



EUROPEAN
SPALLATION
SOURCE

Projekt name:

FAST INTERLOCK MODULE-LEP KLYSTRON



System:

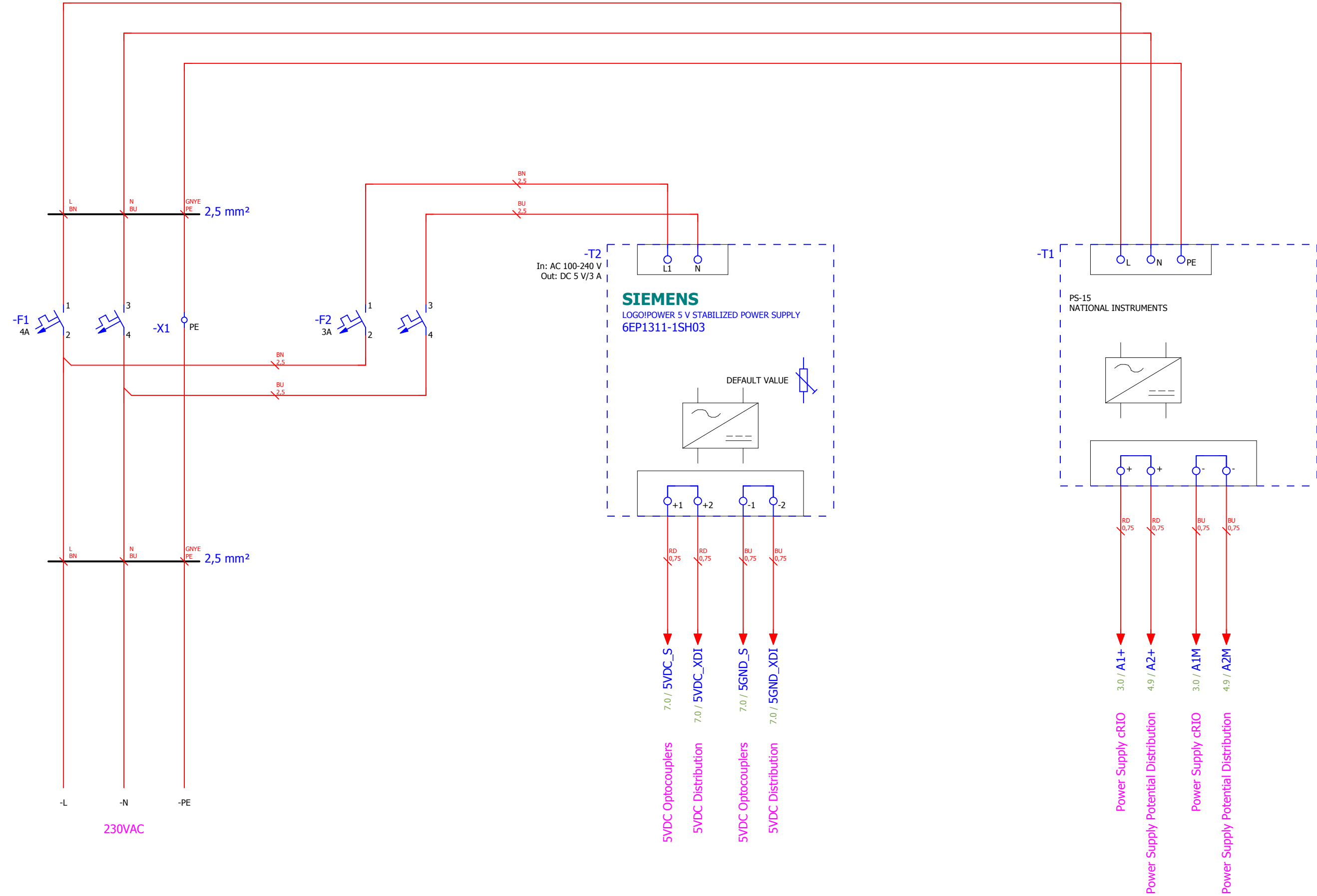
ESS.ACC.DTL

Location:



FIM

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+ FIM

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	APPROVED BY	Date	PAGE DESCRIPTION		LIFECYCLE LABEL	PAGE SIZE	PAGE SCALE	REV
	 <div>V2.5.4</div>	DESIGN SITE	Title page		Preliminary	A3	1	0.1
			FUNCTION		SHEET			
					=ESS.ACC.DTL+FIM&AA/1			
					NEXT			
					&FS/1			



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			Power supply		Preliminary	A3	1	0.1
			FUNCTION		SHEET			
 <div>V2.5.4</div>	DESIGN SITE				=ESS.ACC.DTL+FIM&FS/1			
	ESS				NEXT			
					2			

NI cRIO

NI cRIO 9066
/3.1
-A1

NI cRIO PB
/3.5
-A2

NI 9423
/4.1
-A3

NI 9474
/5.1
-A4

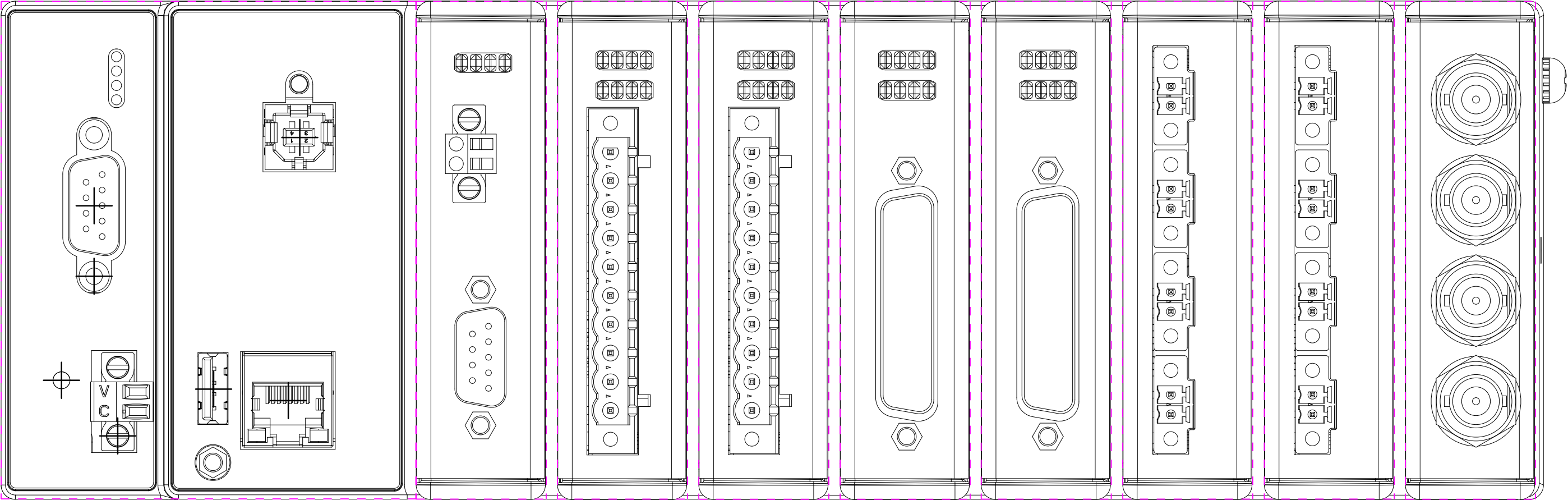
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/6.1
/7.1
-A5

NI 9401
/8.1
/9.1
-A6



NI 9223
/10.1
-A7

NI 9223
/11.1
-A8

NI 9402
/12.1
-A9



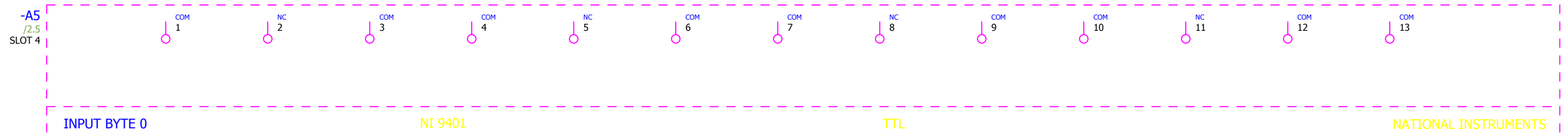
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	 <div>V2.5.4</div>	DESIGN SITE	cRIO Overview	Preliminary	A3	0,75	0.1
		ESS	FUNCTION	SHEET			
		PLC Overview	=ESS.ACC.DTL+FIM&FS/2				
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Project template ESS

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Date

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PLC Digital input TTL

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	FUNCTION
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Digital inputs
Switches for control of pump 1-3

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LIFECYCLE LABEL

PAGE SIZE

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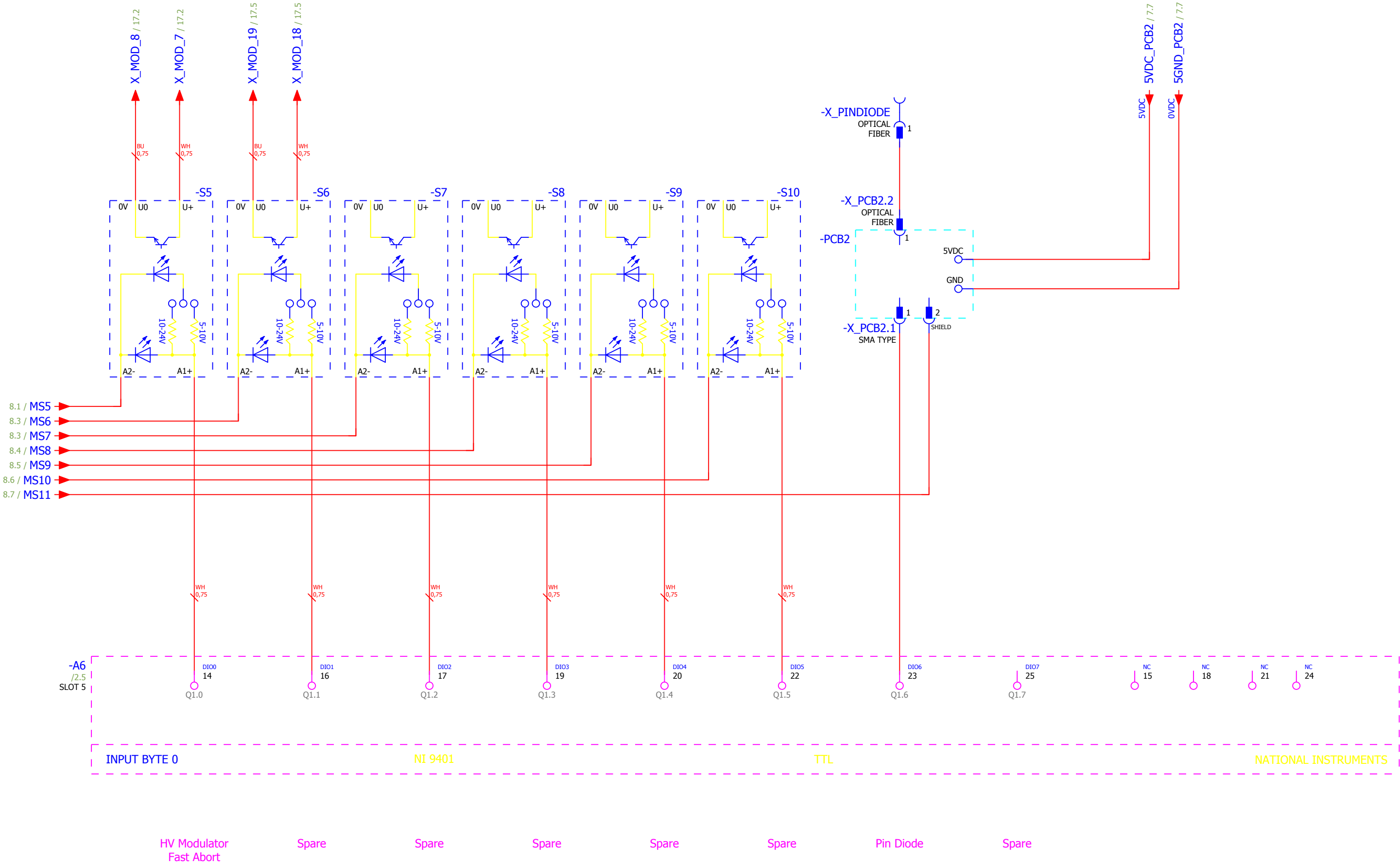
REV

Preliminary	A3
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SHEET

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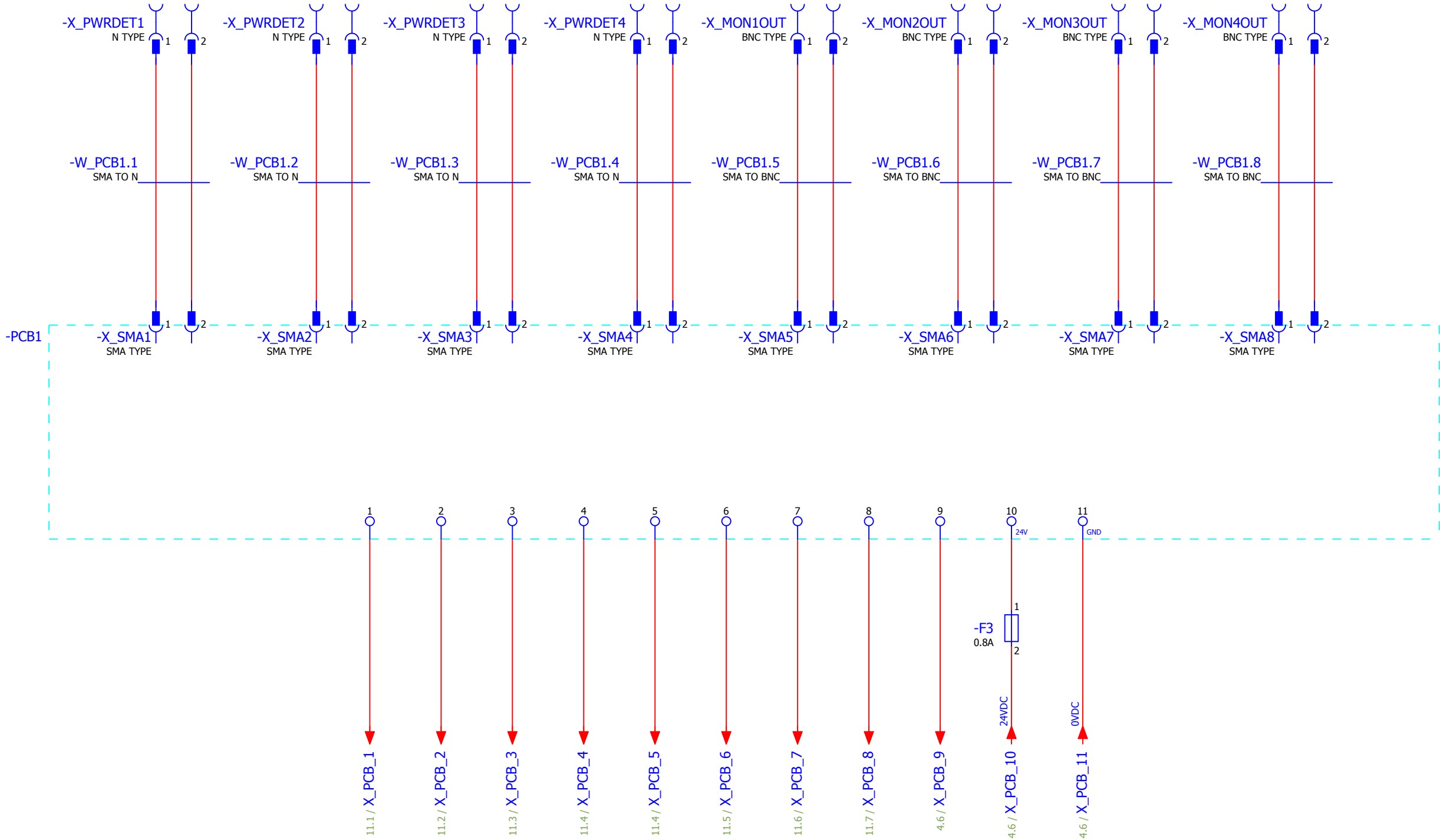


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	 V2.5.4	DESIGN SITE	PLC Digital output TTL		Preliminary	A3	1	0.1
			FUNCTION		SHEET			
			Digital inputs		=ESS.ACC.DTL+FIM&FS/9			
			Switches for control of pump 1-3		NEXT			
					10			




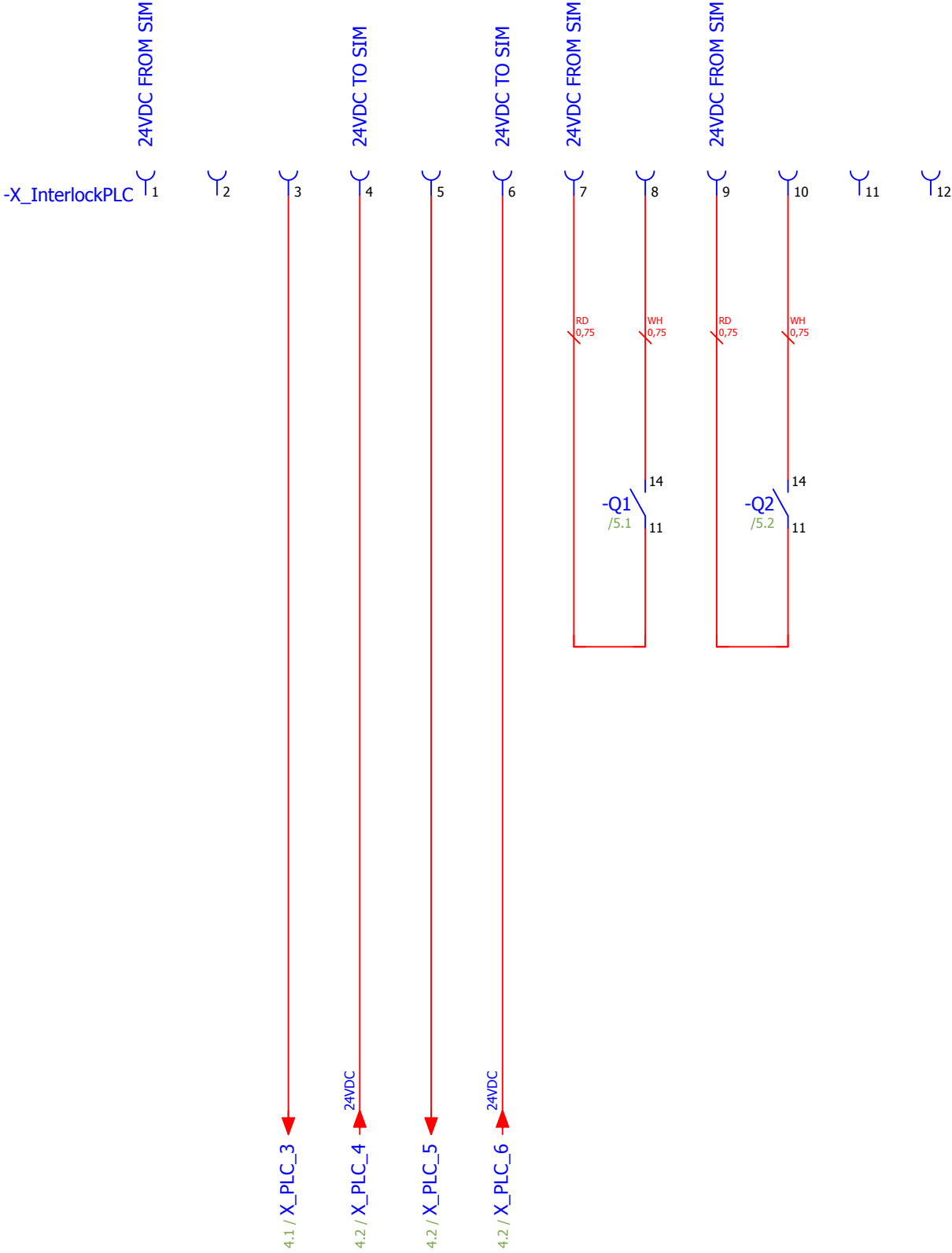




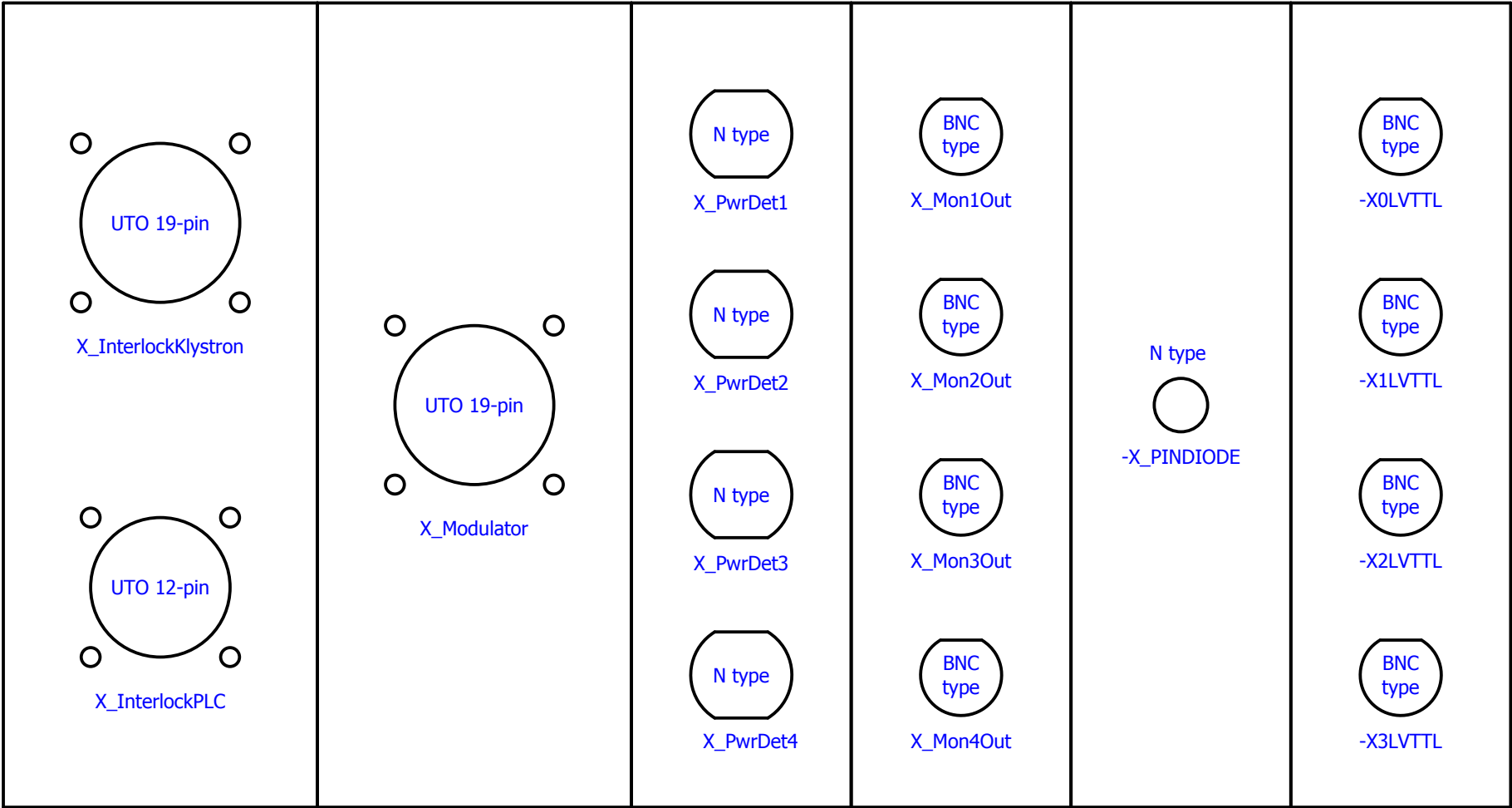
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		PCB	Preliminary	A3	1	0.1
APPROVED BY	Date	FUNCTION	SHEET			
 v2.5.4	DESIGN SITE	Digital inputs Switches for control of pump 1-3	=ESS.ACC.DTL+FIM&FS/14			
	ESS		NEXT			
			15			



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	APPROVED BY	Date	PAGE DESCRIPTION		LIFECYCLE LABEL	PAGE SIZE	PAGE SCALE	REV
	 V2.5.4	DESIGN SITE	Connector Backplain		Preliminary	A3	1	0.1
			FUNCTION		SHEET			
			Digital inputs		=ESS.ACC.DTL+FIM&FS/18			
			Switches for control of pump 1-3		NEXT			
			ESS		&MA/1			

Terminal diagram

ESS_Treminal_diagram_ver1

Function text									Cable name	Strip =ESS.ACC.DTL+FIM-XAI					Cable name					Page / column
										Target designation	Connection point	Terminal	Jumper	Target designation	Connection point					
Focus 1 Current Measure										-X_InterlockKlystron	9	1		-A7	0					&FS/10.1
Focus 1 Current Measure										-X_InterlockKlystron	10	1		-A7	1					&FS/10.2
DA Power Forward										-PCB1	2	5		-A8	1					&FS/11.2
=										-PCB1	1	5		-A8	0					&FS/11.1
Focus 2 Current Measure										-X_InterlockKlystron	11	2		-A7	0					&FS/10.3
Focus 2 Current Measure										-X_InterlockKlystron	12	2		-A7	1					&FS/10.4
Klystron Power Forward										-PCB1	4	6		-A8	1					&FS/11.4
=										-PCB1	3	6		-A8	0					&FS/11.3
HV Modulator Current										-X_Modulator	11	3		-A7	0					&FS/10.4
HV Modulator Current										-X_Modulator	12	3		-A7	1					&FS/10.5
Klystron Power Reflected										-PCB1	6	7		-A8	1					&FS/11.5
=										-PCB1	5	7		-A8	0					&FS/11.4
HV Modulator Voltage										-X_Modulator	9	4		-A7	0					&FS/10.6
HV Modulator Voltage										-X_Modulator	10	4		-A7	1					&FS/10.7
Unused										-PCB1	8	8		-A8	1					&FS/11.7
=										-PCB1	7	8		-A8	0					&FS/11.6



= ESS.ACC.DTL
+ FIM

Terminal diagram

ESS_Treminal_diagram_ver1

Function text									Cable name	Strip =ESS.ACC.DTL+FIM-XDI					Cable name					Page / column
										Target designation	Connection point	Terminal	Jumper	Target designation	Connection point					
Interlock Sum HV Fault										-X_InterlockPLC	3	1		-A3	0					&FS/4.1
24VDC BR										-X_InterlockPLC	4	1								&FS/4.2
0VDC BU												1								&FS/4.2
Interlock Sum RF Fault										-X_InterlockPLC	5	2		-A3	1					&FS/4.2
24VDC BR										-X_InterlockPLC	6	2								&FS/4.2
0VDC BU												2								&FS/4.3
Arc Interlock 1 CH1 & CH2										-X_InterlockKlystron	7	3		-A3	2					&FS/4.3
24VDC BR												3								&FS/4.3
0VDC BU												3								&FS/4.3
Arc Interlock 2 CH1 & CH2										-X_InterlockKlystron	8	4		-A3	3					&FS/4.4
24VDC BR												4								&FS/4.4
0VDC BU												4								&FS/4.4
Interlock Vacuum Pump 1										-X_InterlockKlystron	5	5		-A3	4					&FS/4.4
24VDC BR												5								&FS/4.5
0VDC BU												5								&FS/4.5
Interlock Vacuum Pump 2										-X_InterlockKlystron	6	6		-A3	5					&FS/4.5
24VDC BR												6								&FS/4.5
0VDC BU										-Q1	A2	6								&FS/4.6
PwrStatus										-PCB1	9	7		-A3	6					&FS/4.6
24VDC BR										-F3	2	7								&FS/4.6

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	APPROVED BY	Date	Terminal diagram		LIFECYCLE LABEL	PAGE SIZE	PAGE SCALE	REV
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			ESS		=ESS.ACC.DTL+FIM&MA/3			
					NEXT			
					3.1			

Terminal diagram

ESS_Treminal_diagram_ver1

Function text									Cable name	Strip =ESS.ACC.DTL+FIM-XDO					Cable name					Page / column
										Target designation	Connection point	Terminal	Jumper	Target designation	Connection point					
Spare												1		-A4	3					&FS/5.4
=												2		-A4	4					&FS/5.4
=												3		-A4	5					&FS/5.5
=												4		-A4	6					&FS/5.6
=												5		-A4	7					&FS/5.7



= ESS.ACC.DTL
+ FIM

Parts list

ESS_Parts_list_ver1

Device tag	Quantity	Designation	Type number	Supplier	Part number	ESS-Part number
-A1	1				NI.cRIO-9066	
-A2	1				NI.cRIO-PB	
-A3	1				NI.9423	
-A4	1				NI.9474	
-A5	1				NI.9401	
-A6	1				NI.9401	
-A7	1				NI.9223	
-A8	1				NI.9223	
-A9	1				NI.9402	
-F1	1				SE.GB2DB09	
-F2	1	3A 2P Pole thermal magnetic circuit breaker	GB2DB08		SE.GB2DB08	
-F3	1				FUSE_0.8A	
-Q1	1	Single relay	REL-MR- 24DC/21		PXC.2961105	
-Q1	1	Relay socket	PLC-BPT- 24DC/21		PXC.2900445	
-Q1	3	Continuous plug-in bridge	FBST 500-PLC BU		PXC.2966692	
-Q2	1	Single relay	REL-MR- 24DC/21		PXC.2961105	
-Q2	1	Relay socket	PLC-BPT- 24DC/21		PXC.2900445	
-Q3	1	Single relay	REL-MR- 24DC/21		PXC.2961105	
-Q3	1	Relay socket	PLC-BPT- 24DC/21		PXC.2900445	
-S1	1				WAGO.859-940	
-S2	1				WAGO.859-940	
-S3	1				WAGO.859-940	
-S4	1				WAGO.859-940	
-S5	1				WAGO.859-940	
-S6	1				WAGO.859-940	
-S7	1				WAGO.859-940	
-S8	1				WAGO.859-940	
-S9	1				WAGO.859-940	
-S10	1				WAGO.859-940	
-T1	1				NI.PS-15	
-T2	1	LOGO!POWER 5 V STABILIZED POWER SUPPLY	6EP1311-1SH03	Siemens AG	SIE.6EP1311-1SH03	
-W_LVTTL0	1				RADIALL.R284C0351011	
-W_LVTTL1	1				RADIALL.R284C0351011	
-W_LVTTL2	1				RADIALL.R284C0351011	
-W_LVTTL3	1				RADIALL.R284C0351011	
-W_PCB1.1	1				RADIALL.R284C0351045	
-W_PCB1.2	1				RADIALL.R284C0351045	
-W_PCB1.3	1				RADIALL.R284C0351045	
-W_PCB1.4	1				RADIALL.R284C0351045	
-W_PCB1.5	1				CINCH.415-0037-012	
-W_PCB1.6	1				CINCH.415-0037-012	
-W_PCB1.7	1				CINCH.415-0037-012	
-W_PCB1.8	1				CINCH.415-0037-012	
-X1	1	PE terminal	WPE 4		WEI.1010100000	
-XAI	8	Double-tier terminal	ZDK 2.5		WEI.1674300000	
-XDI	12	Initiator/actuator terminal	ZIA 1.5/3L-1S		WEI.1651980000	
-XDI	12	Plug-in connector	ZVL 1.5 BL		WEI.1650360000	
-XDI	12	Plug-in connector	ZVL 1.5 BR		WEI.1650370000	
-XDO	5	Feed-through terminal	ZDU 1.5		WEI.1775480000	
-X_InterlockKlystron	1				SOURIAU.UT001619SH6	
-X_InterlockPLC	1				SOURIAU.UT001412SH6	
-X_MON1OUT	1				RS.R13-029-01-002611000	
-X_MON2OUT	1				RS.R13-029-01-002611000	
-X_MON3OUT	1				RS.R13-029-01-002611000	

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					1.1			

