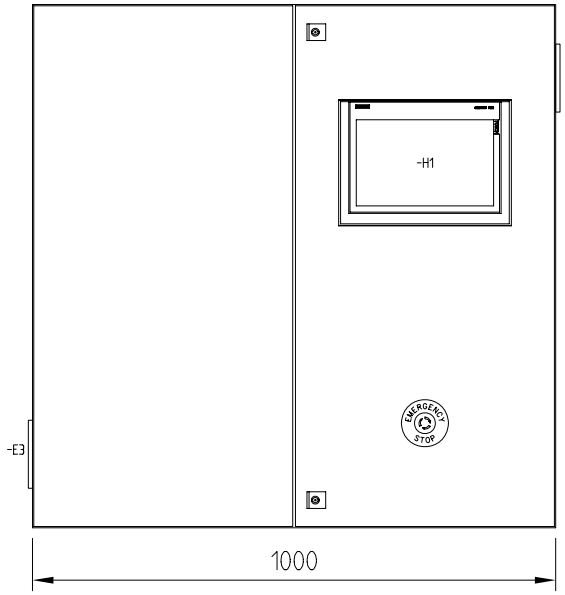
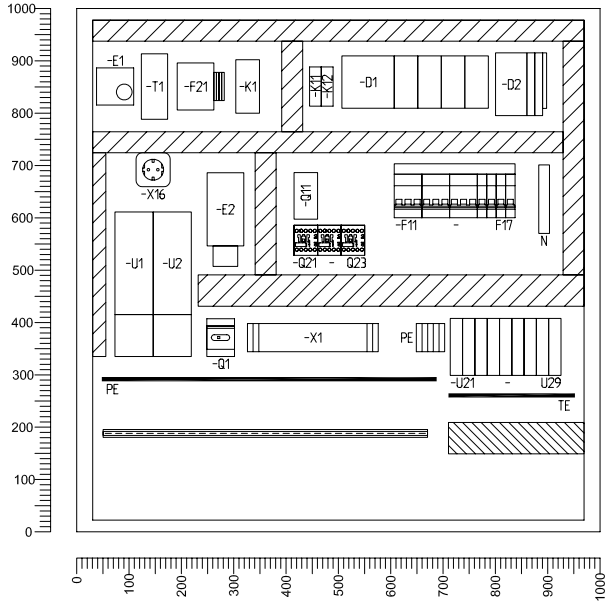






CROSS-SECTIONAL AREA 1mm² IF NOTHING ELSE IS STATED			
LAST CABLE MARKING: 0113 CABLE COLOURS ACC. TO SS-EN 60204-1		COLOUR ABREVIATIONS	
POWER CIRCUITS:	BK	BN - BROWN	GN - GREEN
NEUTRAL:	LBU	BK - BLACK	YE - YELLOW
PROTECTIVE EARTH:	GNYE	GY - GREY	WH - WHITE
AC CONTROL CIRCUITS:	RD	BU - BLUE	RD - RED
DC CONTROL CIRCUITS:	BU	LBU - LIGHT BLUE	PK - PINK
EXTERNAL SUPPLIED CONTROL CIRCUITS:	OR		VI - VIOLET

REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

LAYOUT

DRAWING NO. 9022401-1	
DESIGNED BSP	DRAWN STA
SHEET 01	CONTINUE -
DATE 2012-05-24	REV.

Post	Qty.	Designation	Catalogue no.	Manufacturer	Technical data	Note
	1	Enclosure	NSY3X101030	Schneider Electric	W1000xH1000xD300, IP55	
-D1	1	CPU 1214C	6ES7214-1HE30-0XB0	Siemens	24VDC, 14DI+10DO+2AI	
	2	Analog input module, SM1231	6ES7231-4HF30-0XB0	Siemens	24VDC, 8AI	
	2	Analog output module, SM1232	6ES7232-4HD30-0XB0	Siemens	24VDC, 4AO	
-D2	1	Interface module, IM151-3 PN	6ES7151-3AA23-0AB0	Siemens	2 bus interface (RJ45)	
	1	Power module, PM-E	6ES7138-4CA01-0AA0	Siemens	24VDC	
	1	Terminal module, TM-P15S23-A0	6ES7193-4CD20-0AA0	Siemens	2x3 terminal connections	
	1	I/O-link module, 4SI	3RK1005-0LB00-0AA0	Siemens	4 point-to-point interfaces	
	1	Terminal module, TM-E15S26-A1	6ES7193-4CA40-0AA0	Siemens	2x6 terminal connections	
-E1	1	Thermostat	NSYCCOTHD	Schneider Electric		
-E2	1	Heater	NSYCR100WU2C	Schneider Electric	120-240VAC/DC, 102W	
-E3	1	Filter fan	NSYCVF165M230PF	Schneider Electric	230VAC	
	1	Exit filter	NSYCAG223LPF	Schneider Electric		
-F11	1	Miniature circuit breaker	5SY4310-7	Siemens	3P, 10A, C-char.	Stirrer
-F12	1	Miniature circuit breaker	5SY4306-7	Siemens	3P, 6A, C-char.	Feedback pump
-F13	1	Miniature circuit breaker	5SY4310-7	Siemens	3P, 10A, C-char.	Reactor heater
-F14	1	Miniature circuit breaker	5SY4106-7	Siemens	1P, 6A, C-char.	Cabinet climate
-F15	1	Miniature circuit breaker	5SY4106-7	Siemens	1P, 6A, C-char.	230VAC service outlet
-F16	1	Miniature circuit breaker	5SY4106-7	Siemens	1P, 6A, C-char.	24VDC control voltage
-F17	1	Miniature circuit breaker	5SY4106-7	Siemens	1P, 6A, C-char.	Circulation pumps
	1	Bus bar	5ST3615	Siemens	3-phase, 10mm²	
	1	Distribution block, UDJ 125 A	569020	Erico	1P, 125A	N
-F21	1	Electronic fuse, Mico	9000-41034-0100400	Murr Elektronik	4-CH, 1-2-3-4A	
	4	Terminal block, disconnectable	WTR 2.5	Weidmüller	2.5mm²	(-)

REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

COMPONENT LIST

DRAWING NO.	9022401-2
DESIGNED	BSP
DRAWN	STA
SHEET	01
CONTINUE	02
DATE	2012-05-24
REV.	-

Post	Qty.	Designation	Catalogue no.	Manufacturer	Technical data	Note
-H1	1	Operation panel, TP1200	6AV2124-0MC01-0AX0	Siemens	12"	
-K1	1	Security relay	3TK2825-1BB40	Siemens	24VAC/DC, 3NO+2NC	
-K11 - K12	2	Relay w/ socket	LZS:PT5A5L24	Siemens	24VDC, 4CO	
-Q1	1	Load break switch	3LD2530-0TK11	Siemens	3P, 63A	Main switch
	1	Terminal block	WDU 16N BL	Weidmüller	Blue	Incoming N
-Q11	1	Circuit breaker	3RV2011-1GA10	Siemens	4.5-6.3A	Feeder pump
	1	Link module	3RA1921-1DA00	Siemens		
-Q21	1	Contactor	3RT2015-1BB41-0CC0	Siemens	24VDC, 3kW AC-3, 1NO	Feeder pump
	1	I/O Link module	3RA2711-1AA00	Siemens		
-Q22	1	Contactor	3RT2015-1BB41-0CC0	Siemens	24VDC, 3kW AC-3, 1NO	Circulation pumps
	1	I/O Link module	3RA2711-1AA00	Siemens		
-Q23	1	Contactor	3RT2015-1BB41-0CC0	Siemens	24VDC, 11kW AC-1, 1NO	Reactor heater
	1	I/O Link module	3RA2711-1AA00	Siemens		
-SB1	1	Safety Switch				Feeder pump
-SB2	1	Safety Switch	BAS 16 TP, E31 452 82	ABB Cewe	25A	Circulation pumps
-SB3	1	Safety Switch, EMC				Stirrer
-SB4	1	Safety Switch, EMC	OTE16T3M, E31 404 10	ABB Cewe	25A	Feedback pump
-SB5	1	Safety Switch	BAS 16 TP, E31 452 82	ABB Cewe	25A	Reactor heater
-T1	1	Power supply	6EP1333-2AA01	Siemens	120/230VAC / 24VDC, 5A	
-U11	1	Frequency converter	6SL3210-1KE13-2AB0	Siemens	1.1kW	Stirrer
-U12	1	Frequency converter	6SL3210-1KE14-3AB0	Siemens	1.5kW	Feedback pump

REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

COMPONENT LIST

DRAWING NO.	9022401-2
DESIGNED	BSP
DRAWN	STA
SHEET	02
CONTINUE	03
DATE	2012-05-24
REV.	-

Post	Qty.	Designation	Catalogue no.	Manufacturer	Technical data	Note
-U21 - U22	2	Transmitter	5202B2	PR Electronics	21-250AC/DC, 2 channels	
-U23 - U25	3	Transmitter, programmable	5114B1B	PR Electronics	24-230AC/DC, 2 channels, Pt100/4-20mA	
-U26 - U28	3	Transmitter	5104B2B	PR Electronics	24-230AC/DC, 2 channels, 4-20mA/4-20mA	
-U29	1	Transmitter	5105BB2A	PR Electronics	21-250AC/DC, 1 channel, 4-20mA/4-20mA	
-X1	10	Terminal block	WDU 4	Weidmüller	1-10	
	20	Terminal block, disconnectable	WTR 2.5	Weidmüller	101-120	
	2	Terminal block	WDU 2.5	Weidmüller	201-202	
-X16	1	Power outlet	E18 346 16	Eljo	230VAC, 16A	Service outlet

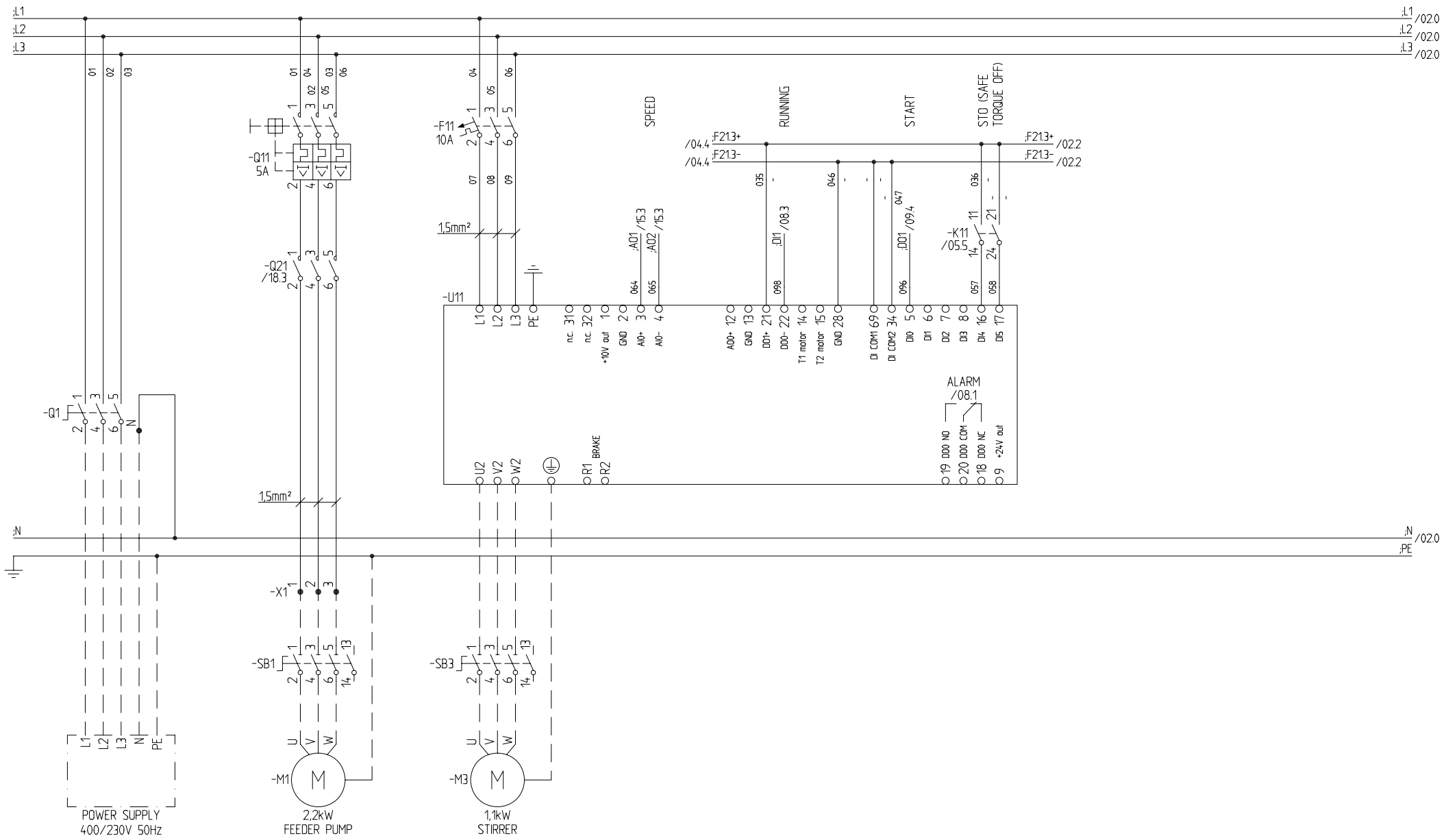
REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

COMPONENT LIST

DRAWING NO.	9022401-2
DESIGNED	BSP
DRAWN	STA
SHEET	03
CONTINUE	-
DATE	2012-05-24
REV.	-

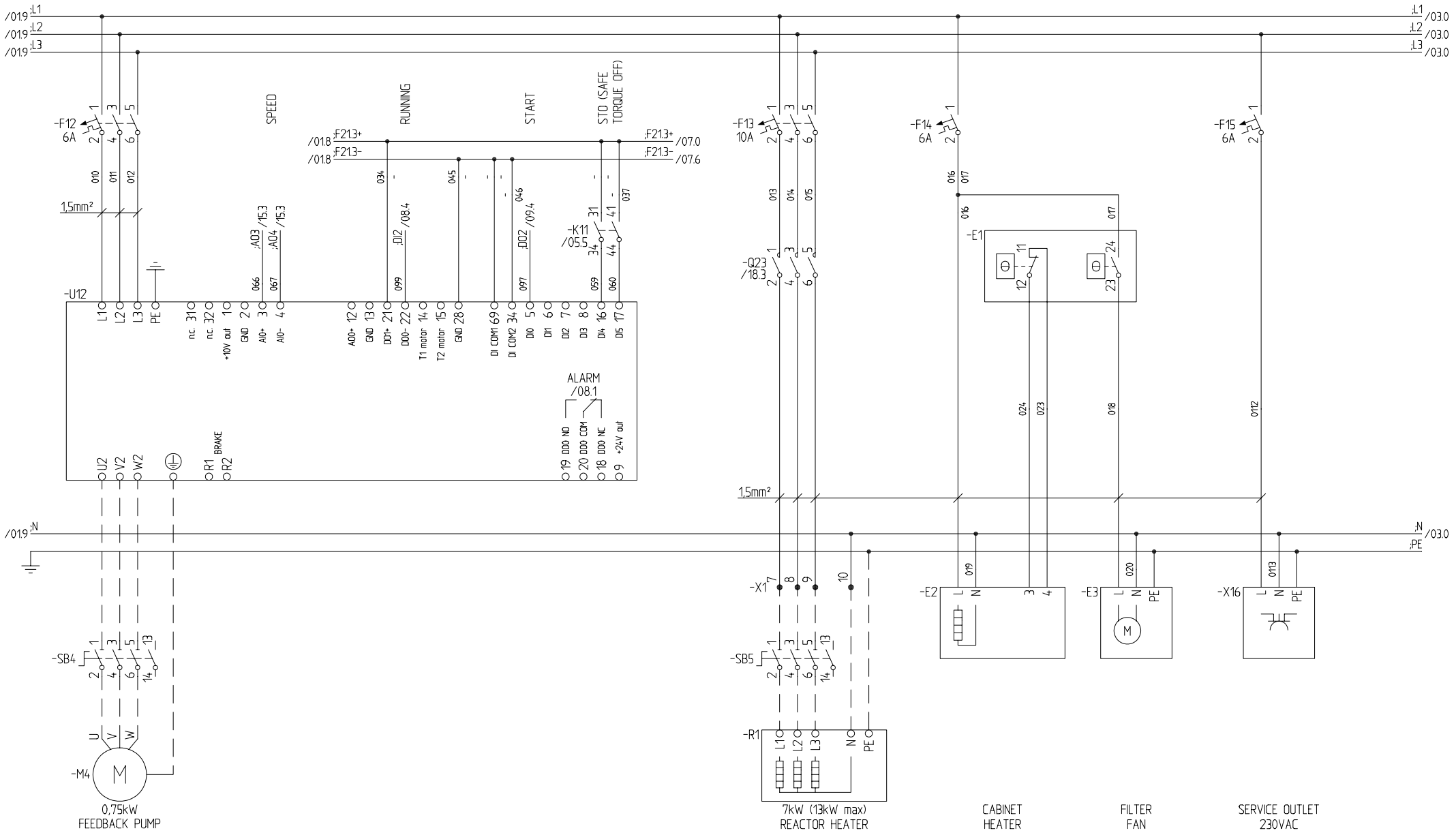


REV	REVISION	SIGN	APPR	DATE
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ENERGIUTVECKLARNA NORDEN AB
MR3

400/230VAC DISTRIBUTION
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	01
CONTINUE	02
DATE	2012-05-24
REV.	-

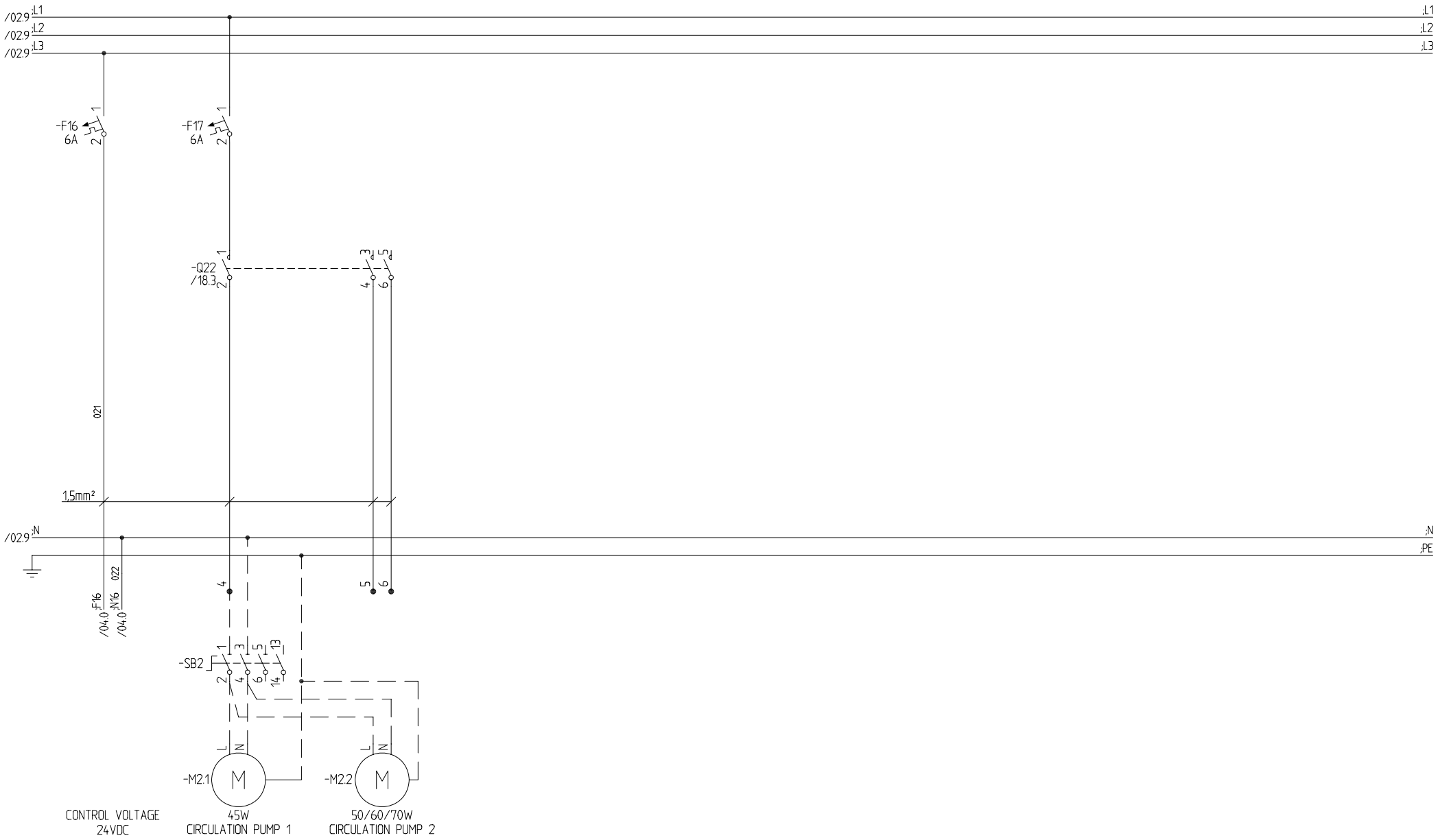


REV	REVISION	SIGN	APPR	DATE
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ENERGIUTVECKLARNA NORDEN AB
MR3

400/230VAC DISTRIBUTION
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	02
CONTINUE	03
DATE	2012-05-24
REV.	-



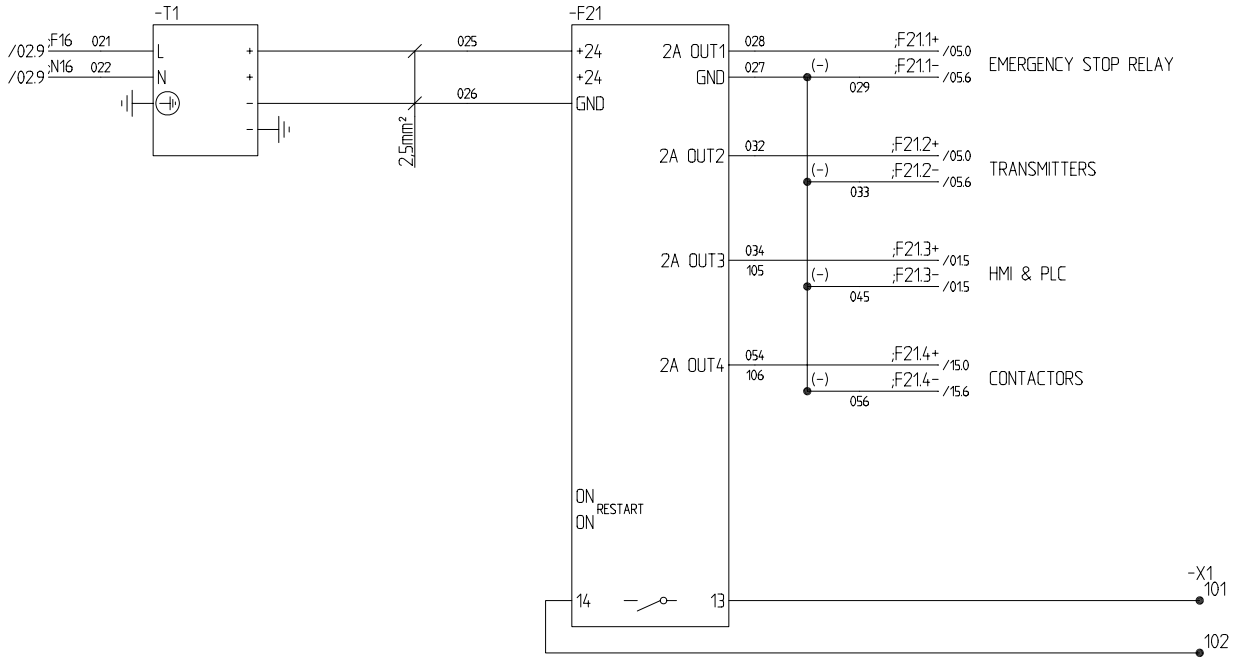
REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

400/230VAC DISTRIBUTION
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	03
CONTINUE	04
DATE	2012-05-24
REV.	-

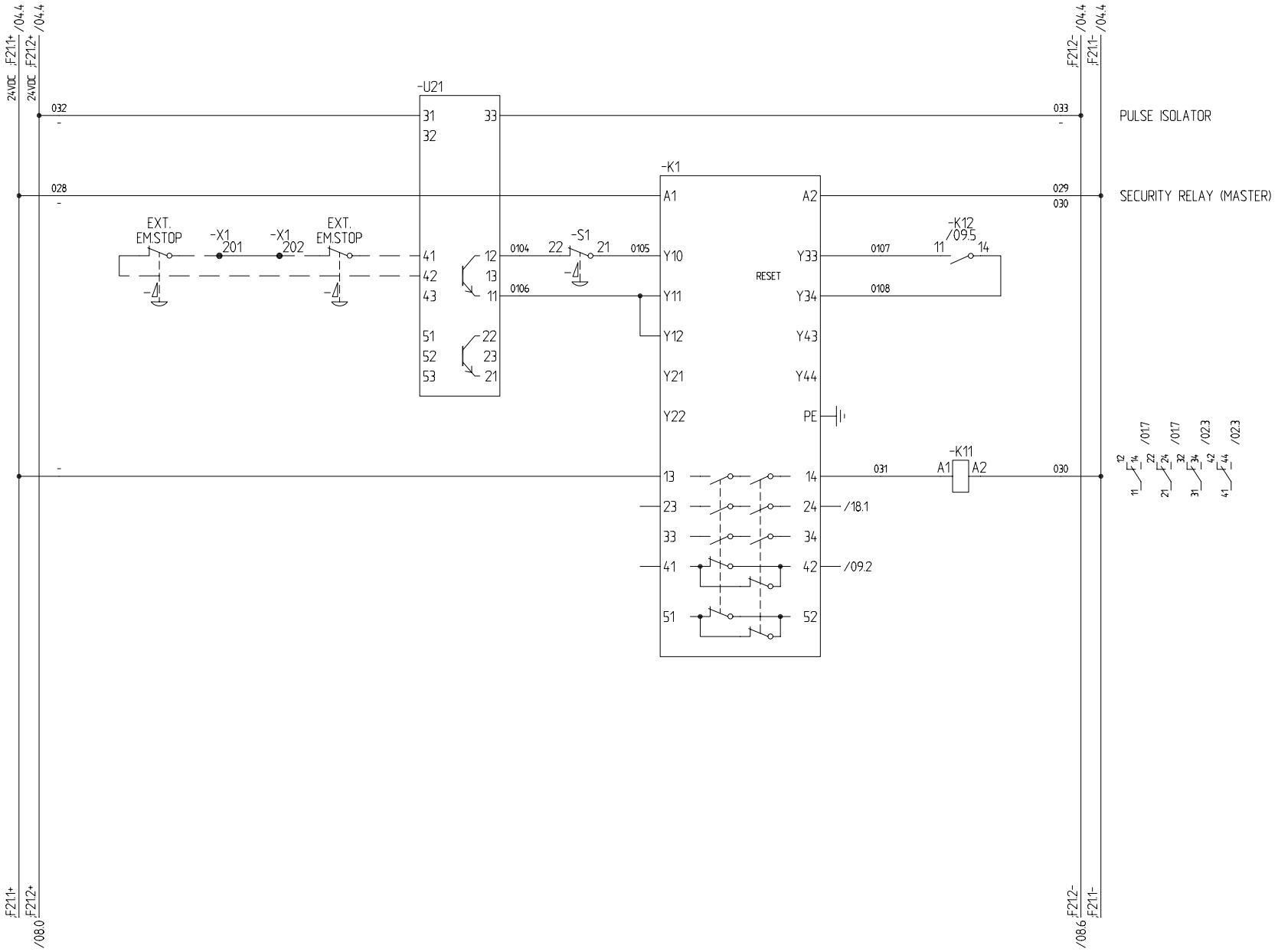


REV	REVISION	SIGN	APPR	DATE
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ENERGIUTVECKLARNA NORDEN AB
MR3

24VDC DISTRIBUTION
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	04
CONTINUE	05
DATE	2012-05-24
REV.	-



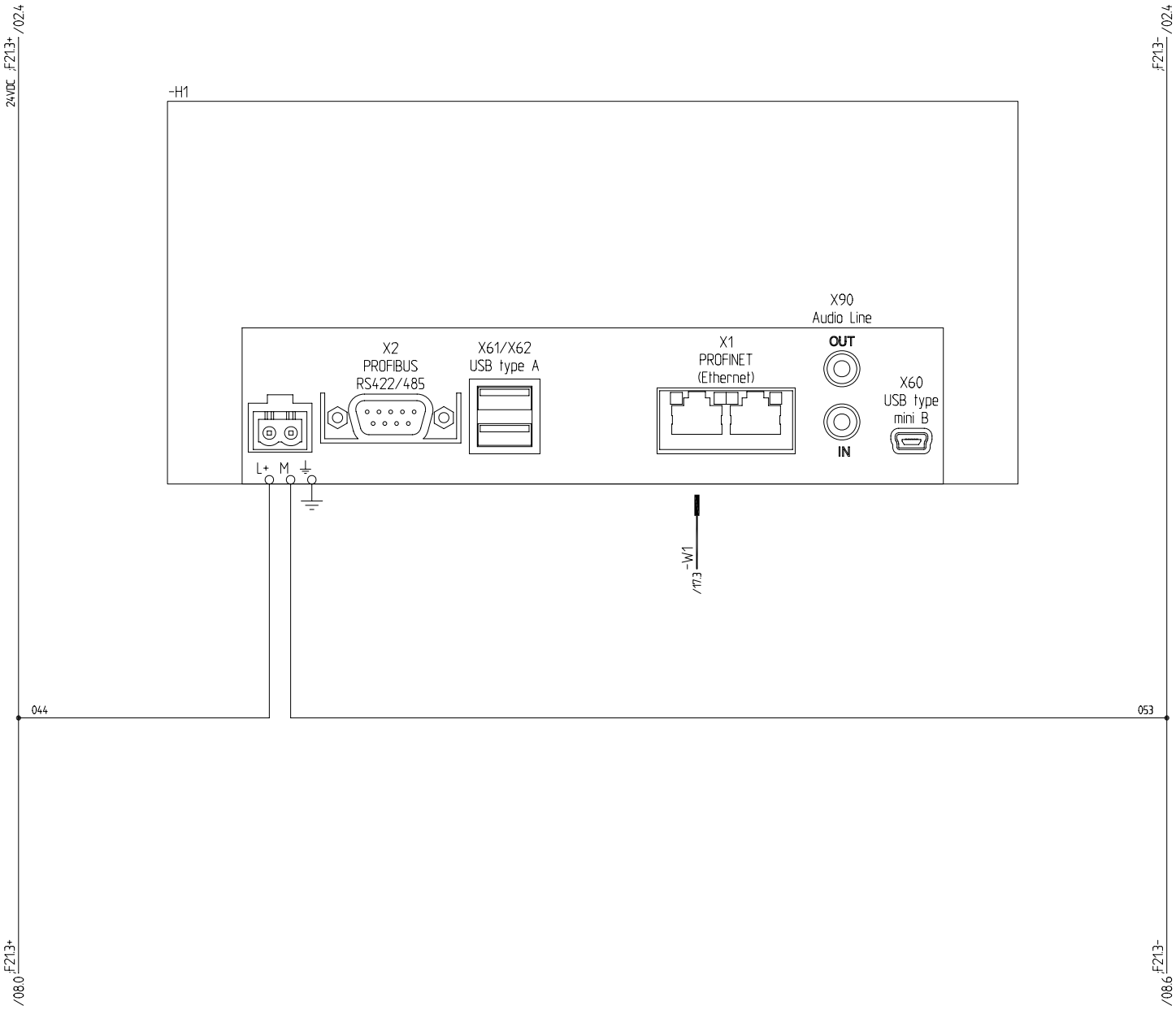
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

SECURITY RELAY
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	05
CONTINUE	07
DATE	2012-05-24
REV.	-



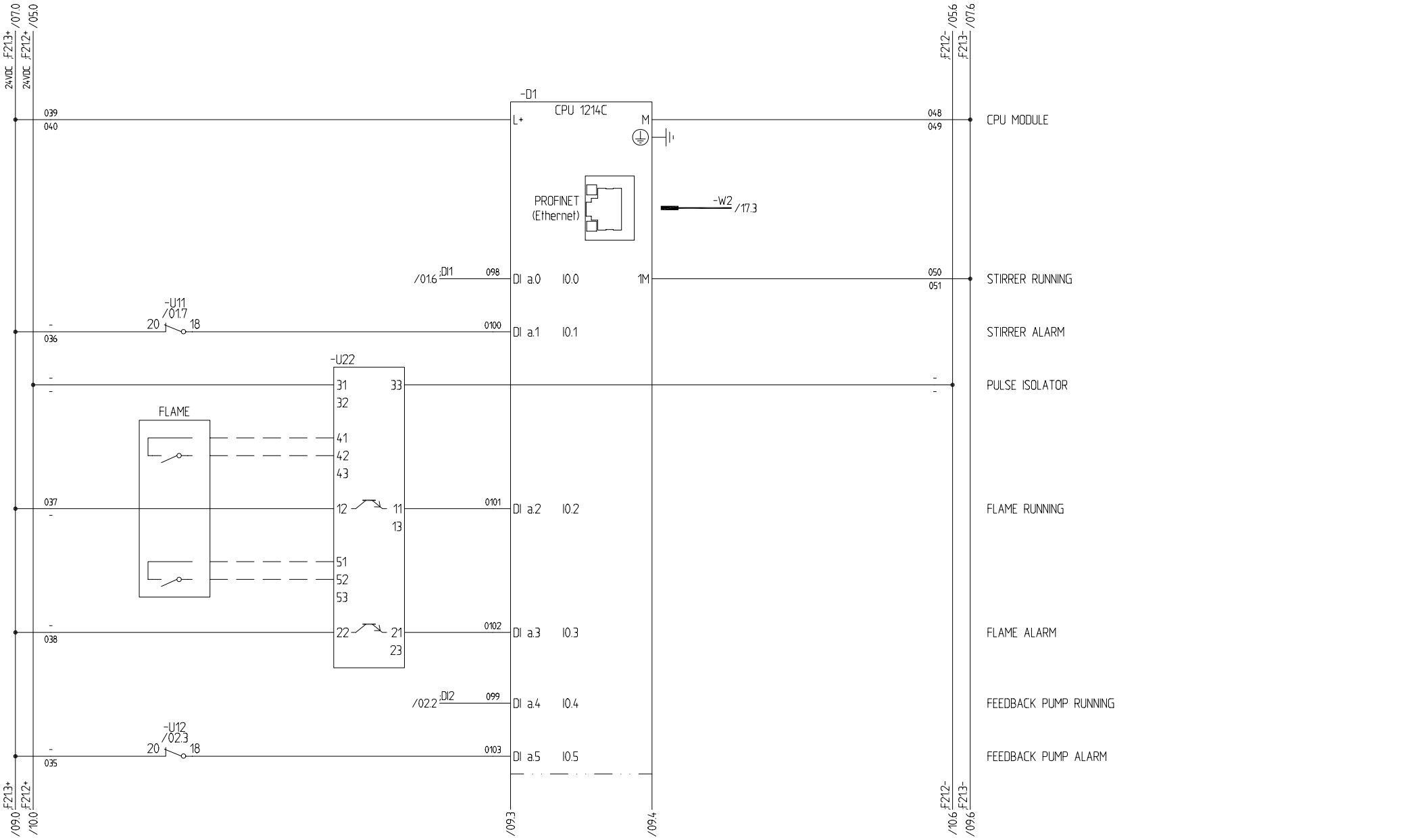
REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

OPERATION PANEL (HMI)
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	07
CONTINUE	08
DATE	2012-05-24
REV.	-

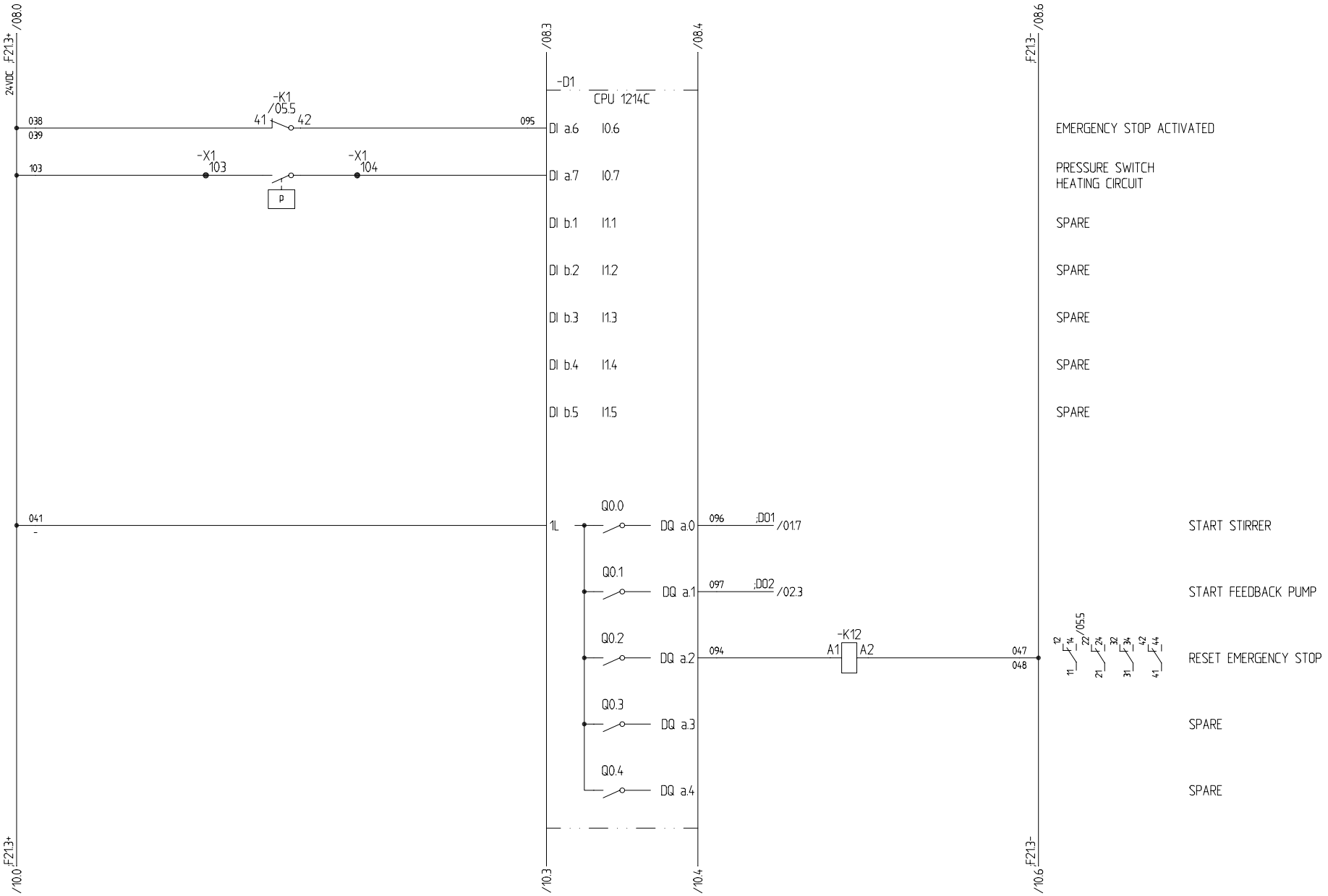


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200, CPU UNIT
DIGITAL INPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	08
CONTINUE	09
DATE	2012-05-24
REV.	-

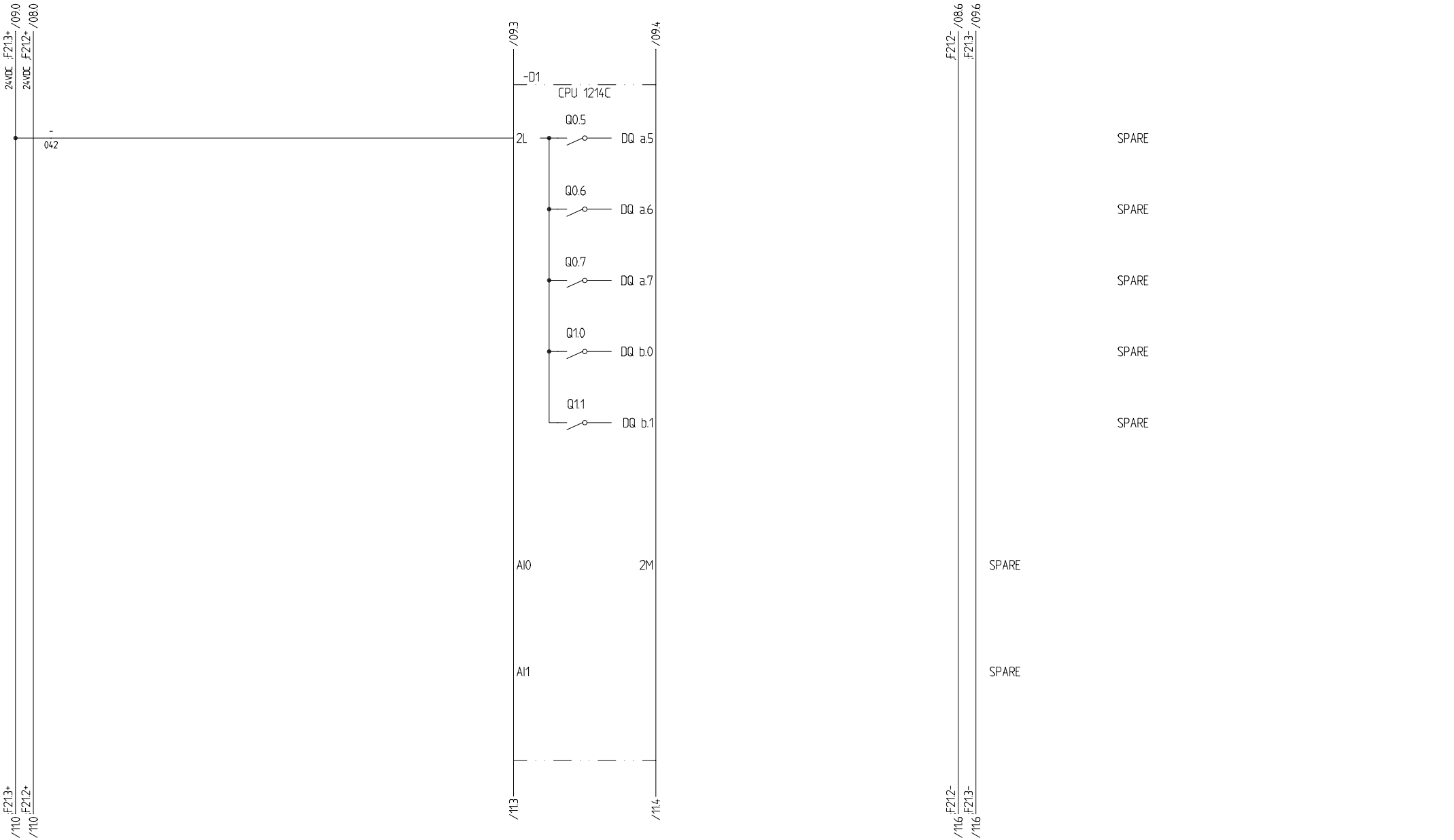


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200, CPU UNIT
DIGITAL IN- & OUTPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	09
CONTINUE	10
DATE	2012-05-24
REV.	-

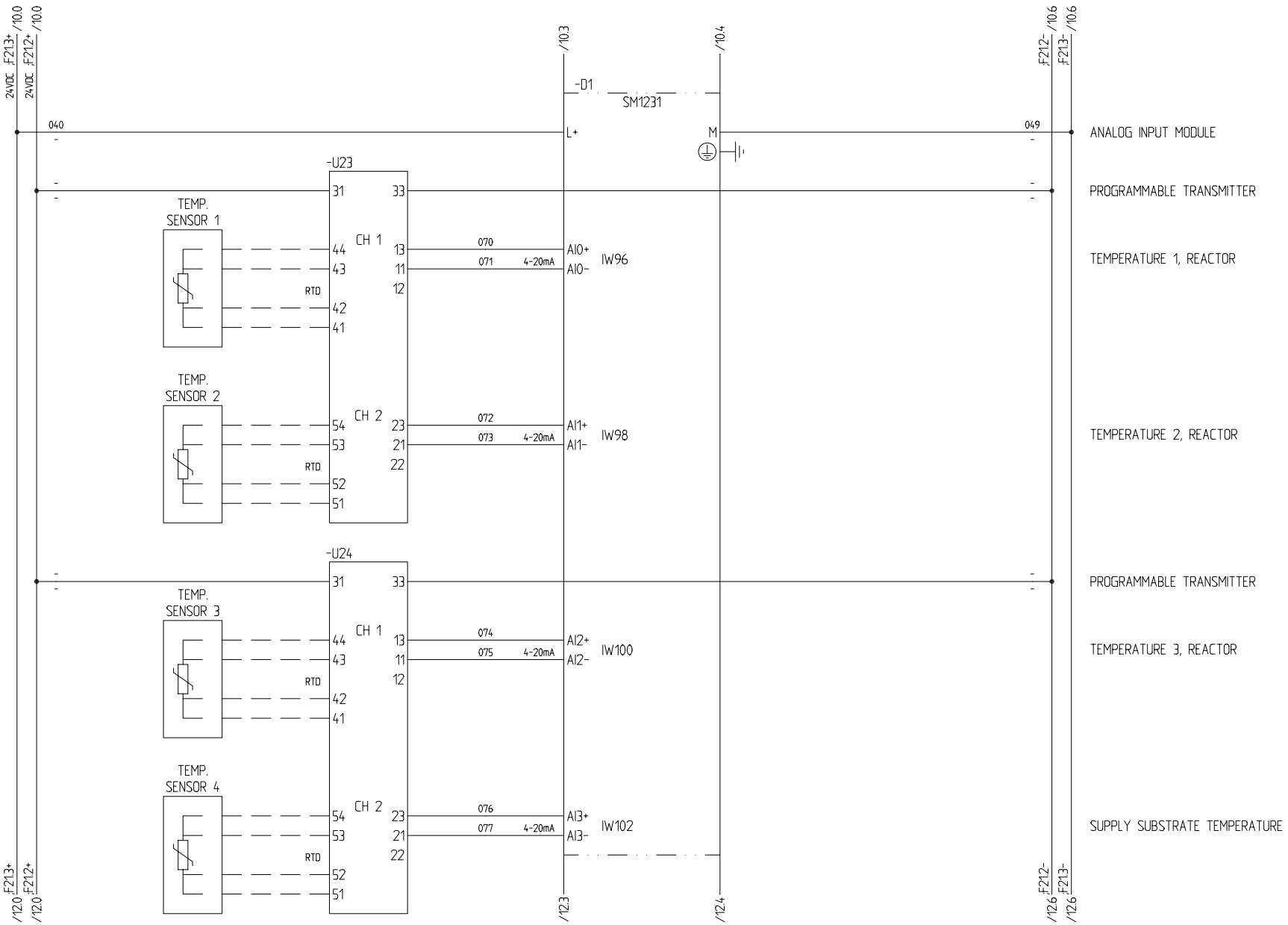


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200, CPU UNIT
DIGITAL OUT- & ANALOG INPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	10
CONTINUE	11
DATE	2012-05-24
REV.	-

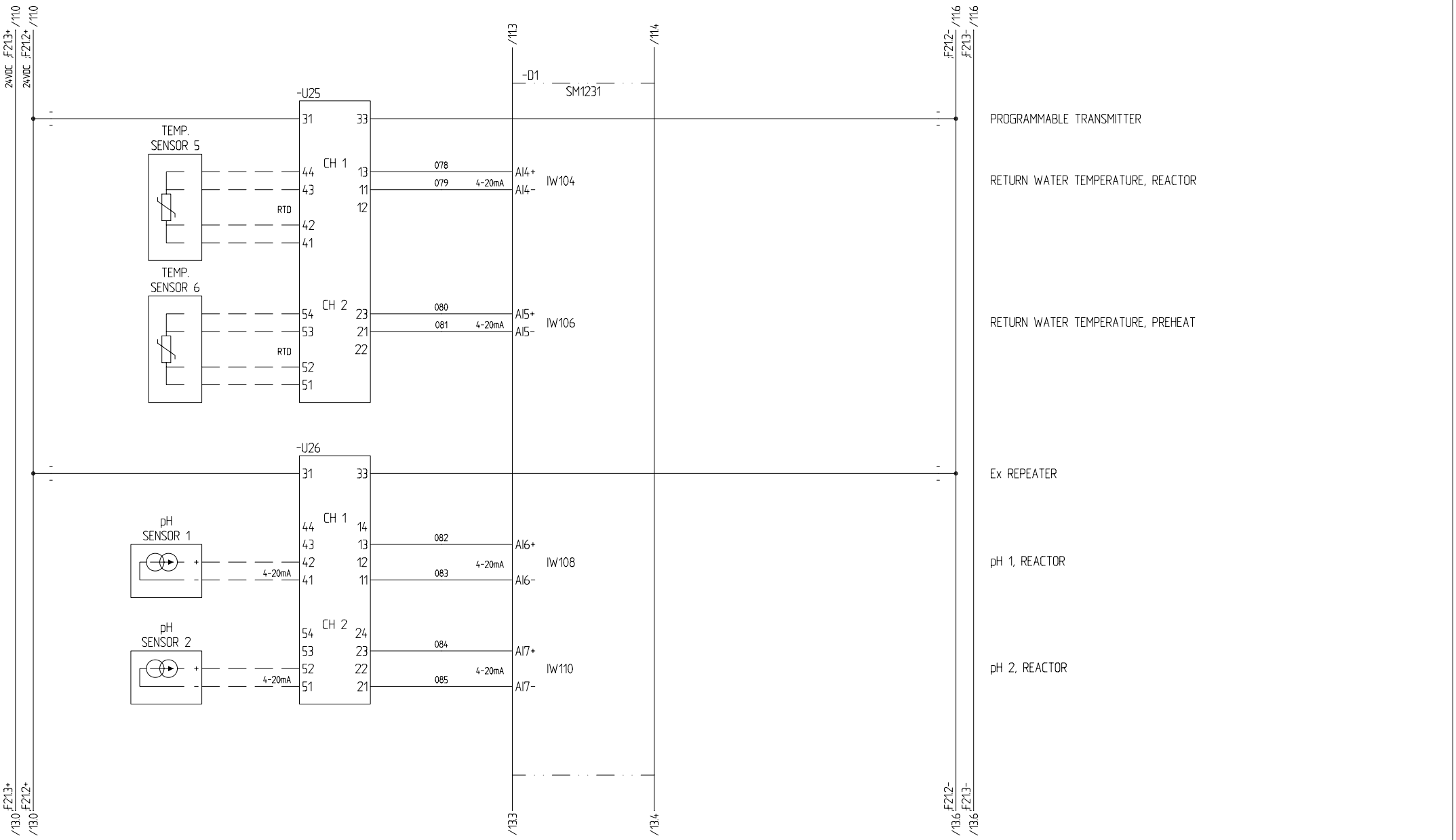


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200
ANALOG INPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	11
CONTINUE	12
DATE	2012-05-24
REV.	-

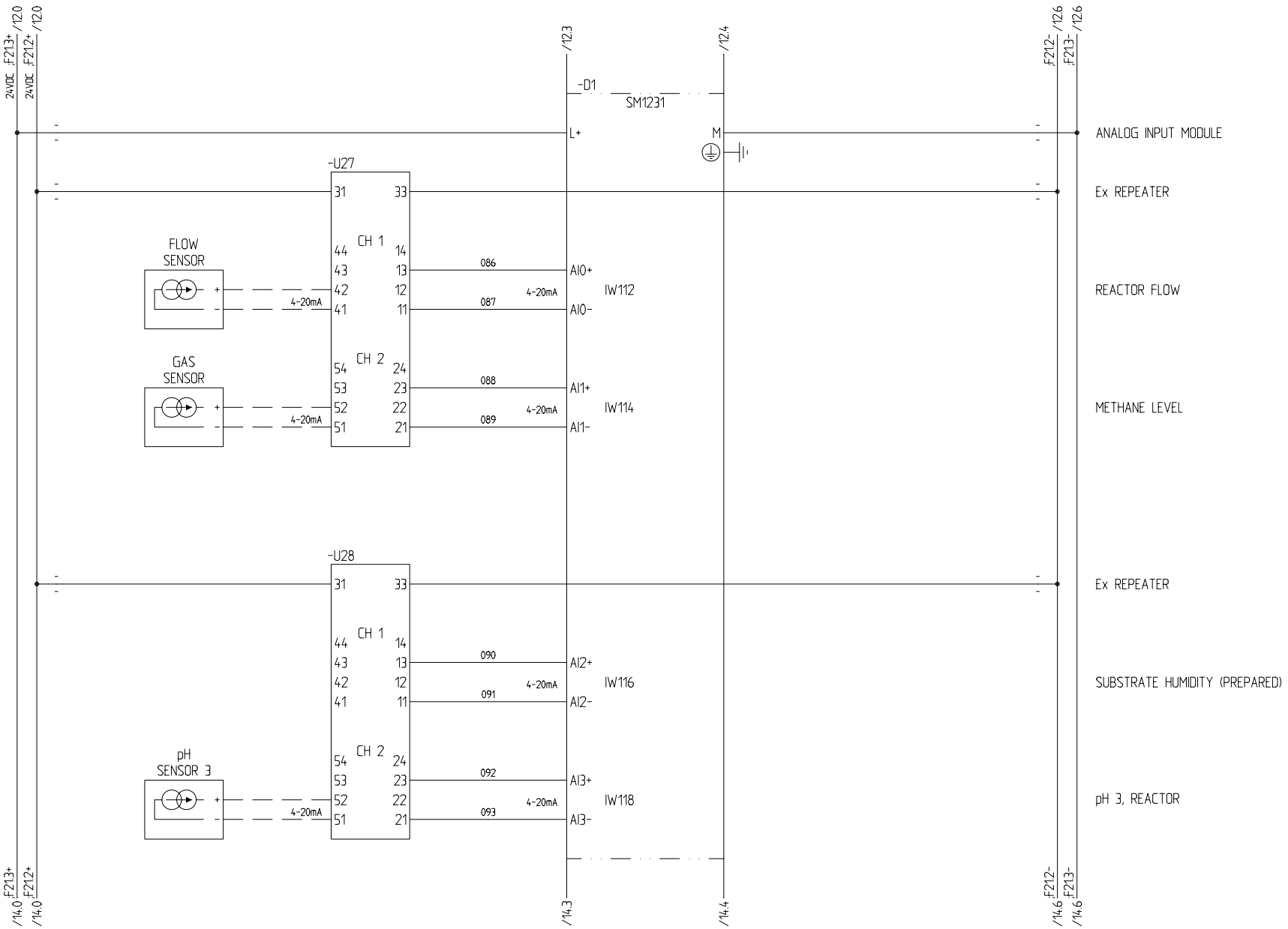


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200
ANALOG INPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	12
CONTINUE	13
DATE	2012-05-24
REV.	-

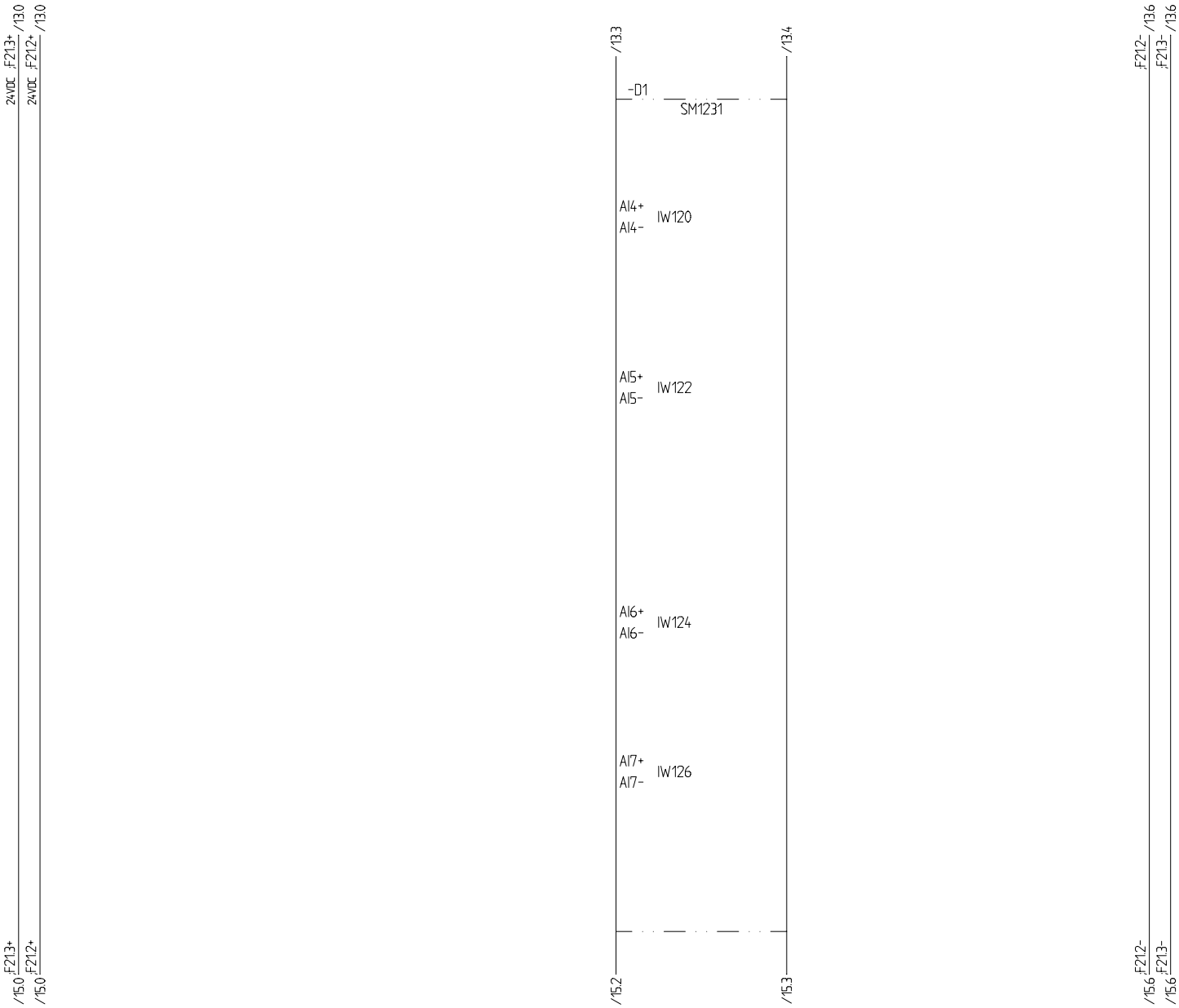


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200
ANALOG INPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	13
CONTINUE	14
DATE	2012-05-24
REV.	-

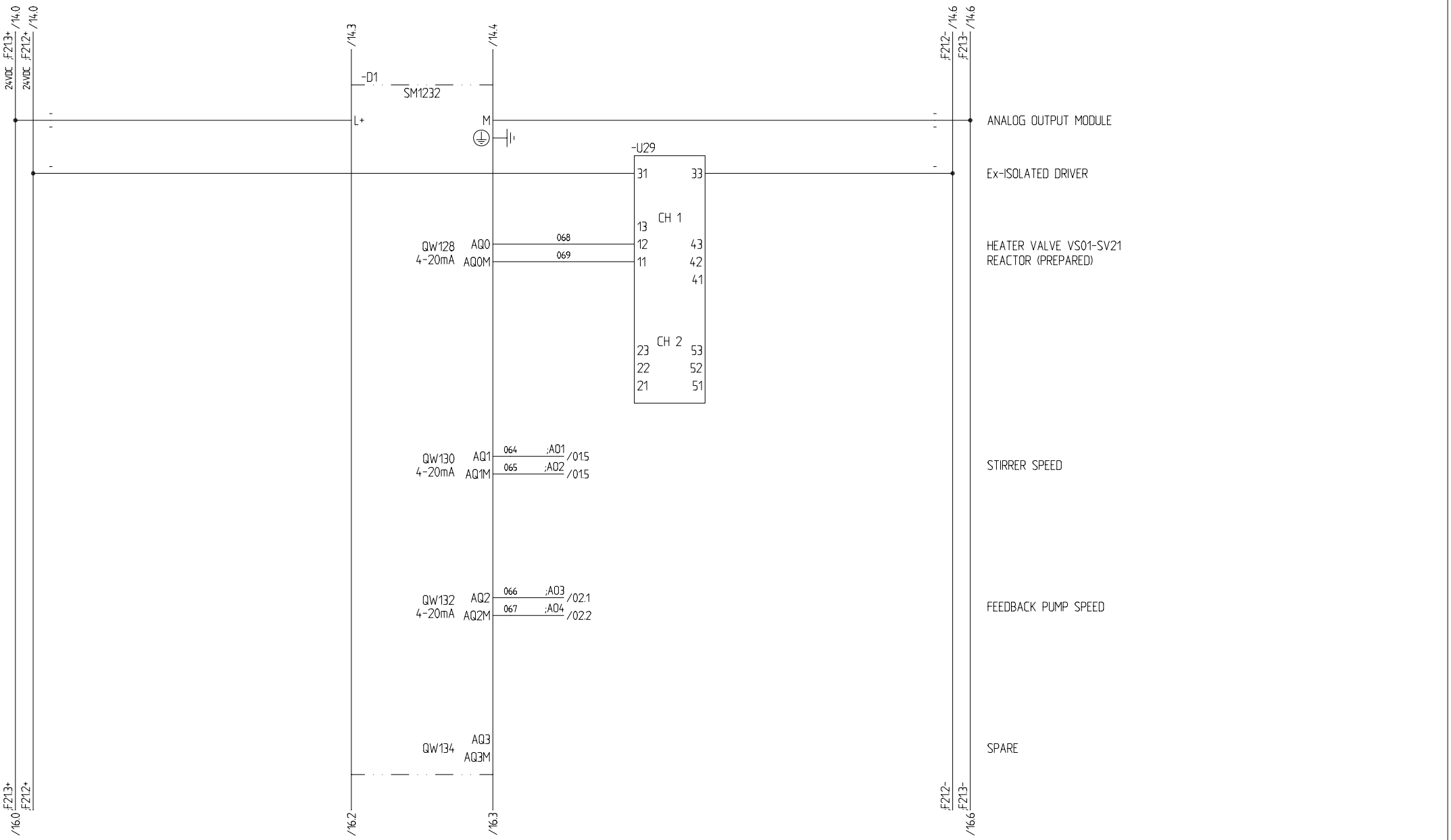


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200
ANALOG INPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	14
CONTINUE	15
DATE	2012-05-24
REV.	-

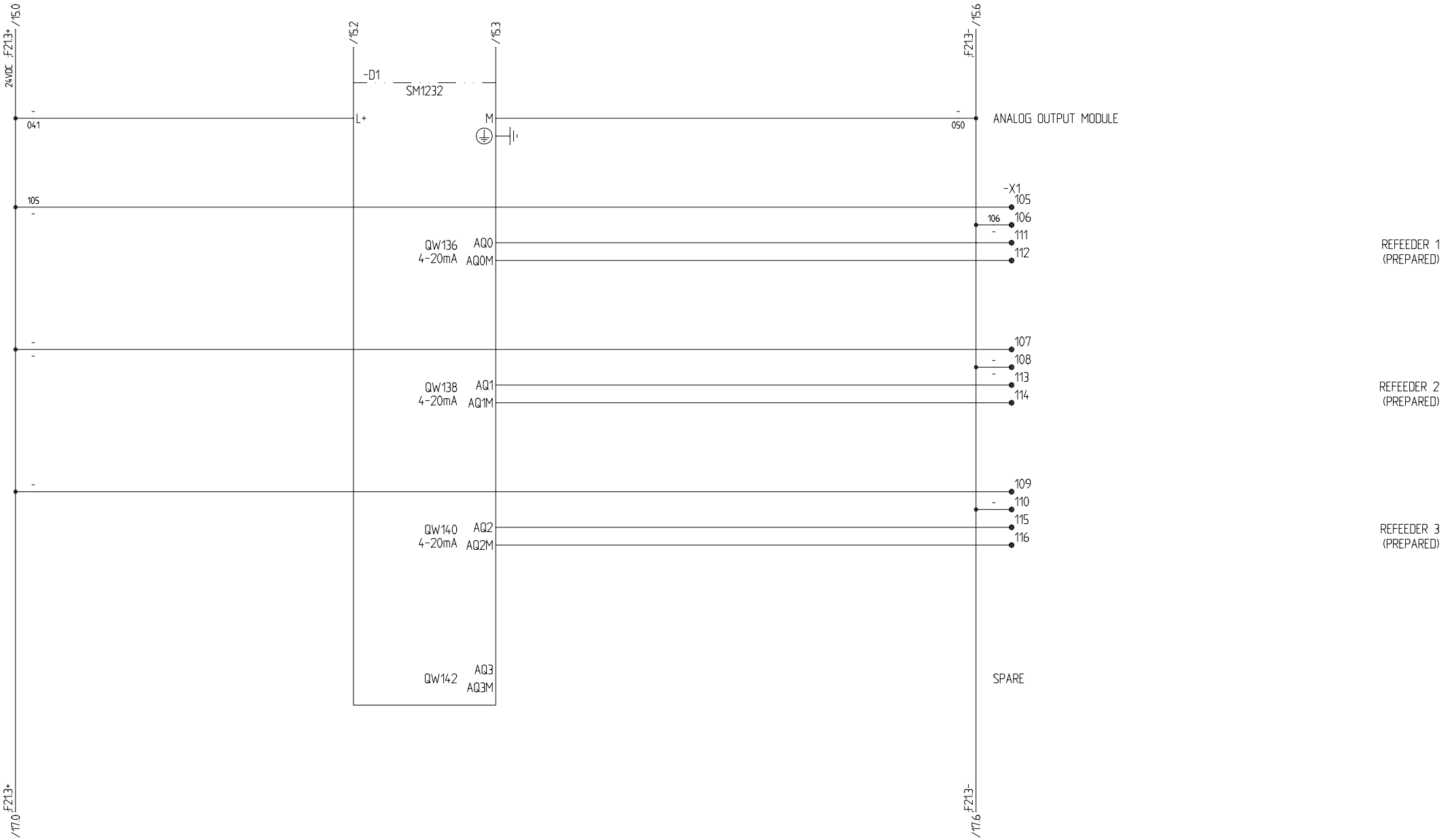


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200
ANALOG OUTPUTS
CIRCUIT DIAGRAM

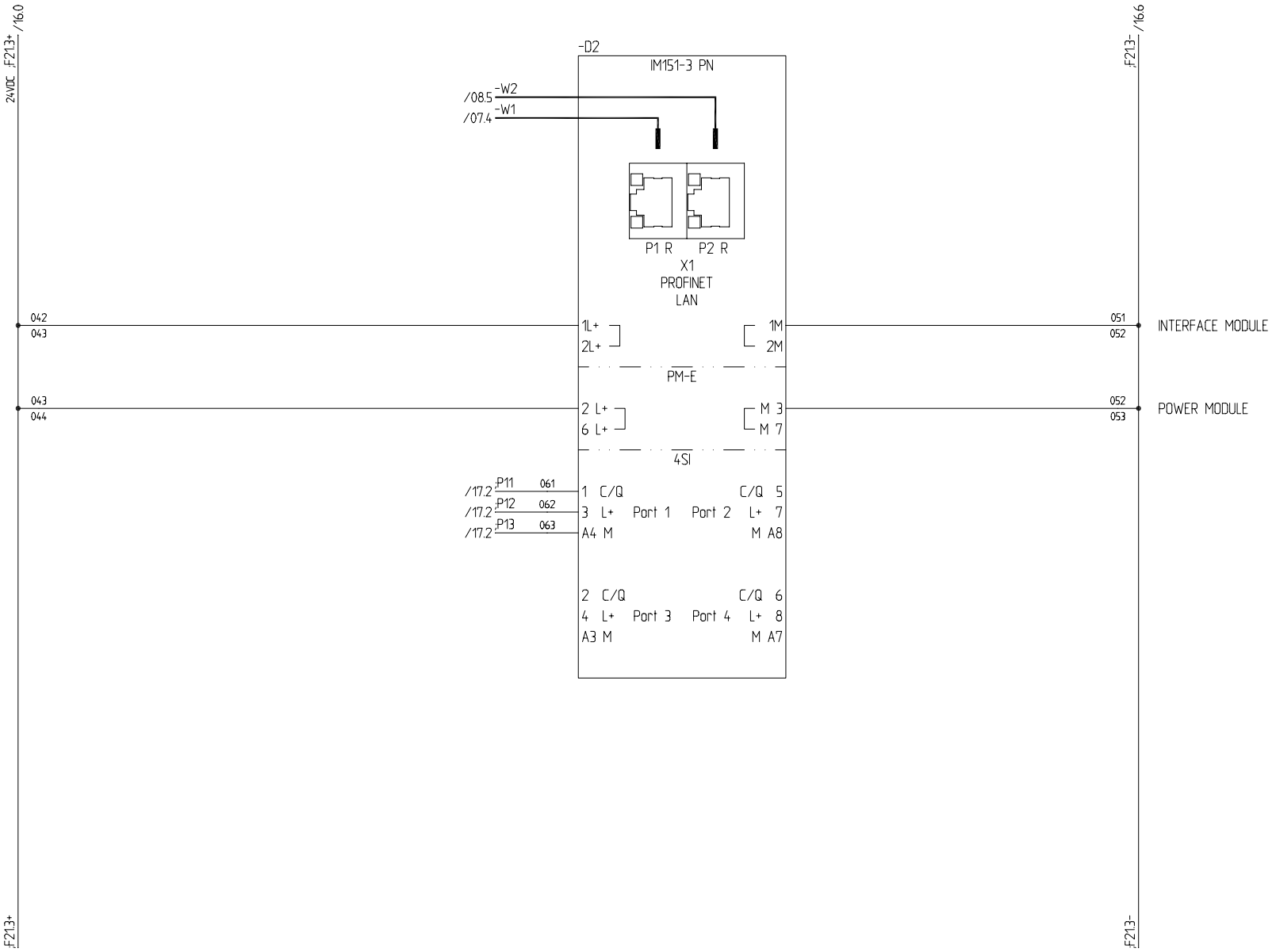
DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	15
CONTINUE	16
DATE	2012-05-24
REV.	-



REV	REVISION	SIGN	APPR	DATE
	-			

ENERGIUTVECKLARNA NORDEN AB
MR3
PLC S1200
ANALOG OUTPUTS
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	16
CONTINUE	17
DATE	2012-05-24
REV.	-

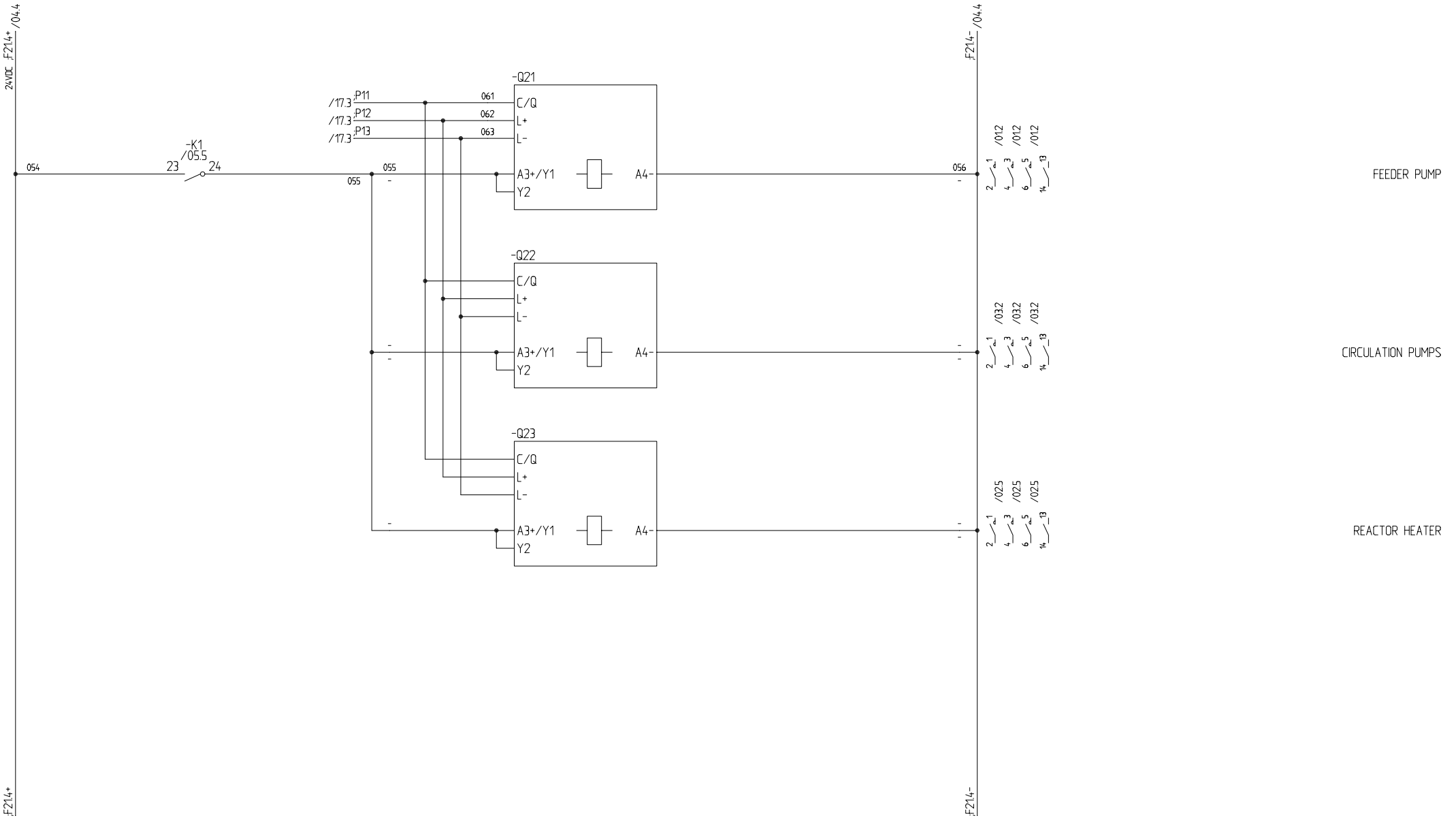


REV	REVISION	SIGN	APPR	DATE
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JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3
ET200
INTERFACE MODULE
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	17
CONTINUE	18
DATE	2012-05-24
REV.	-



REV	REVISION	SIGN	APPR	DATE
	-			

JOH SJÖ SYSTEM AB

ENERGIUTVECKLARNA NORDEN AB
MR3

CONTACTOR CONTROL
CIRCUIT DIAGRAM

DRAWING NO.	9022401-3
DESIGNED	BSP
DRAWN	STA
SHEET	18
CONTINUE	-
DATE	2012-05-24
REV.	-