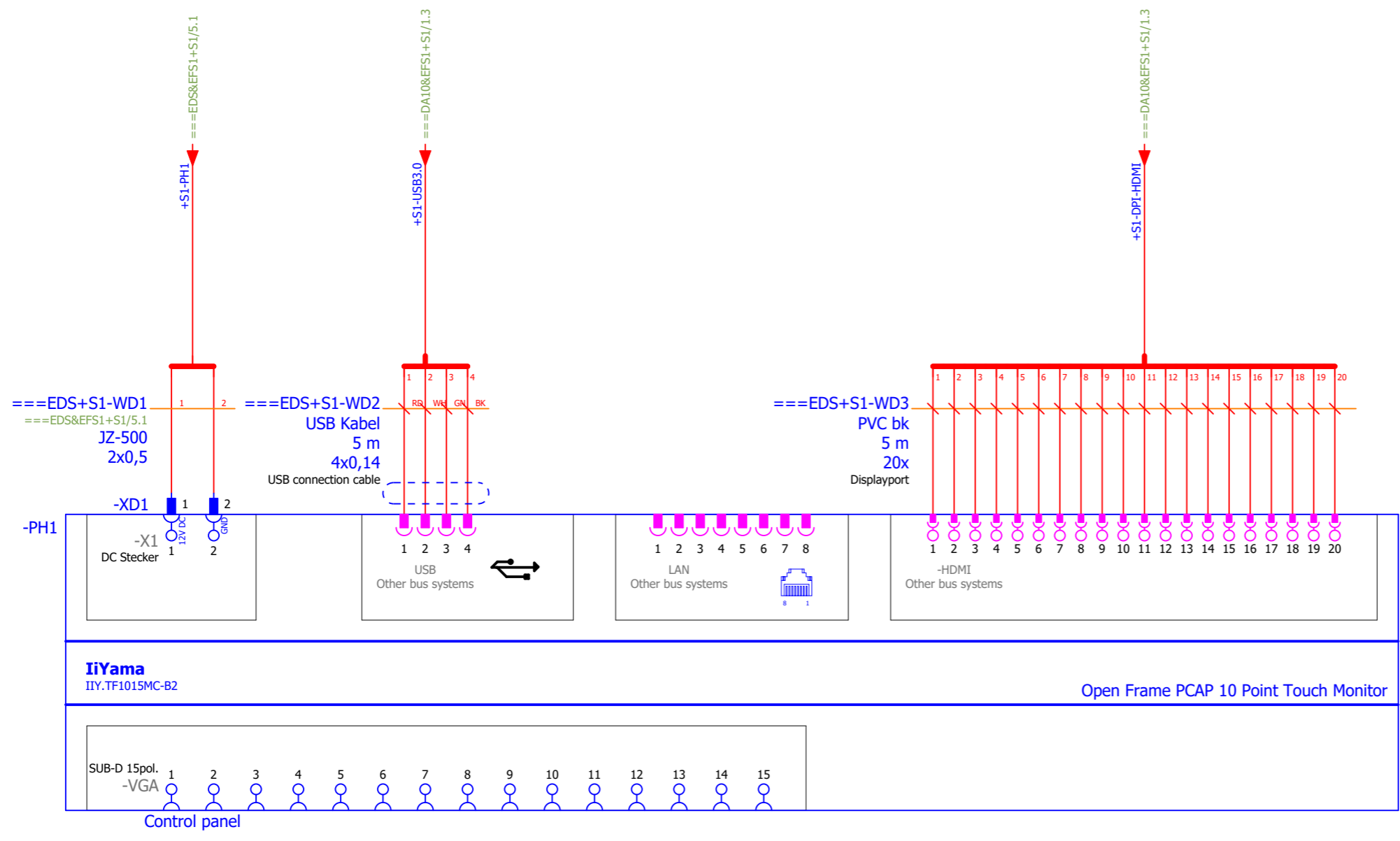


1

				Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Guard locking process housing EU</b>	<b>EU</b>	<b>== TAB1</b>	
				Ed.	LAMSCHICK						<b>= SFT01</b>	
				Appr							<b>+ S1</b>	
Modification	Date	Name	Original	Replacement of	Replaced by						PB4001	Page 2
												Page 105

=DC01&EFA1+M/1

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=SFT01&EFS1+S1/2

=DD01&EFS1/1

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	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA mbH**

**Control panel**

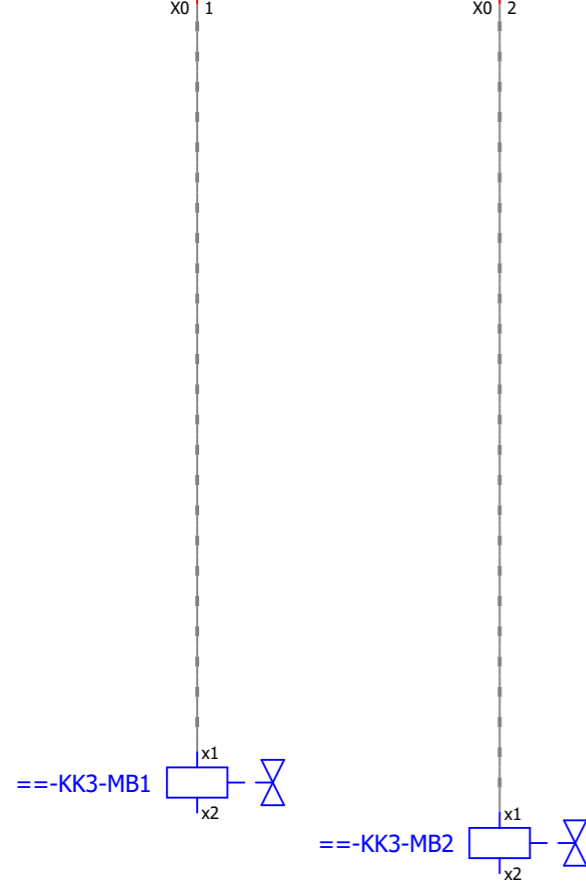
**EU**

PB4001

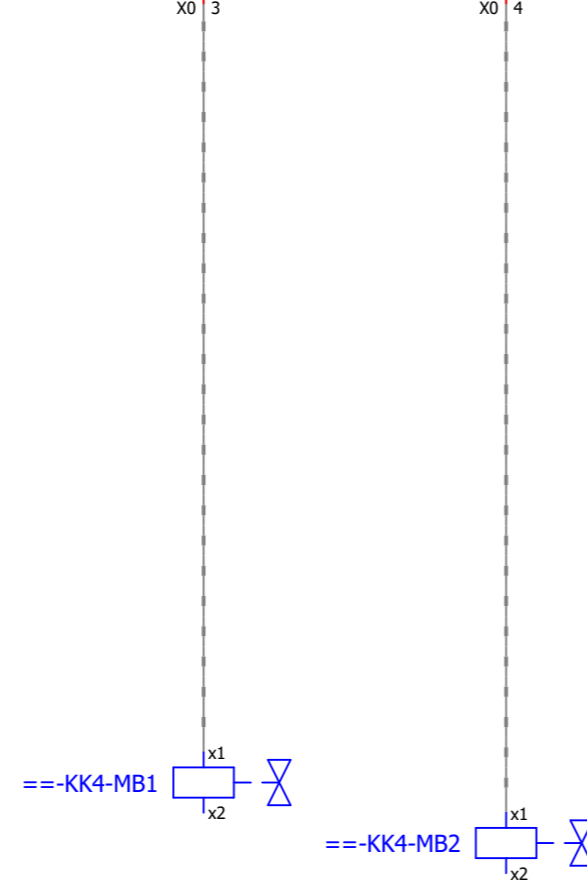
<b>== TAB1</b>	
<b>= DC01</b>	
<b>+ M</b>	Page 1
	Page 105

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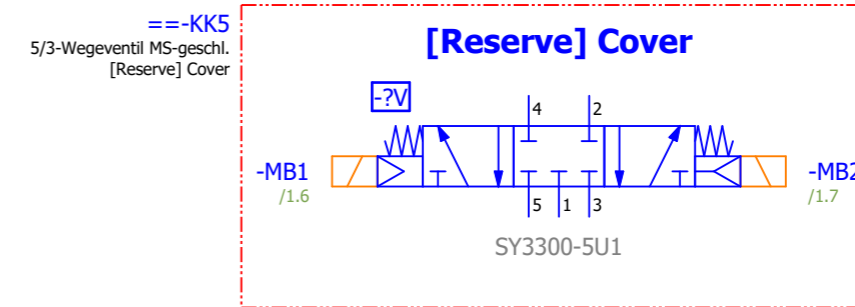
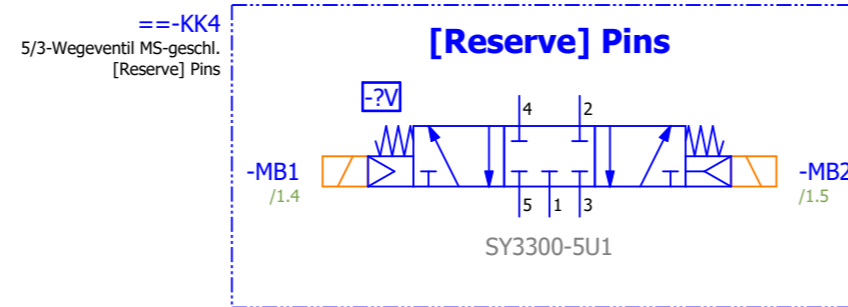
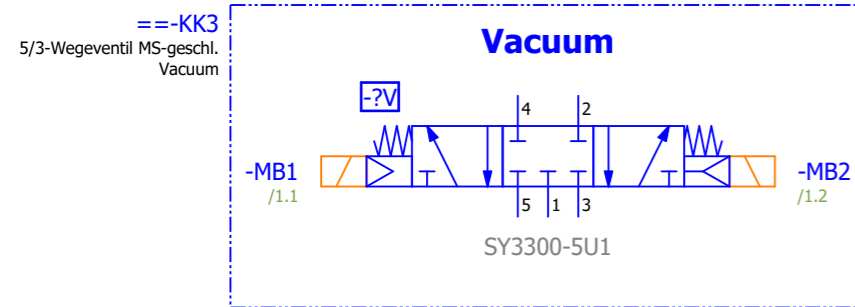
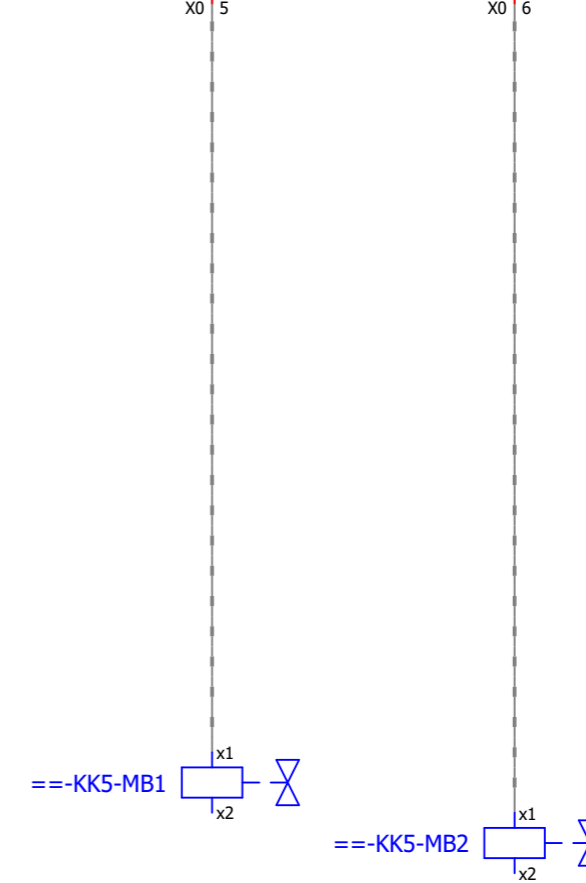
Vacuum On	Vacuum off
==KK1	==KK1
0	1
X0 1	X0 2



[Reserve] Lift pins	[Reserve] Lower pins
==KK1	==KK1
2	3
X0 3	X0 4



[Reserve] Lift cover	[Reserve] Lower cover
==KK1	==KK1
4	5
X0 5	X0 6



Vacuum On

Vacuum off

[Reserve] Lift pins

[Reserve] Lower pins

[Reserve] Lift cover

[Reserve] Lower cover

=DC01&EFA1/1

Modification	Date	Name	Original

Date	20.02.2025
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Replacement of	Replaced by

**INGELA mbH**

**Valve unit**

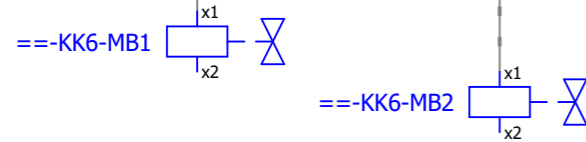
<b>EU</b>	
	PB4001

== TAB1	
= DD01	
+ M	
Page	1
Page	105

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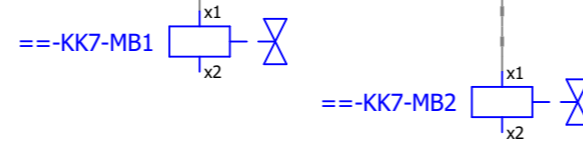
[Reserve] Tilt up lid	[Reserve] Tilt lid straight
== -KK1	== -KK1
6	7

X0 7      X0 8

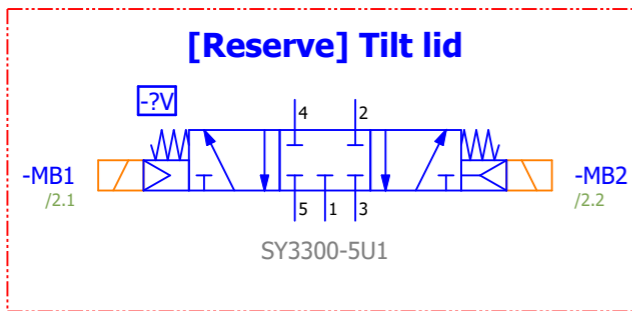


Raise arm	Lower arm
== -KK1	== -KK1
8	9

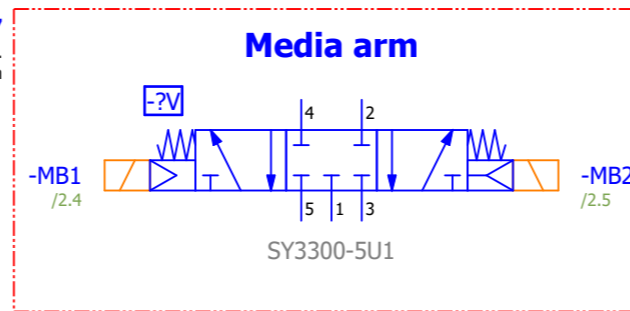
X0 9      X0 10



== -KK6  
5/3-Wegeventil MS-gesch.  
[Reserve] Tilt lid



== -KK7  
5/3-Wegeventil MS-gesch.  
Media arm



[Reserve] Tilt up lid

[Reserve] Tilt lid straight

Raise arm

Lower arm

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Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA mbH**

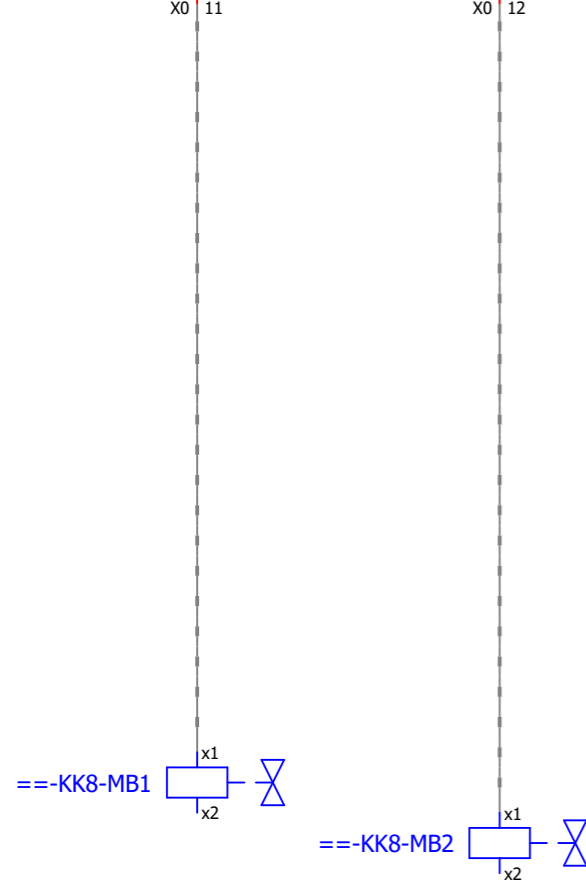
**Valve unit**

<b>EU</b>
PB4001

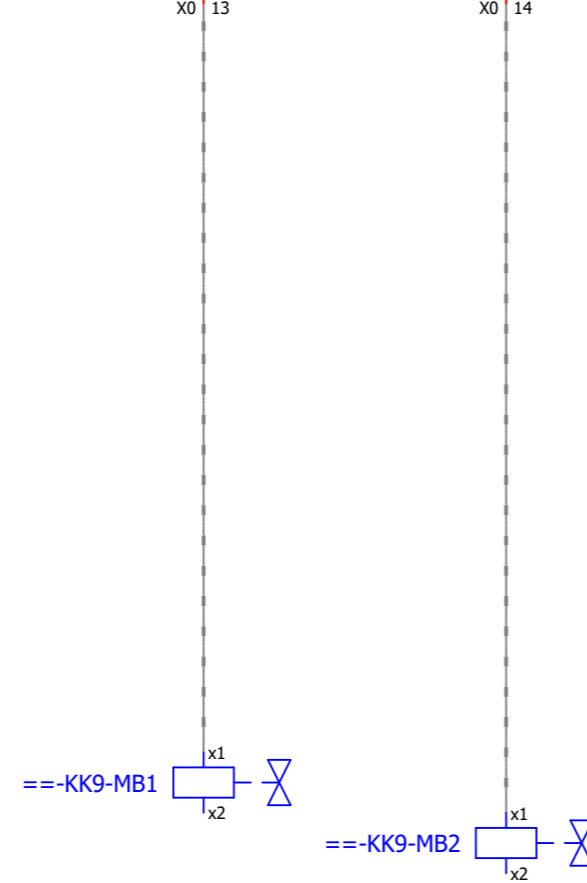
== TAB1	
= DD01	
+ M	Page 2
	Page 105

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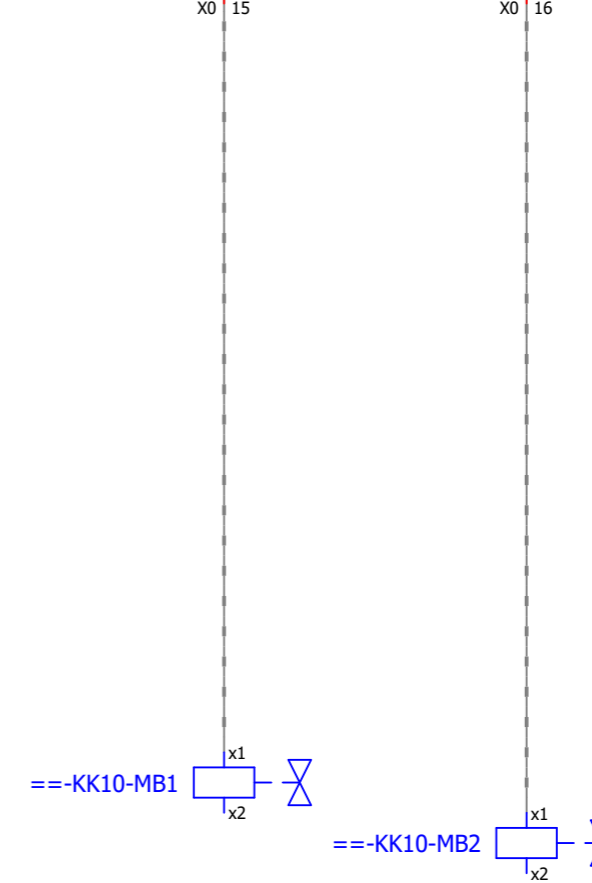
Mediaventil Line 1 TMAH	Mediaventil Line 2 DIW
== -KK1	== -KK1
10	11
X0 11	X0 12



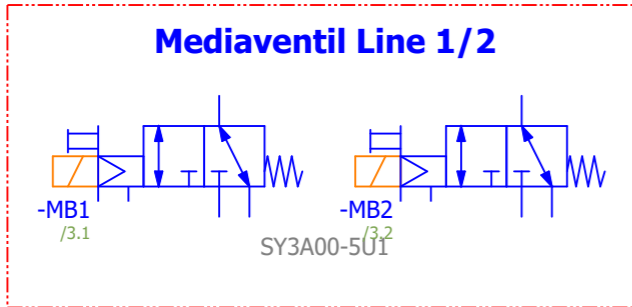
Mediaventil Line 3 N2	Mediaventil Line 4 EBR - PGMEA
== -KK1	== -KK1
12	13
X0 13	X0 14



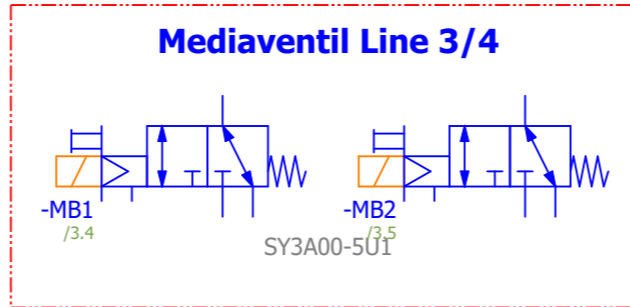
Mediaventil Line 5 BSR - PGMEA	Mediaventil Line 6 EBR venturi
== -KK1	== -KK1
14	15
X0 15	X0 16



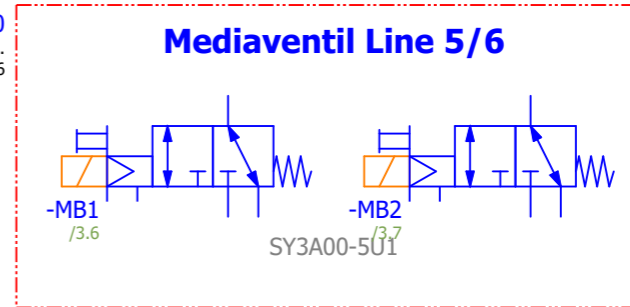
== -KK8  
2x3/2-Wegeventil MS-gesch.  
Mediaventil Line 1/2



== -KK9  
2x3/2-Wegeventil MS-gesch.  
Mediaventil Line 3/4



== -KK10  
2x3/2-Wegeventil MS-gesch.  
Mediaventil Line 5/6



Mediaventil Line 1  
TMAH

Mediaventil Line 2  
DIW

Mediaventil Line 3  
N2

Mediaventil Line 4  
EBR - PGMEA

Mediaventil Line 5  
BSR - PGMEA

Mediaventil Line 6  
EBR venturi

=COA+S1/1

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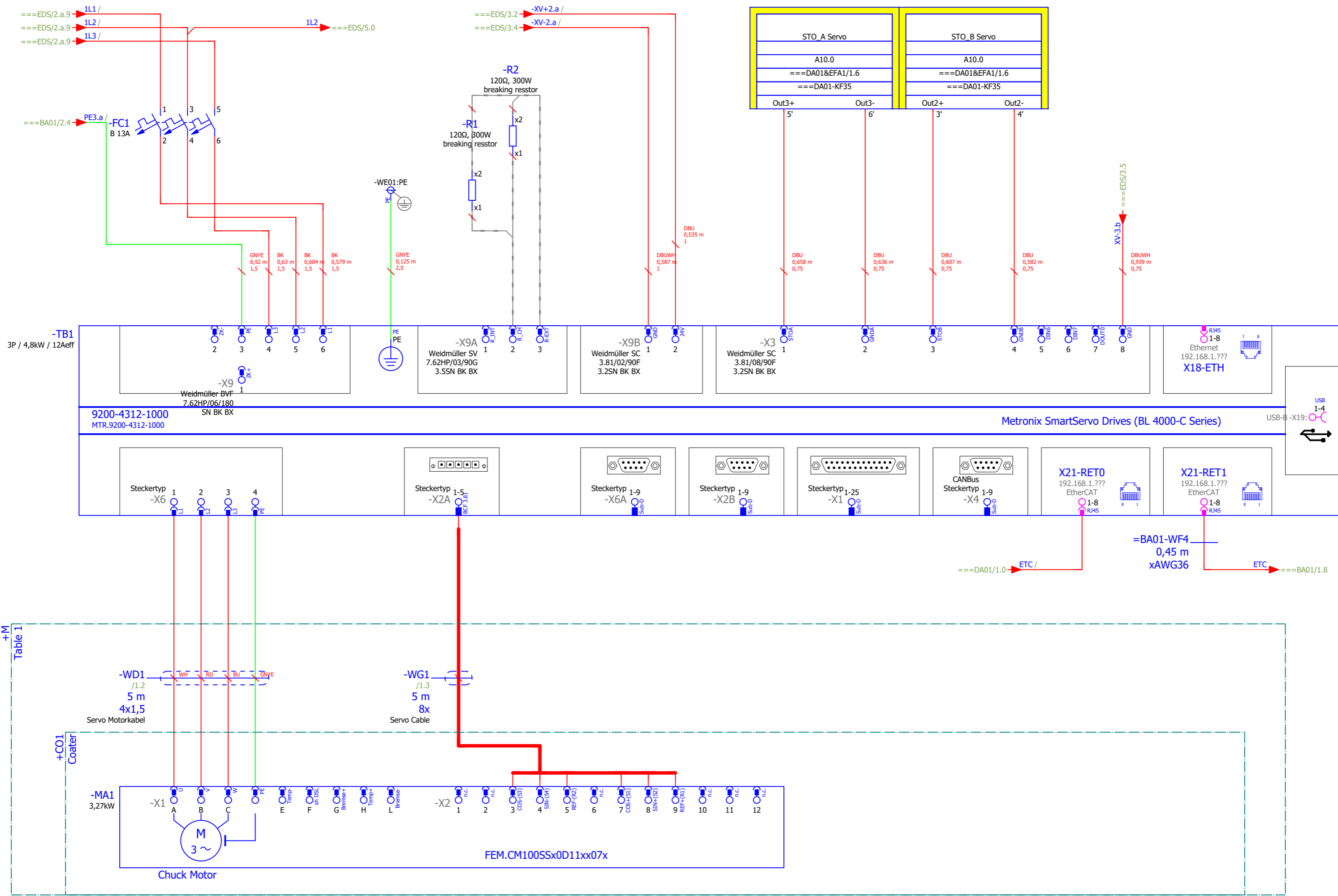
<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

INGELA mbH

Valve unit

EU	
	PB4001

== TAB1	
= DD01	
+ M	Page 3
	Page 105

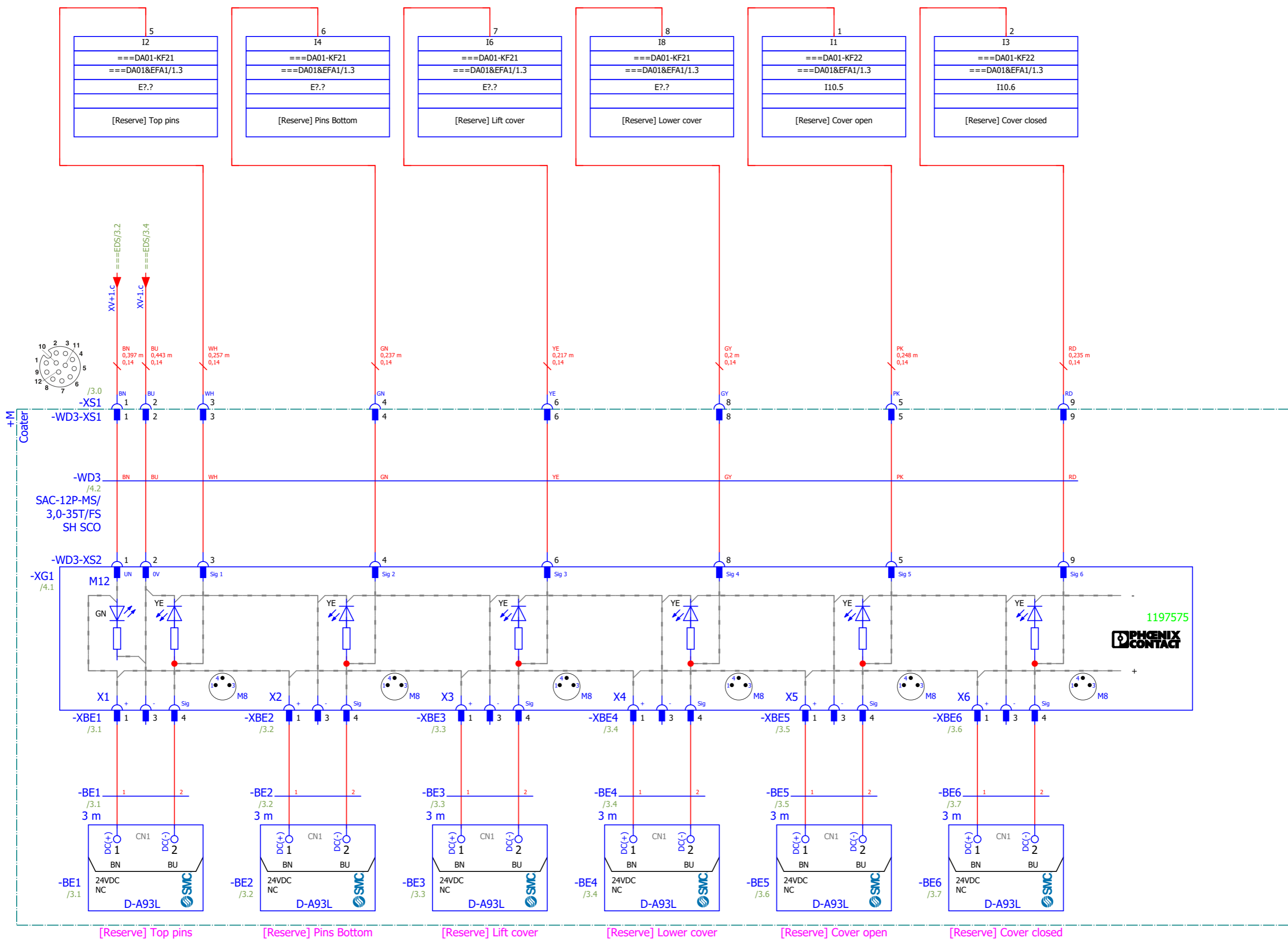


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=DD01+M/3				Date: 19.02.2025		Date: 19.02.2025		Date: 19.02.2025		Date: 19.02.2025	
				Ed.: LAMSCHICK		Ed.: LAMSCHICK		Ed.: LAMSCHICK		Ed.: LAMSCHICK	
				Appr:		Appr:		Appr:		Appr:	
Modification				Date		Name		Original		Original	
Replacement of				Replaced by		Replacement of		Replaced by		Replacement of	
ING				INGELA mbH		INGELA mbH		INGELA mbH		INGELA mbH	
PiBond - OPTIspin ST32 + OPTIhot SHT30				Chuck Controller		Chuck Controller		Chuck Controller		Chuck Controller	
EU				EU		EU		EU		EU	
PB4001				PB4001		PB4001		PB4001		PB4001	
== TAB1				== COA		== COA		== COA		== COA	
+ S1				+ S1		+ S1		+ S1		+ S1	
Page 1				Page 1		Page 1		Page 1		Page 1	
Page 105				Page 105		Page 105		Page 105		Page 105	



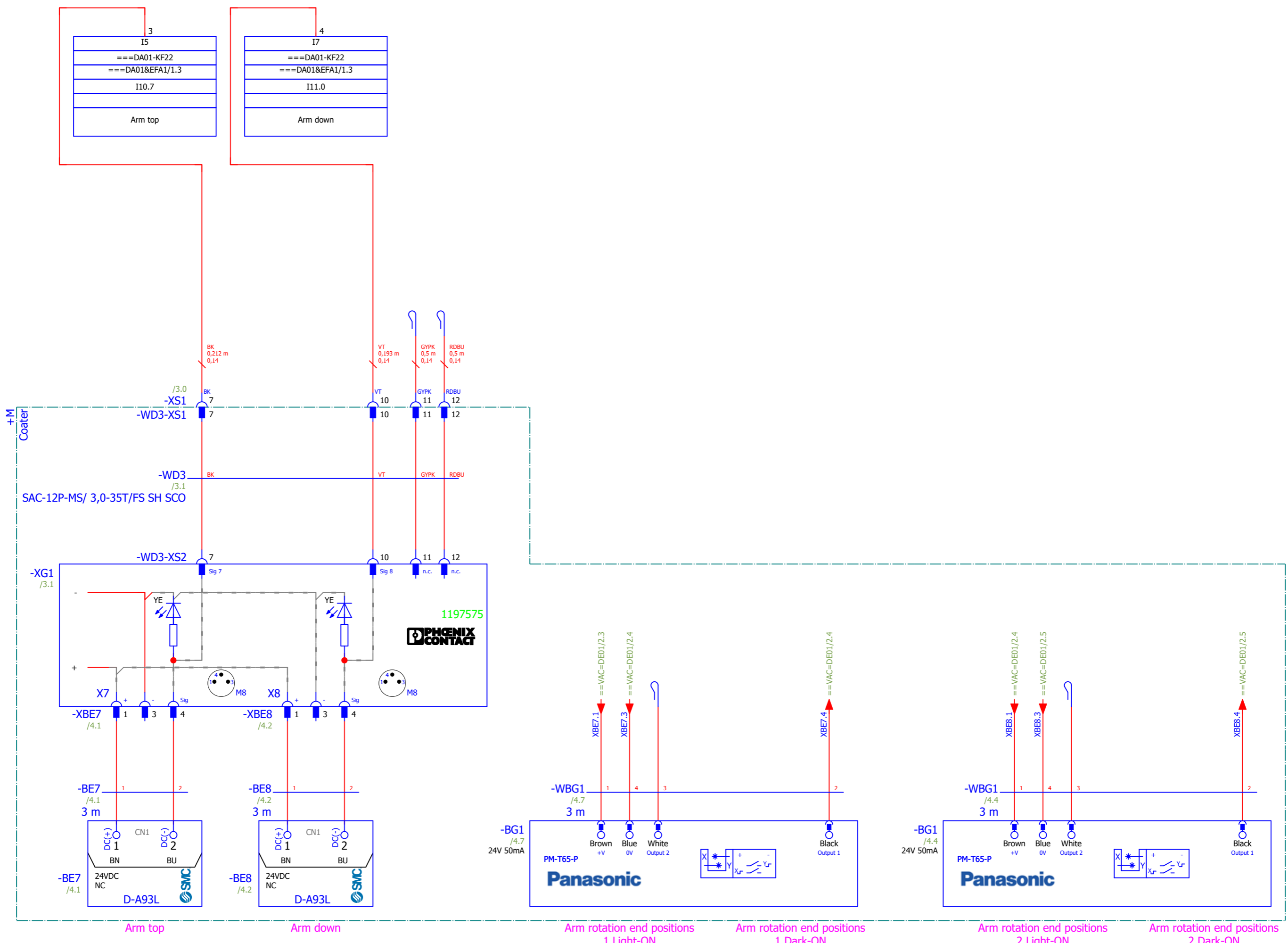
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2

				Date	19.02.2025	<b>ING</b>		<b>INGELA</b>		<b>Coater control</b>		<b>EU</b>		<b>== TAB1</b>	
				Ed.	LAMSCHICK	<b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>		<b>mbH</b>						<b>= COA</b>	
				Appr		Replacement of								<b>+ S1</b>	
Modification	Date	Name	Original			Replaced by								Page	3
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3

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Modification	Date
	Name
	Original

<b>ING</b>	
PiBond - OPTIspin ST32 + OPTIhot SHT30	
Replacement of	Replaced by

**INGELA**  
mbH

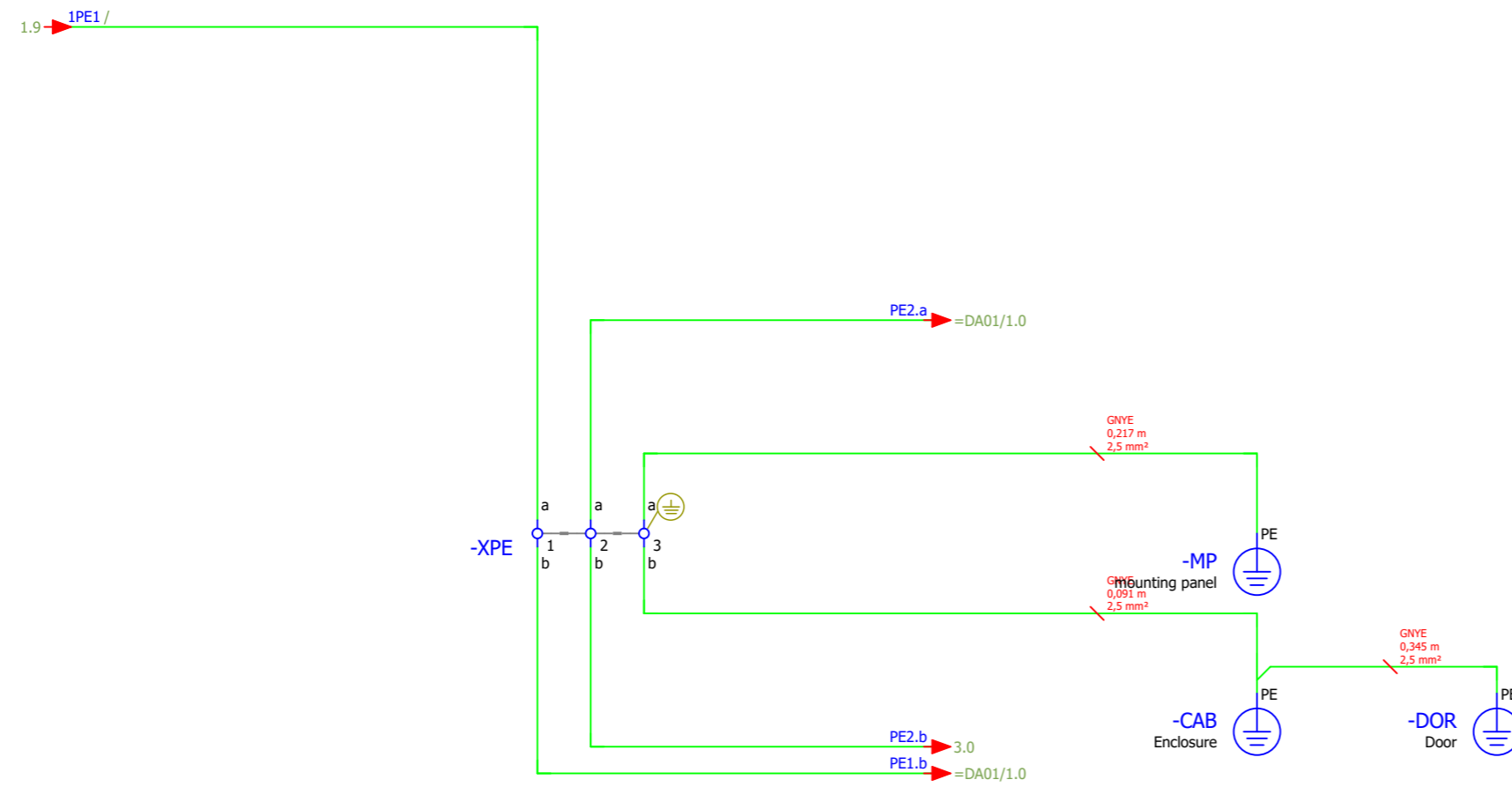
**Arm control**

<b>EU</b>	<b>== TAB1</b>
	<b>= COA</b>
	<b>+ S1</b>
PB4001	Page 4
	Page 105

=HP+HP1/1



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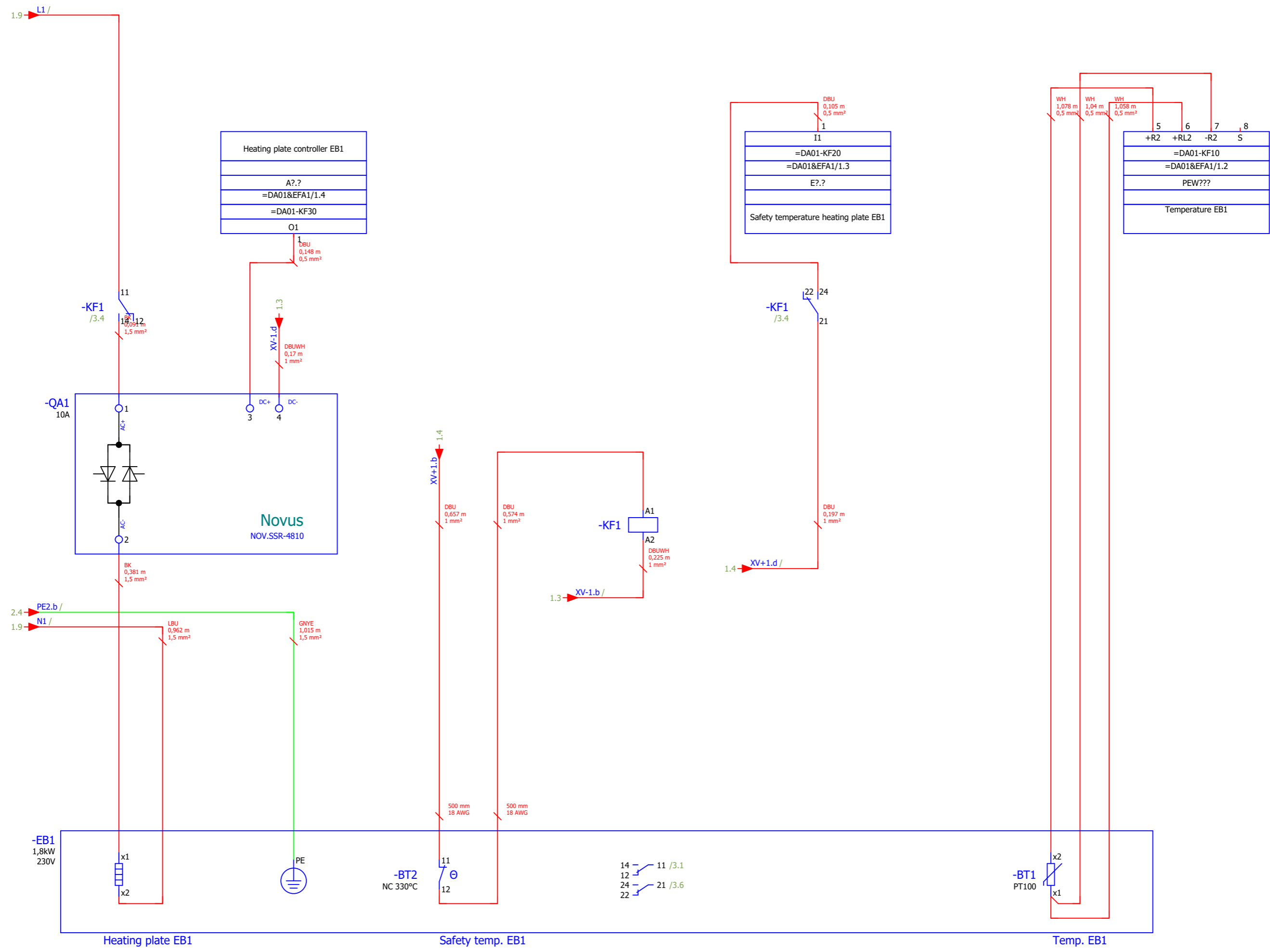


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			Date	19.02.2025	<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30	<b>INGELA</b> mbH		Feed N/PE	<b>EU</b>	== TAB1	
			Ed.	LAMSCHICK						= HP	
			Appr							+ HP1	Page
Modification	Date	Name	Original		Replacement of	Replaced by			PB4001	Page	105

3

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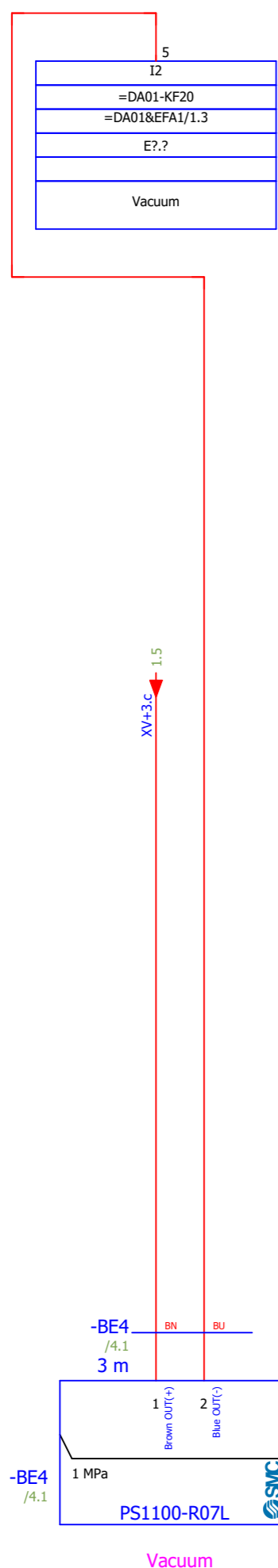


2

				<p>Heating plate controller EB1</p> <p><b>ING</b></p> <p>PiBond - OPTIspin ST32 + OPTIhot SHT30</p>		<p>Safety temperature heating plate EB1</p> <p><b>INGELA mbH</b></p> <p><b>INGELA</b></p>		<p>Temp. EB1</p> <p><b>EU</b></p> <p>PB4001</p>		<p>Temperature EB1</p> <p>== TAB1</p> <p>= HP</p> <p>+ HP1</p>	
Modification	Date	Name	Original	Replacement of	Replaced by					Page	3
										Page	105

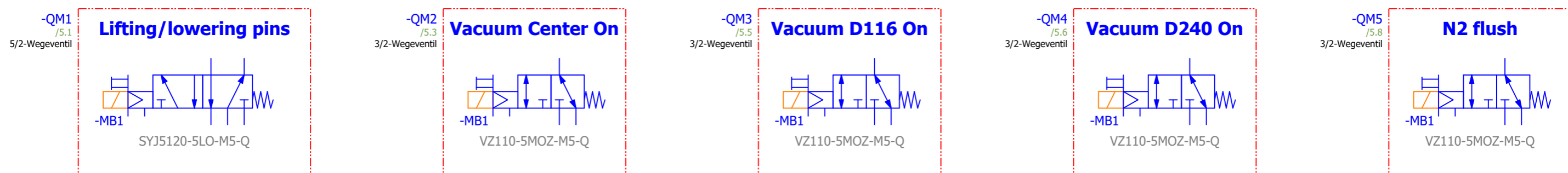
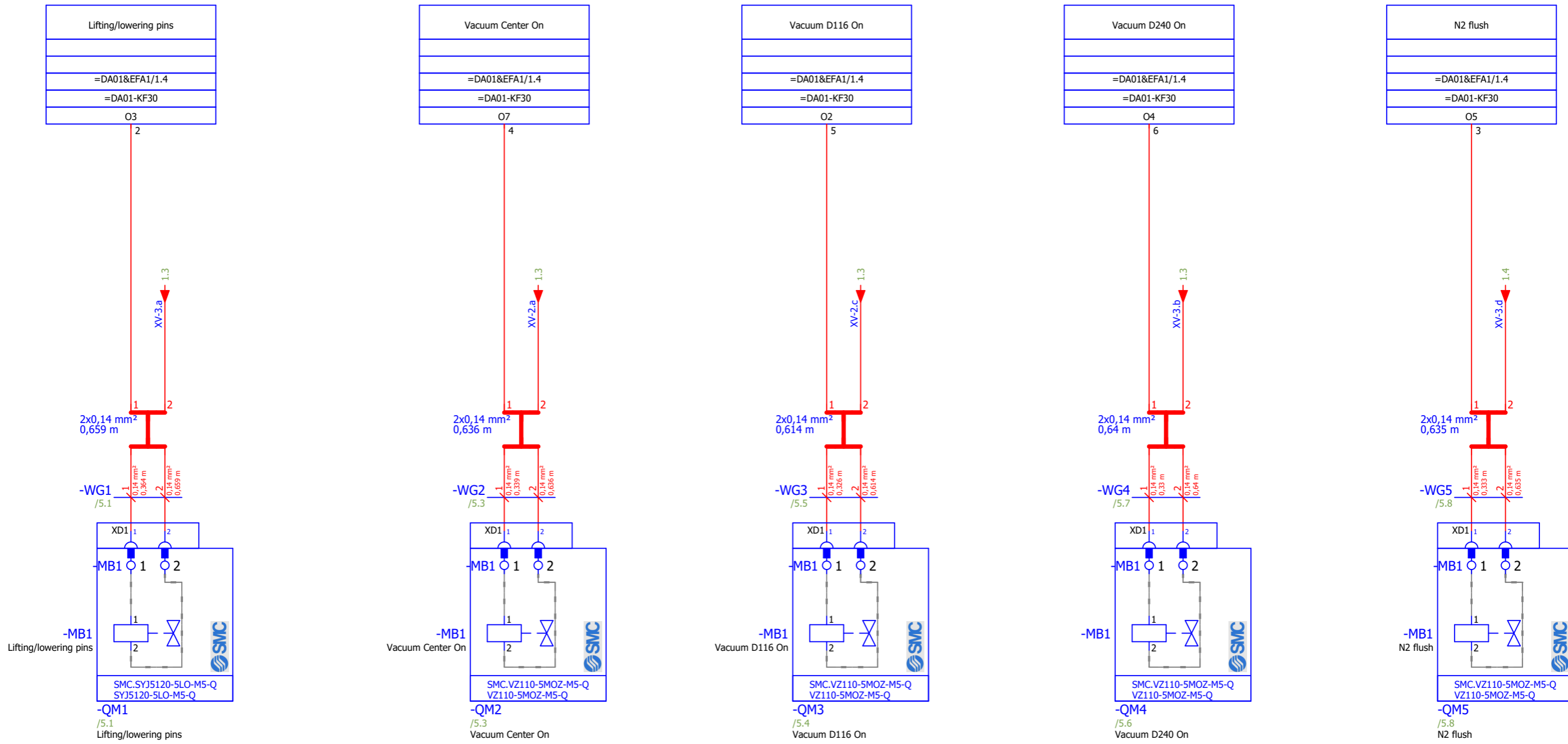
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				<b>ING</b>		<b>INGELA mbH</b>		<b>Hotplate control</b>		<b>EU</b>		== TAB1		
				Date 19.02.2025						PB4001		= HP		
				Ed. LAMSCHICK								+ HP1		Page 4
				Appr										Page 105
Modification	Date	Name	Original	Replacement of	Replaced by									

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Lifting/lowering pins      Vacuum Center On      Vacuum D116 On      Vacuum D240 On      N2 flush

# Total parts list for installation location: +M

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
BACH.916.170	1	C15A Heißgerätedose schwarz	916.170	BACH	==TAB2=HP+M-XS1.1	+M	
HAR.09100000400	1	Hoods/Housings	Han 1A-Kabeladapter 5,7-10mm	HAR	==TAB2=HP+M-XS2.1	+M	
HAR.09100053101	1	Inserts	Han 1A-5+PE-c-f Clip	HAR	==TAB2=HP+M-XS2.1	+M	
HAR.09150006202	4	Buchsenkontakt 1 mm <sup>2</sup>	Han D®	HAR	==TAB2=HP+M-XS2.1	+M	

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==TAB1=HP&EFS1+HP1/5

+HP2/1

			Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>BACH.916.170 -</b> <b>HAR.09150006202</b>	<b>EU</b>		<b>== TAB2</b>	
			Ed.	LAMSCHICK							<b>=</b>	
			Appr								<b>+ M</b>	
Modification	Date	Name	Original	Replacement of	Replaced by				PB4001	Page	1	
										Page	105	

# Total parts list for installation location: +HP2

ING\_F02\_002

part number	Quantity	Designation	Type number	Manufacturer	DT	location	Procurement
Kalthoff.C16A	1				==TAB2=HP+HP2-XS1	+HP2	
HAR.09100000300	1	Gehäuse	Han 1A-agg	HAR	==TAB2=HP+HP2-XS2	+HP2	
HAR.09100053001	1	Einsätze	Han 1A-5+PE-c-m Clip	HAR	==TAB2=HP+HP2-XS2	+HP2	
HAR.09150006102	4	Stiftkontakt 1 mm <sup>2</sup>	Han D	HAR	==TAB2=HP+HP2-XS2	+HP2	
MIS.FACAS-AM-T2-A100-B30-L100-NA5-S17.5-V70-Y15	15	Blechverbinder-Montagewinkel / FACAS	FACAS-AM-T2-A100-B30-L100-NA5-S17.5-V70-Y15	MIS	==TAB2=HP+HP2	+HP2	
NOV.SSR-4810	1	Halbleiterrelais 4-32VDC/70-480VAC/10A	SSR-4810	NOV	==TAB2=HP+HP2-QA1	+HP2	
PXC.1689064	2	RJ45-Kupplung	VS-08-BU-RJ45/BU	PXC	==TAB2=HP+HP2-XF1;==TAB2=HP+HP2-XF2	+HP2	
PXC.2981363	1	Erweiterungsmodul	PSR-SCF- 24UC/URM/2X21	PXC	==TAB2=HP+HP2-KF1	+HP2	
PXC.3022276	6	Endklammer/-halter für Klemme	CLIPFIX 35-5	PXC	==TAB2+HP2-XPE;==TAB2+HP2-XPE:3;==TAB2+HP2-XV+ ==TAB2+HP2-XV+:3;==TAB2+HP2-XV-;==TAB2+HP2-XV-:3	+HP2	
PXC.3030420	1	Abschluss- und Zwischenplatte für Reihenklemme	D-ST 4	PXC	==TAB2+HP2-XPE:3	+HP2	
PXC.3211766	3	Schutzleiter-Reihenklemme	PT 4-PE	PXC	==TAB2+HP2-XPE:1...==TAB2+HP2-XPE:3	+HP2	
PXC.0814788	3	Klemmenleisten-Kennzeichnungsträger	KLM 3-L	PXC	==TAB2+HP2-XPE;==TAB2+HP2-XV+;==TAB2+HP2-XV-	+HP2	
PXC.3030174	2	Querverbinder/Brücker für Reihenklemme	FBS 3-5	PXC	==TAB2+HP2-XV+:1;==TAB2+HP2-XV-:1	+HP2	
PXC.3030514	2	Abschlussdeckel	D-ST 2,5-QUATTRO	PXC	==TAB2+HP2-XV+:3;==TAB2+HP2-XV-:3	+HP2	
PXC.3209578	6	Durchgangsklemme	PT 2,5-QUATTRO	PXC	==TAB2+HP2-XV+:1...==TAB2+HP2-XV+:3 ==TAB2+HP2-XV-:1...==TAB2+HP2-XV-:3	+HP2	
PXC.2853970	1	Elektronikgehäuse	UTA 89	PXC	==TAB2=HP+HP2-U12	+HP2	
REICH.SLIM SL6 1 WS	2	Patchkabel Slim Cat.6	SLIM SL6	REICH	==TAB2=DA01+HP2-WF2;==TAB2=HP+HP2-WF1	+HP2	
RIT.4595000	2	Wandhalter	PS.4595000	RIT	==TAB2=HP+HP2-U10;==TAB2=HP+HP2-U11	+HP2	
ROB.PiBond_Heizplatte_Gehäuse	1	PiBond_Heizplatte_Gehäuse	PiBond_Heizplatte_Gehäuse	ROB	==TAB2=HP+HP2	+HP2	
SWL.SS-6BK-MM-1C	1	Faltenbalgventil, Edelstahl, mit Körperdichtscheibe, 6 mm Swagelok	SS-6BK-MM-1C	SWL	==TAB2=HP+HP2-1	+HP2	
APSA.01049.0000.01.000	1	Einbau-Schutzkontakt-Geraetestecker C16A schwarz	01049.0000.01.000	APSA	==TAB2=HP+HP2-XS1	+HP2	Beistellung RTEU
BECK.EK1100	1	EtherCAT Koppler	EK1100	BECK	==TAB2=DA01+HP2-KF1	+HP2	Beistellung RTEU
BECK.EL1008	1	8-Kanal DI	EL1008	BECK	==TAB2=DA01+HP2-KF20	+HP2	Beistellung RTEU
BECK.EL2008	1	8-Kanal DO	EL2008	BECK	==TAB2=DA01+HP2-KF30	+HP2	Beistellung RTEU
BECK.EL3202-0010	1	2-Kanal AI	EL3202-0010	BECK	==TAB2=DA01+HP2-KF10	+HP2	Beistellung RTEU
BECK.EL9011	1	Bus Endplatte	EL9011	BECK	==TAB2=DA01+HP2-ST	+HP2	Beistellung RTEU
BECK.EL9110	1	Potenzialeinspeiseklemme mit Diagnose, 24 V DC	EL9110	BECK	==TAB2=DA01+HP2-KF2	+HP2	Beistellung RTEU
NOR.100290600	3	Schottverbindung (Mutter) 6mm Rohraußen	100290600	NOR	==TAB2=HP+HP2-1	+HP2	Beistellung RTEU

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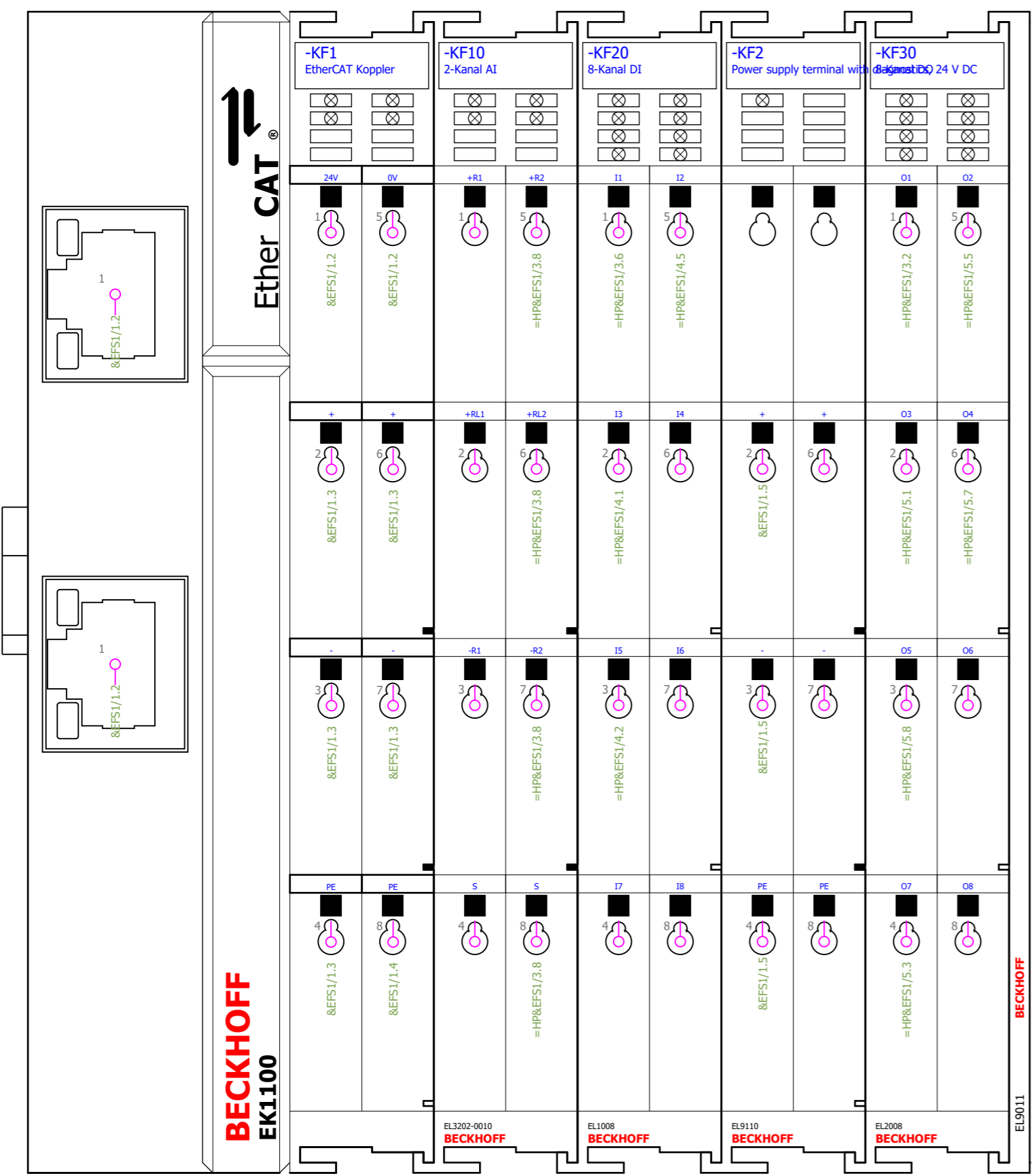
+M/1

1.a

Date	20.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Summarized parts list :</b> <b>Kalthoff.C16A -</b> <b>NOR.100290600</b>	<b>EU</b>	<b>== TAB2</b> <b>=</b> <b>+ HP2</b>	Page	1
Ed.	LAMSCHICK							Page	105
Appr									
Modification	Date	Name	Original	Replacement of	Replaced by				



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=&EPC2/1.a

Modification	Date	Name	Original

Date	19.02.2025
Ed.	LAMSCHICK
Appr	
Original	
Replacement of	
Replaced by	

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

**INGELA mbH**

**PLC structure Beckhoff**

<b>EU</b>	
	PB4001

<b>== TAB2</b>	
<b>= DA01</b>	
<b>+ HP2</b>	
Page	1
Page	105

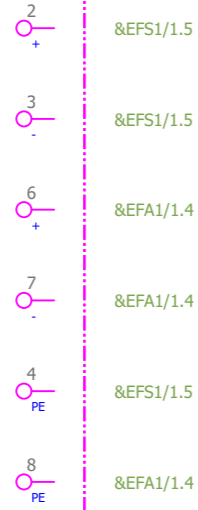
# PLC diagram

**==TAB2=DA01+HP2**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------

**-KF2**  
Power supply terminal with diagnostics, 24 V DC



Hotplate.

=HP-XS2:3

Hotplate.

=HP-XS2:4

-XPE:1

BECK.EL9110

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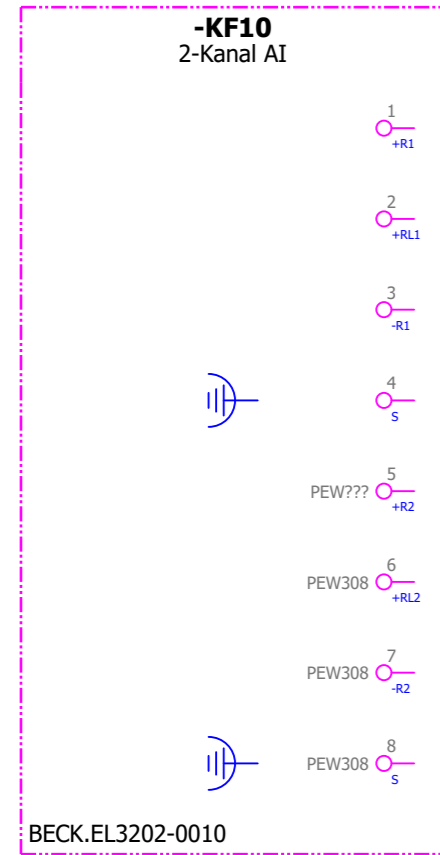
Date	19.02.2025		<b>INGELA mbH</b>	<b>PLC diagram :</b> ==TAB2=DA01+HP2-KF2 - ==TAB2=DA01+HP2-KF2	<b>EU</b>	== TAB2		
Ed.	LAMSCHICK					= DA01		
Appr						+ HP2		
Modification	Date	Name	Original	Replacement of	Replaced by		PB4001	Page 3
							Page 105	

# PLC diagram

**==TAB2=DA01+HP2**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



1 +R1	&EFA1/1.2			
2 +RL1	&EFA1/1.2			
3 -R1	&EFA1/1.2			
4 S	&EFA1/1.2			
5 +R2 PEW???	=HP&EFS1/3.8		Hotplate. Temperature EB1	=HP-EB1-BT1
6 +RL2 PEW308	=HP&EFS1/3.8		Hotplate. Temperature EB1	=HP-EB1-BT1
7 -R2 PEW308	=HP&EFS1/3.8		Hotplate. Temperature EB1	=HP-EB1-BT1
8 S PEW308	=HP&EFS1/3.8		Temperature EB1	

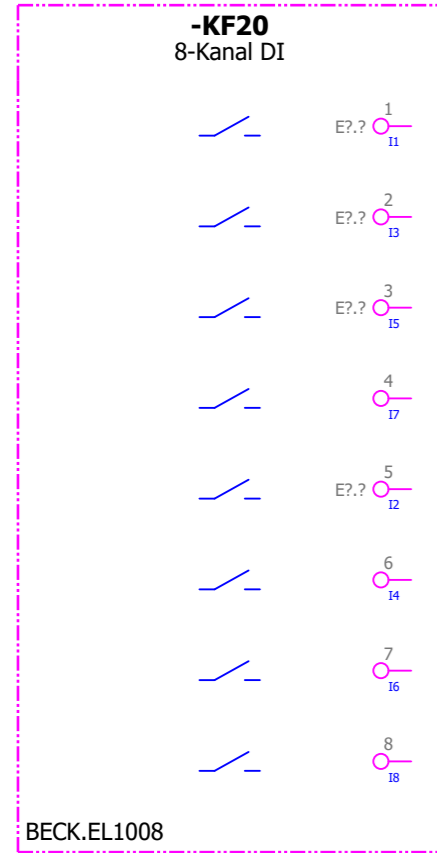
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# PLC diagram

**==TAB2=DA01+HP2**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



			Hotplate. Safety temperature heating plate EB1	=HP-KF1
			Hotplate. Overw. pin top	=HP-BE1:2
			Hotplate. Overw. pin Bottom	=HP-BE2:2
			Hotplate. Vacuum	=HP-BE4:2

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			Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>	<b>PLC diagram :</b> <b>==TAB2=DA01+HP2-KF20 -</b> <b>==TAB2=DA01+HP2-KF20</b>	<b>EU</b>	<b>== TAB2</b>	
			Ed.	LAMSCHICK					<b>= DA01</b>	
			Appr						<b>+ HP2</b>	
Modification	Date	Name	Original		Replacement of	Replaced by			PB4001	Page 5 Page 105

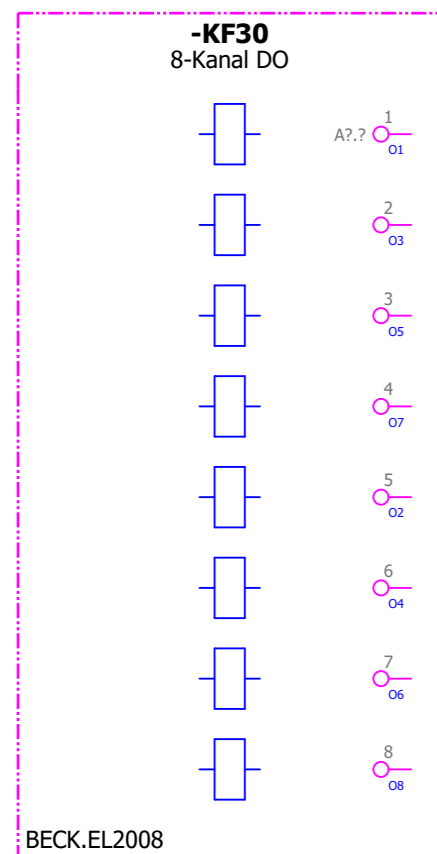
# PLC diagram

ING\_F19\_006

**==TAB2=DA01+HP2**

Project name VG4576\_IN-101334\_Robotechnik-PiBond

Card name / address	Placement	Symbolic address	Function text	Device tag actuator / sensor
---------------------	-----------	------------------	---------------	------------------------------



1 01	=HP&EFS1/3.2	Hotplate. Heating plate controller EB1	=HP-QA1:3
2 03	=HP&EFS1/5.1	Hotplate. Lifting/lowering pins	=HP-QM1-MB1:1
3 05	=HP&EFS1/5.8	Hotplate. N2 flush	=HP-QM5-MB1:1
4 07	=HP&EFS1/5.3	Hotplate. Vacuum Center On	=HP-QM2-MB1:1
5 02	=HP&EFS1/5.5	Hotplate. Vacuum D116 On	=HP-QM3-MB1:1
6 04	=HP&EFS1/5.7	Hotplate. Vacuum D240 On	=HP-QM4-MB1:1
7 06	&EFA1/1.4		
8 08	&EFA1/1.4		

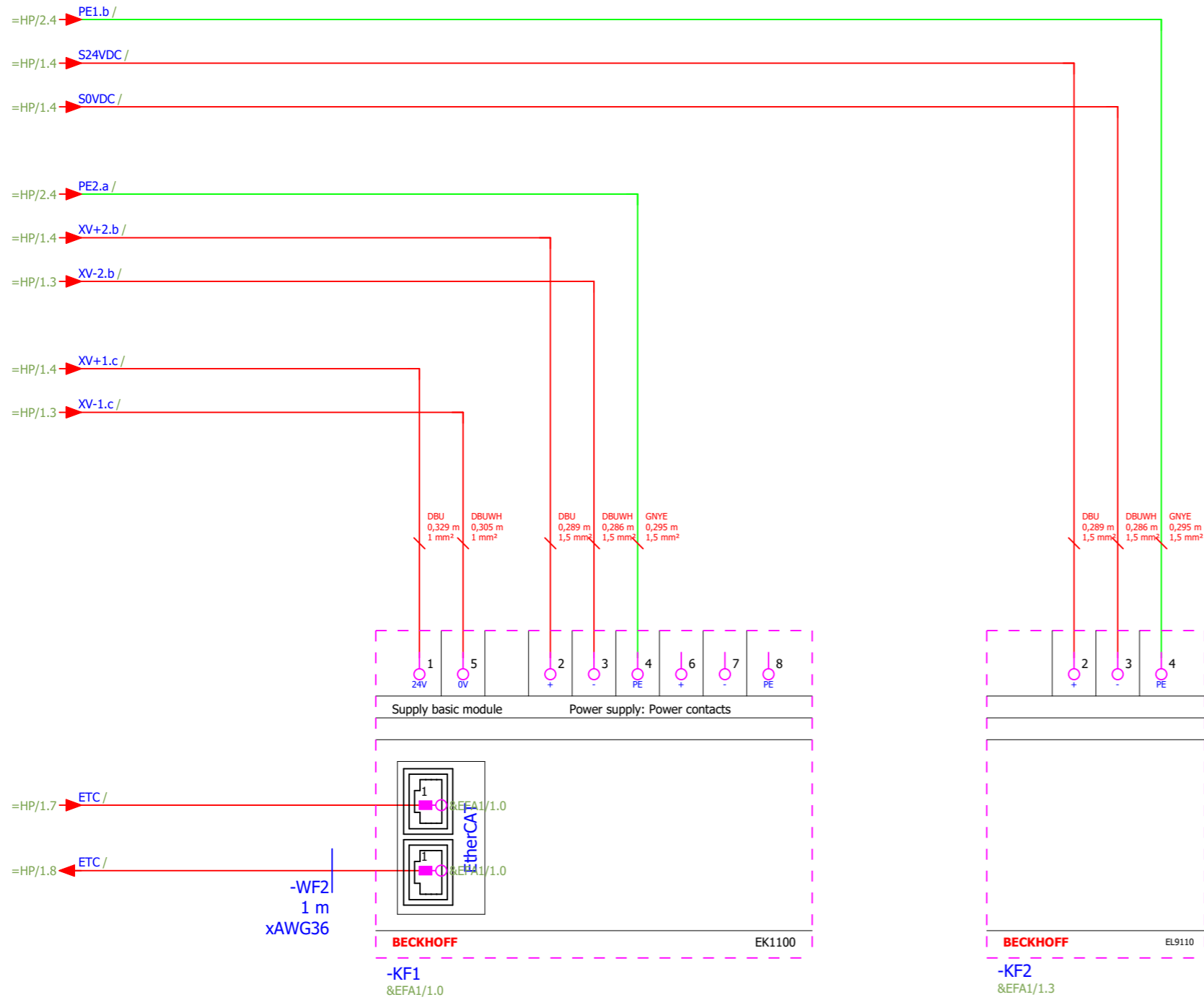
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				<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>		<b>INGELA</b> <b>mbH</b>		<b>PLC diagram :</b> <b>==TAB2=DA01+HP2-KF30 -</b> <b>==TAB2=DA01+HP2-KF30</b>		<b>EU</b>		<b>== TAB2</b> <b>= DA01</b> <b>+ HP2</b>	
Date	19.02.2025	Ed.	LAMSCHICK	Replacement of		Replaced by						Page	6
Appr		Original										Page	105
Modification	Date	Name	Original										

&EFS1/1

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&EFA1/6

=HP/1

Modification	Date	Name	Original

Date	19.02.2025
Ed.	LAMSCHICK
Appr	
Replacement of	Replaced by

**ING**  
PiBond - OPTIspin ST32 + OPTIhot SHT30

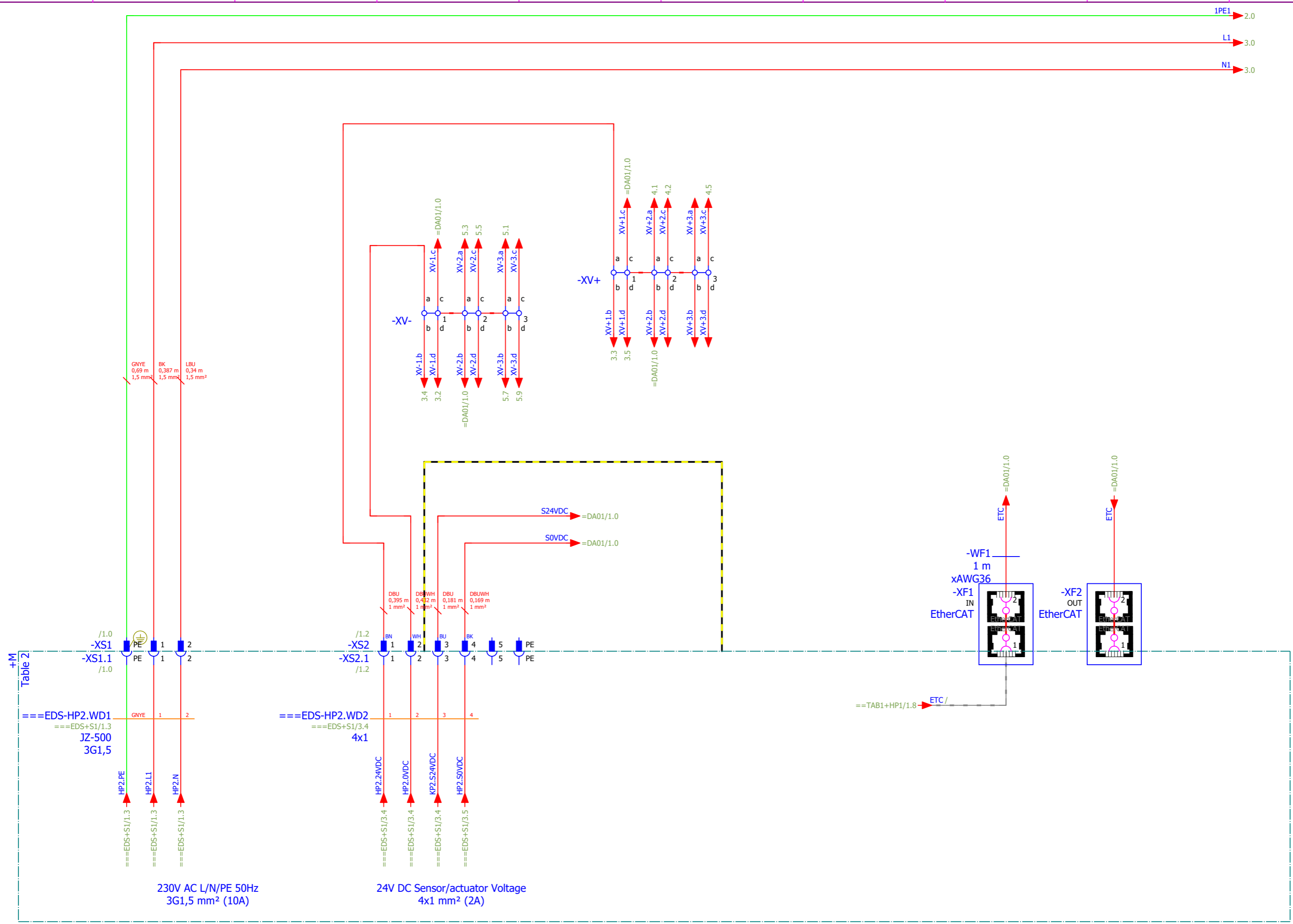
**INGELA**  
mbH

**SPS power supply**

<b>EU</b>
PB4001

<b>== TAB2</b>	
<b>= DA01</b>	
<b>+ HP2</b>	Page 1
	Page 105

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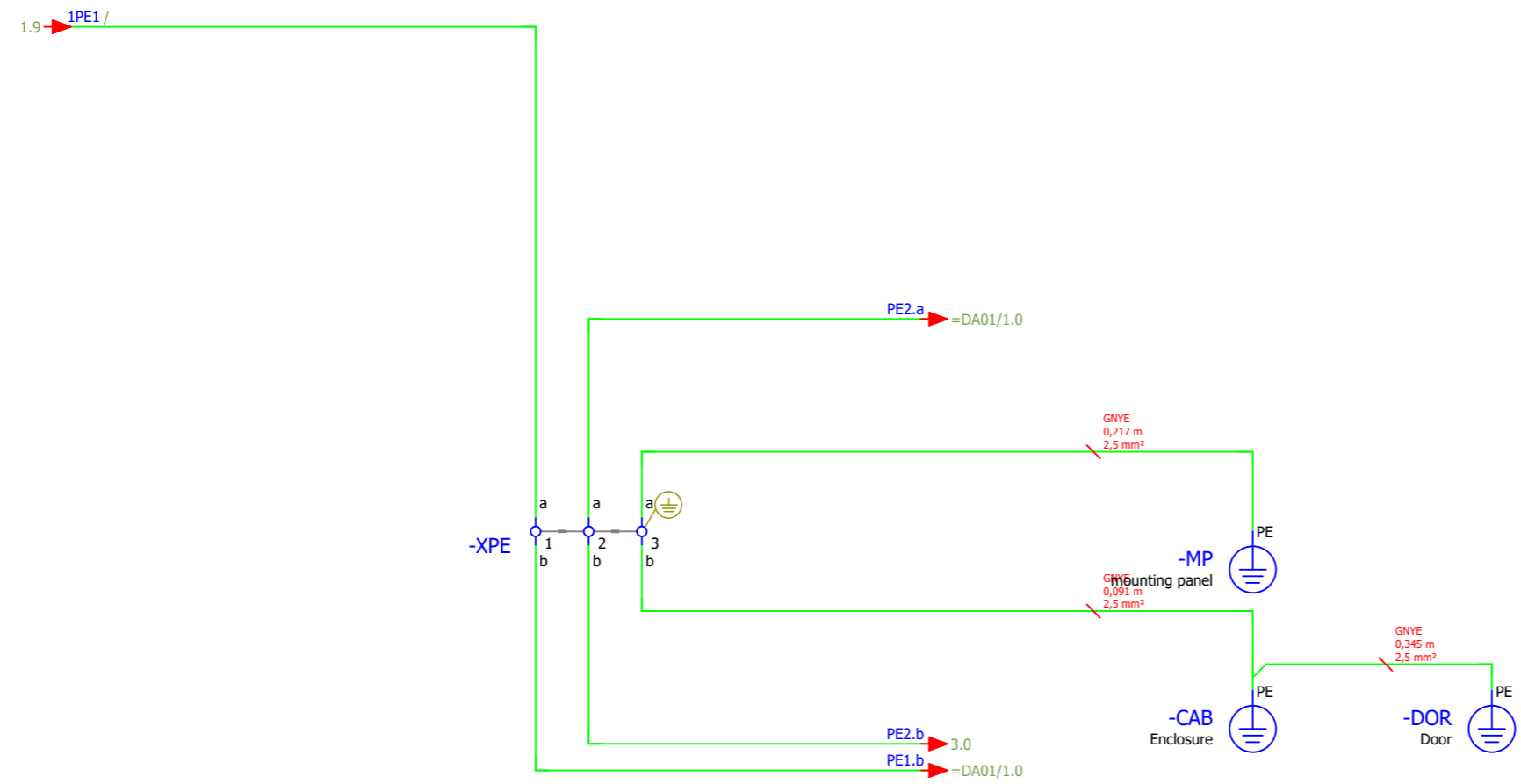


=DA01/1

2

				<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>		<b>INGELA</b> <b>mbH</b>		<b>Power supply</b>		<b>EU</b>		<b>== TAB2</b> <b>= HP</b> <b>+ HP2</b>	
Modification	Date	Name	Original	Replacement of	Replaced by					PB4001		Page	1
												Page	105

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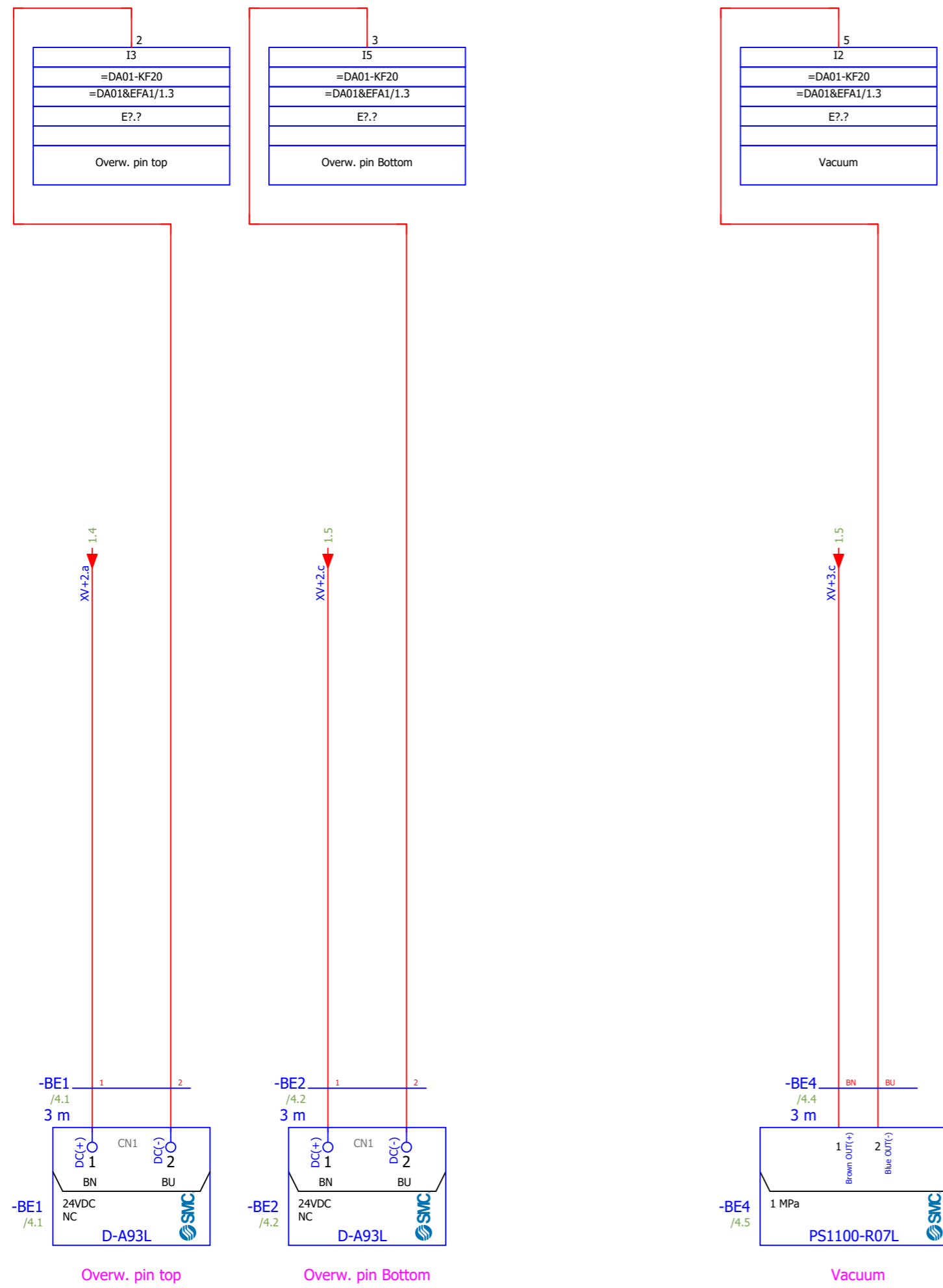
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			Date	19.02.2025	<b>ING</b> PiBond - OPTIspin ST32 + OPTIhot SHT30	<b>INGELA</b> mbH		Feed N/PE	<b>EU</b>	== TAB2	
			Ed.	LAMSCHICK						= HP	
			Appr							+ HP2	
Modification	Date	Name	Original		Replacement of	Replaced by			PB4001	Page	2
										Page	105

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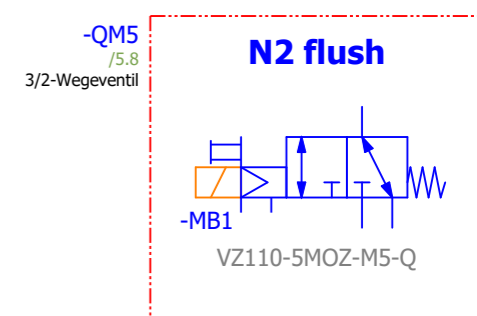
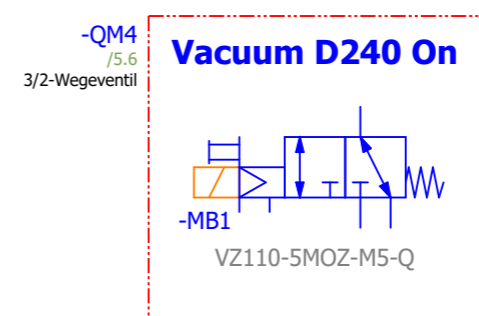
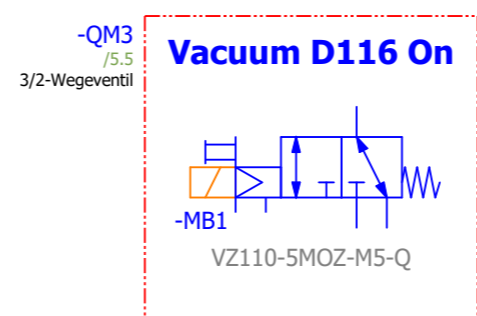
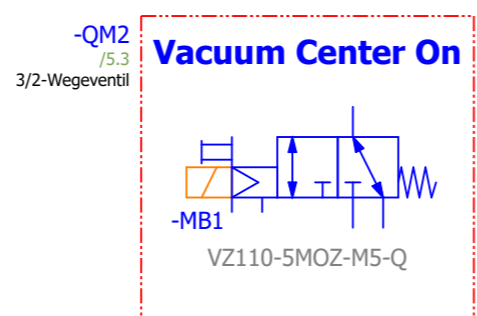
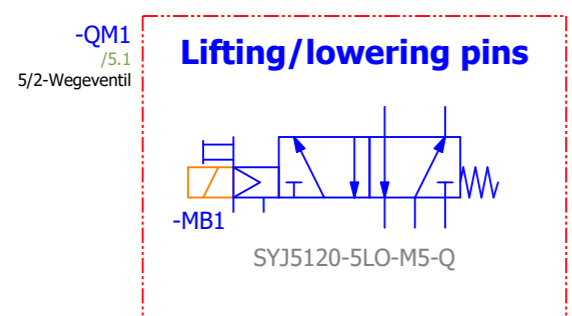
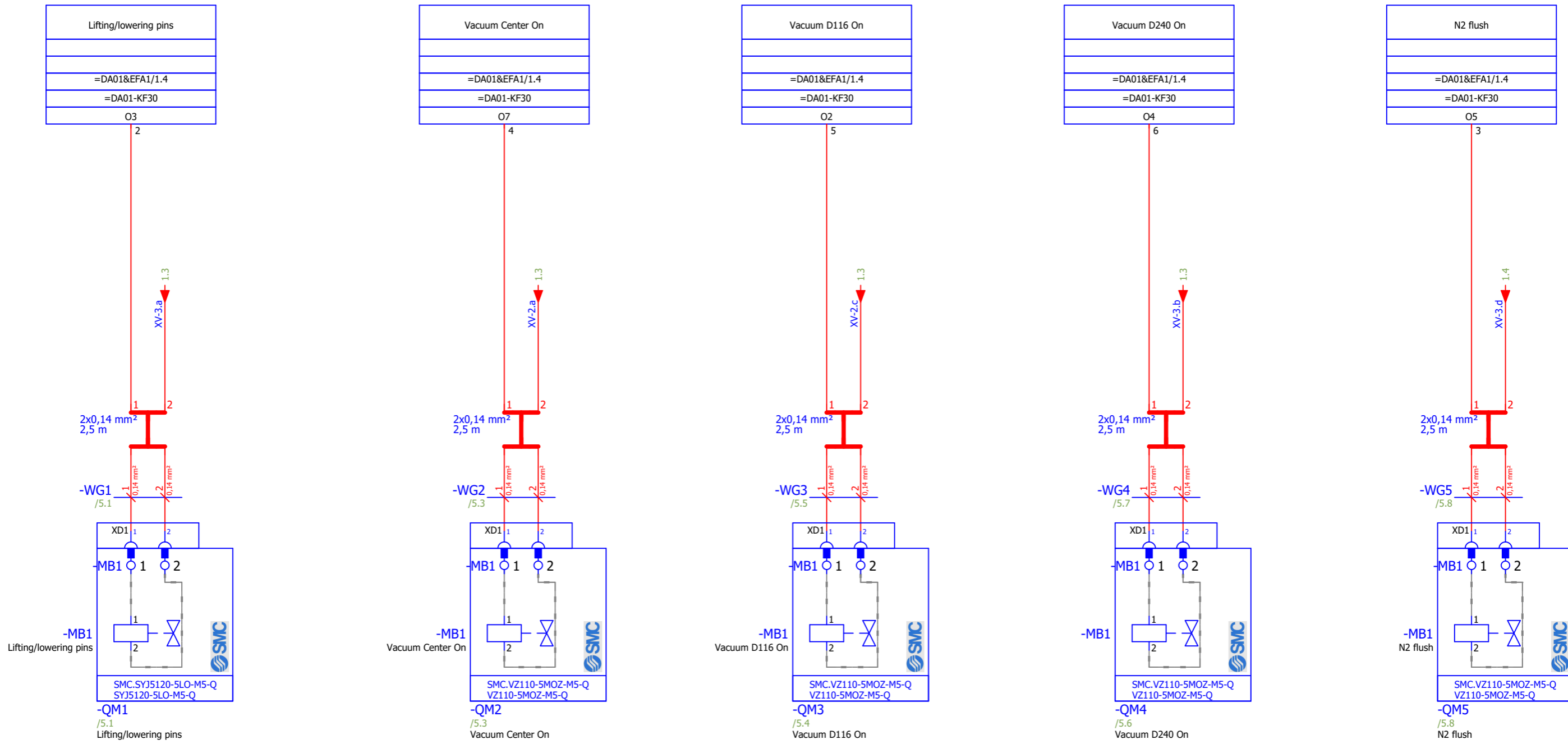
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			Date	19.02.2025	<b>ING</b> <b>PiBond - OPTIspin ST32 + OPTIhot SHT30</b>	<b>INGELA</b> <b>mbH</b>		<b>Hotplate control</b>	<b>EU</b>	<b>== TAB2</b>	
			Ed.	LAMSCHICK						<b>= HP</b>	
			Appr							<b>+ HP2</b>	
Modification	Date	Name	Original	Replacement of	Replaced by				PB4001	Page	4
										Page	105

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Lifting/lowering pins      Vacuum Center On      Vacuum D116 On      Vacuum D240 On      N2 flush

