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DECISION TABLE FOR SHEETS INCLUDED DEPENDING ON HARDWARE VARIANT

RET 54_ HARDWARE VARIANTS

		RET541_ _230AAAA/BAAA/CAAA	RET541_ _230AAAB/BAAB	RET541_ _231AAAA/BAAA/CAAA	RET541_ _231AAAB/BAAB	RET541_ _232AAAA/BAAA/CAAA	RET541_ _232AAAB/BAAB	RET541_ _233AAAA/BAAA/CAAA	RET541_ _233AAAB/BAAB	RET541_ _234AAAA/BAAA/CAAA	RET541_ _234AAAB/BAAB	RET541_ _235AAAA/BAAA/CAAA	RET541_ _235AAAB/BAAB		RET543_ _240AAAA/BAAA/CAAA	RET543_ _240AAAB/BAAB	RET543_ _241AAAA/BAAA/CAAA	RET543_ _241AAAB/BAAB	RET543_ _242AAAA/BAAA/CAAA	RET543_ _242AAAB/BAAB	RET543_ _243AAAA/BAAA/CAAA	RET543_ _243AAAB/BAAB	RET543_ _244AAAA/BAAA/CAAA	RET543_ _244AAAB/BAAB	RET543_ _245AAAA/BAAA/CAAA	RET543_ _245AAAB/BAAB		RET545_ _250AAAA/BAAA/CAAA	RET545_ _250AAAB/BAAB	RET545_ _251AAAA/BAAA/CAAA	RET545_ _251AAAB/BAAB	RET545_ _252AAAA/BAAA/CAAA	RET545_ _252AAAB/BAAB	SHEETS INCLUDED
SELECTED VARIANT (X) ->																																		
MODULES INCLUDED																																		
MIM	CT 1/5 A	6	6	7	7	8	8	6	6	7	7	8	8		6	6	7	7	8	8	6	6	7	7	8	8		6	6	7	7	8	8	SEE TABLE 1
	CT 0.2/1 A	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
	VT 100V	3	3	2	2	1	1	3	3	2	2	1	1		3	3	2	2	1	1	3	3	2	2	1	1		3	3	2	2	1	1	
CPU		1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	3
PS1		1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1								3,7
PS2																												1	1	1	1	1	1	3,8
BIO1		1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1		2	2	2	2	2	2	9,10*)
BIO2															1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	11
RTD1								1	1	1	1	1	1								1	1	1	1	1	1								12
MMI, LOCAL		1		1		1		1		1		1			1		1		1		1		1		1			1		1		1		3
MMI, EXTERNAL			1		1		1		1		1		1			1		1		1		1		1		1			1		1		1	3

*) SHEET 10 INCLUDED IN RET 545

R E T 5 4 1 A C 2 3 0 A A A A

- TRANSFORMER TERMINAL TYPE
- SOFTWARE REVISION: A
- FUNCTIONALITY LEVEL: B=BASIC, C=CONTROL, M=MULTI
- HARDWARE NUMBER: 230–235, 240–245, 250–252
- AUX. VOLTAGE ; BINARY INPUT RANGE
  - A= 110–220VDC/110–240VAC ; 80–265VDC
  - B= 110–220VDC/110–240VAC ; 155 – 265VDC
  - C= 24–60VDC ; 18–265 VDC
- RESERVED FOR FURTHER USE
- RESERVED FOR FURTHER USE
- A= LOACL MMI , B= EXTERNAL MMI

TRANSFORMER MODULE	SHEETS INCLUDED
MIM603 + RTXP24	4
MIM702 + RTXP24	5
MIM801 + RTXP24	6

SELECTED TYPE

TABLE 1

MODULE TYPES

MODULE	DESCRIPTION
MIM603	TRANSFORMER MODULE (see table 1)
CPU	CENTRAL PROCESSOR MODULE
PS1	POWER SUPPLY MODULE 1 (AND BINARY I/O)
PS2	POWER SUPPLY MODULE 2 (AND BINARY OUT)
BIO1	BINARY IN/OUT MODULE 1
BIO2	BINARY IN/OUT MODULE 2
RTD1	RTD/ANALOGUE MODULE
MMI	MAN–MACHINE INTERFACE

AUX. VOLTAGE	BINARY INPUT RANGE
24–60VDC	18–265VDC
110–220VDC or 110–240VAC	80–265VDC or 155–265VDC

AUX. VOLTAGE
24–60VDC
110–220VDC or 110–240VAC

BINARY INPUT RANGE
18–265VDC
80–265VDC
155–265VDC

BINARY INPUT RANGE
18–265VDC
80–265VDC
155–265VDC

SELECTED TYPE

MUUTOS REVISION		
	C	
	B	Sheet 6 changed. 13.12.2005/SB

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME GENERAL OVERVIEW TRANSFORMER TERMINAL RET 54_	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 1 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

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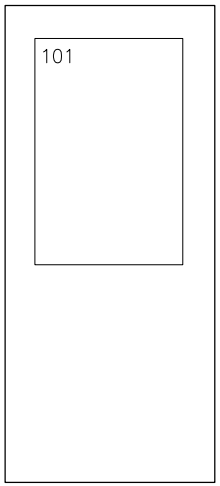
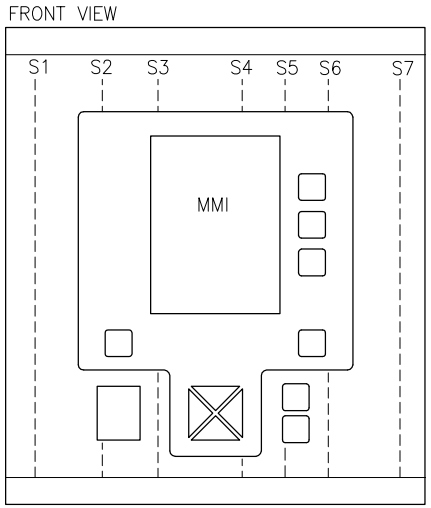
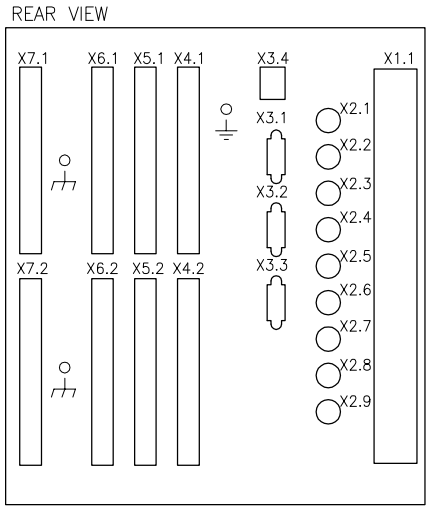


101 RTXP 24



DESIGNATION CORRESPONDING TO CASING		
MODULE	FRONT	REAR CONNECTOR
MIM	S1,S2	X1.1 and X2.1 ... X2.9
CPU	S3	X3.1 ... X3.4
PS1 or PS2	S4	X4.1 and X4.2
BIO1	S5	X5.1 and X5.2
RTD1 or BIO1	S6	X6.1 and X6.2
BIO2	S7	X7.1 and X7.2



TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , FRONT AND REAR VIEW	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva-Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 2 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254-AAA	PAINOS REVISION B

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C		
B	Sheet 6 changed. 13.12.2005/SB	

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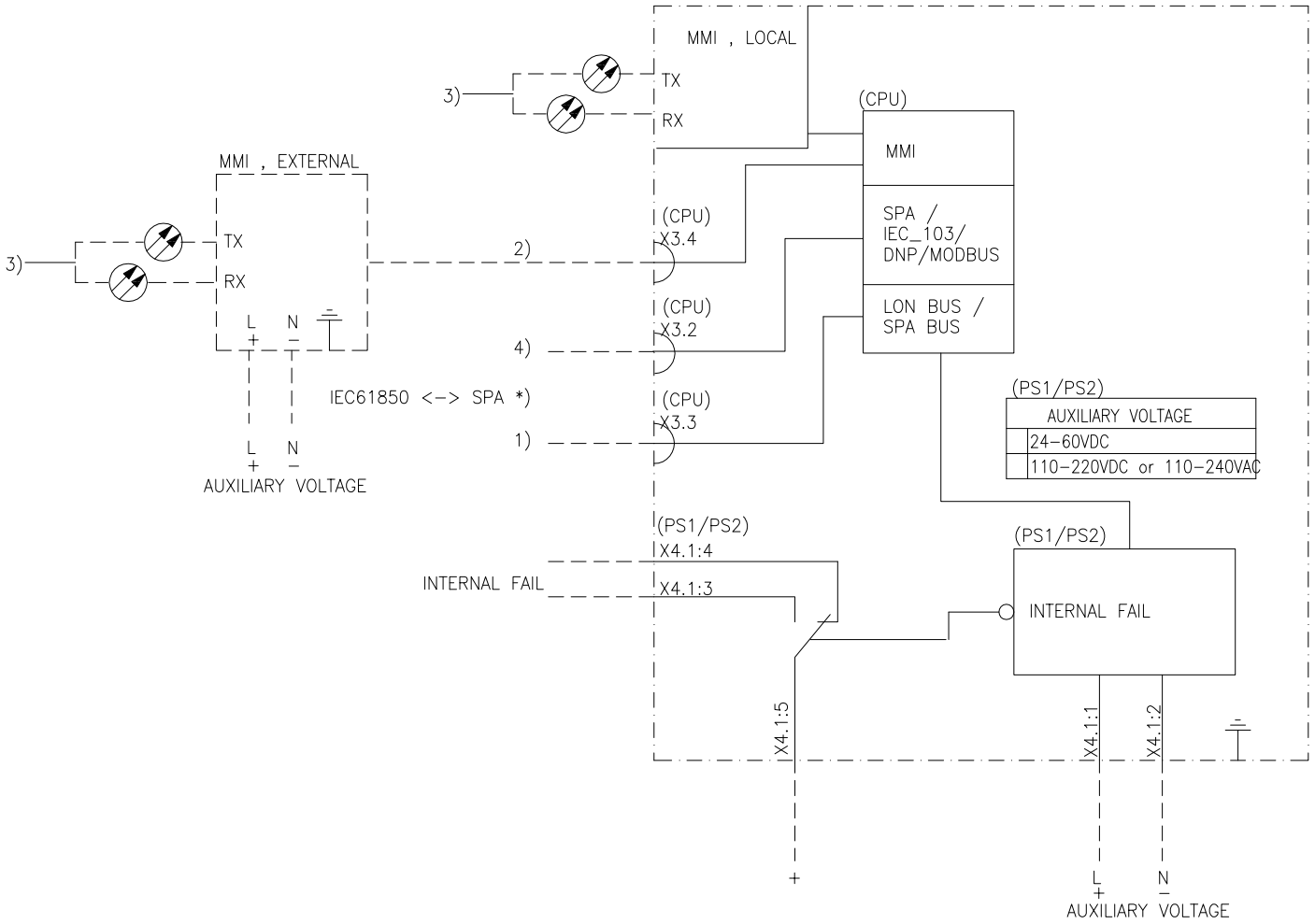

MODULE	POSITION	
	FRONT	REAR
CPU	S3	X3.3 and X3.4
PS1	S4	X4.1 and X4.2
PS2	S4	X4.1 and X4.2

<-- USED IN RET 545

1) DATA COMMUNICATION , RS485
LON BUS OR SPA BUS, SELECTABLE.
USE THE FIBRE−OPTIC INTERFACE
MODULE RER 103 FOR GALVANIC
ISOLATION.

2) CABLE TO EXTERNAL MMI, IF USED.

3) OPTICAL PORT FROM MMI (LOCAL OR EXTERNAL)
CONNECTION MADE WITH A SPECIAL
OPTICAL INTERFACE CABLE.

4) DATA COMMUNICATION , RS232
IEC OR SPA BUS, DNP OR MODBUS
SELECTABLE.
USE THE FIBRE−OPTIC INTERFACE
MODULE RER 123 FOR GALVANIC
ISOLATION FOR IEC 103 / SPA BUS
USE THE RS485 INTERFACE
MODULE RER 133 FOR GALVANIC
ISOLATION FOR DNP / MODBUS

*) USE THE ETHERNET INTERFACE MODULE
SPA−ZC 400 FOR IEC61850

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , DATA COMMUNICATION	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva−Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 3 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254−AAA	PAINOS REVISION B

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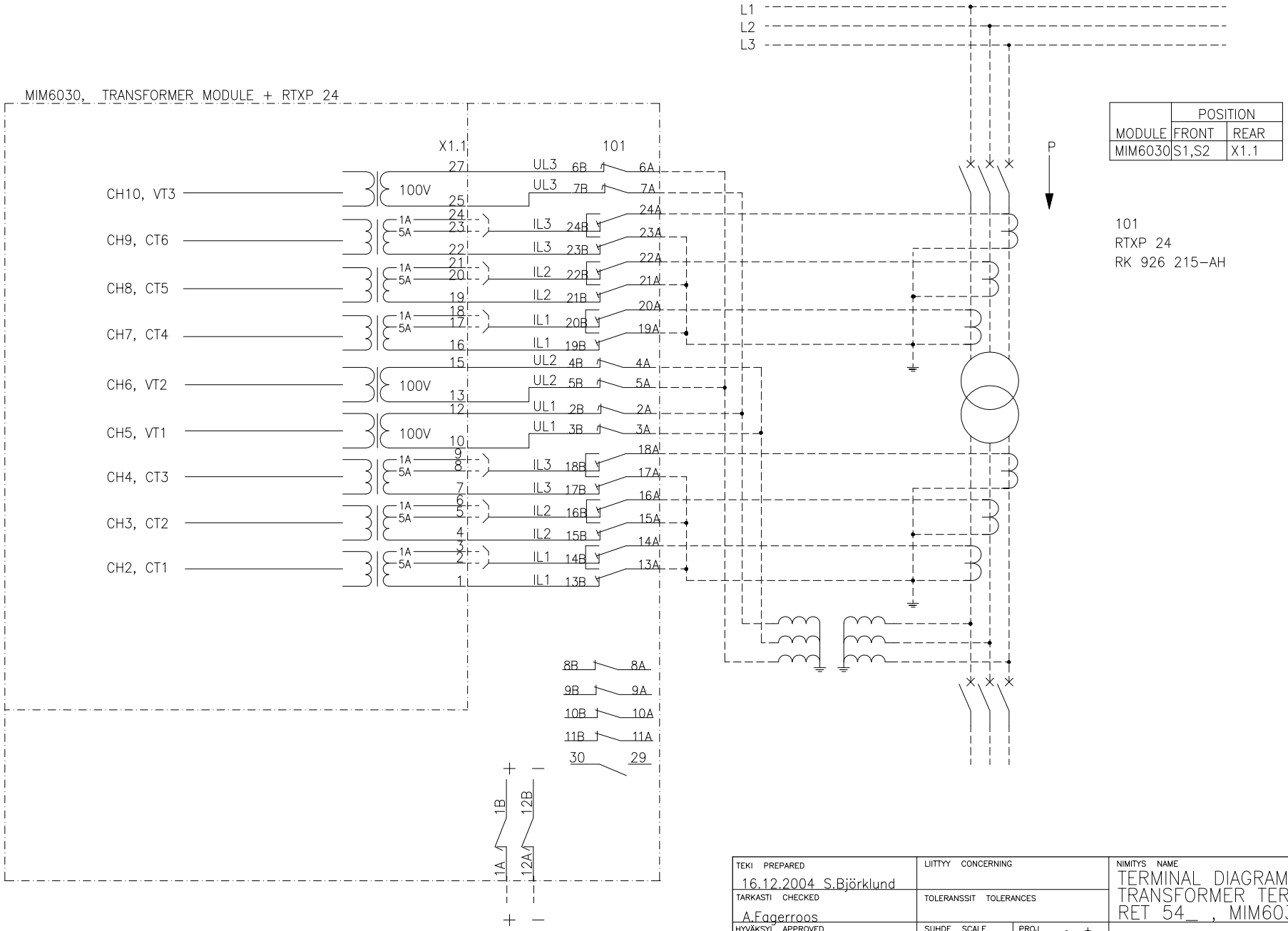

	POSITION	
MODULE	FRONT	REAR
MIM6030	S1,S2	X1.1

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , MIM6030 + RTXP 24	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva-Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 4 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254-AAA	PAINOS REVISION B

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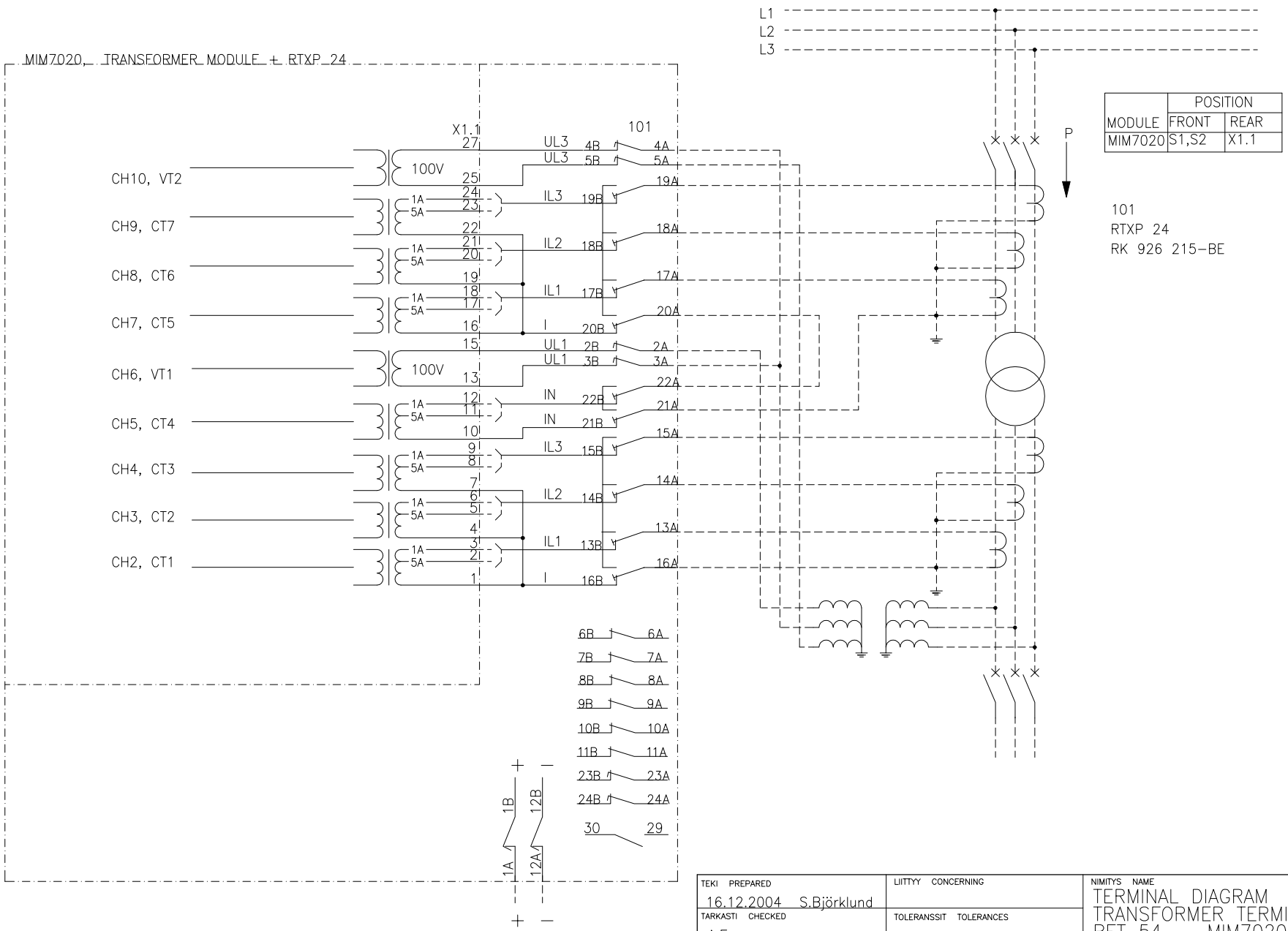

	POSITION	
MODULE	FRONT	REAR
MIM7020	S1,S2	X1.1

TEKI PREPARED	16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME: TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , MIM7020 + RTXP 24
TARKASTI CHECKED	A.Fagerroos	TOLERANSSIT TOLERANCES	
HYVÄKSYI APPROVED	K.Latva-Rasku	SUHDE SCALE / PROJ	LEHTI SHEET: 5 / 12
ABB Oy Distribution Automation		OSASTO DEPT.: RSG	PIIRUSTUS NO DRAWING NO: 1MRS010254-AAA
			PAINOS REVISION: B

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C		
B	Sheet 6 changed. 13.12.2005/SB	

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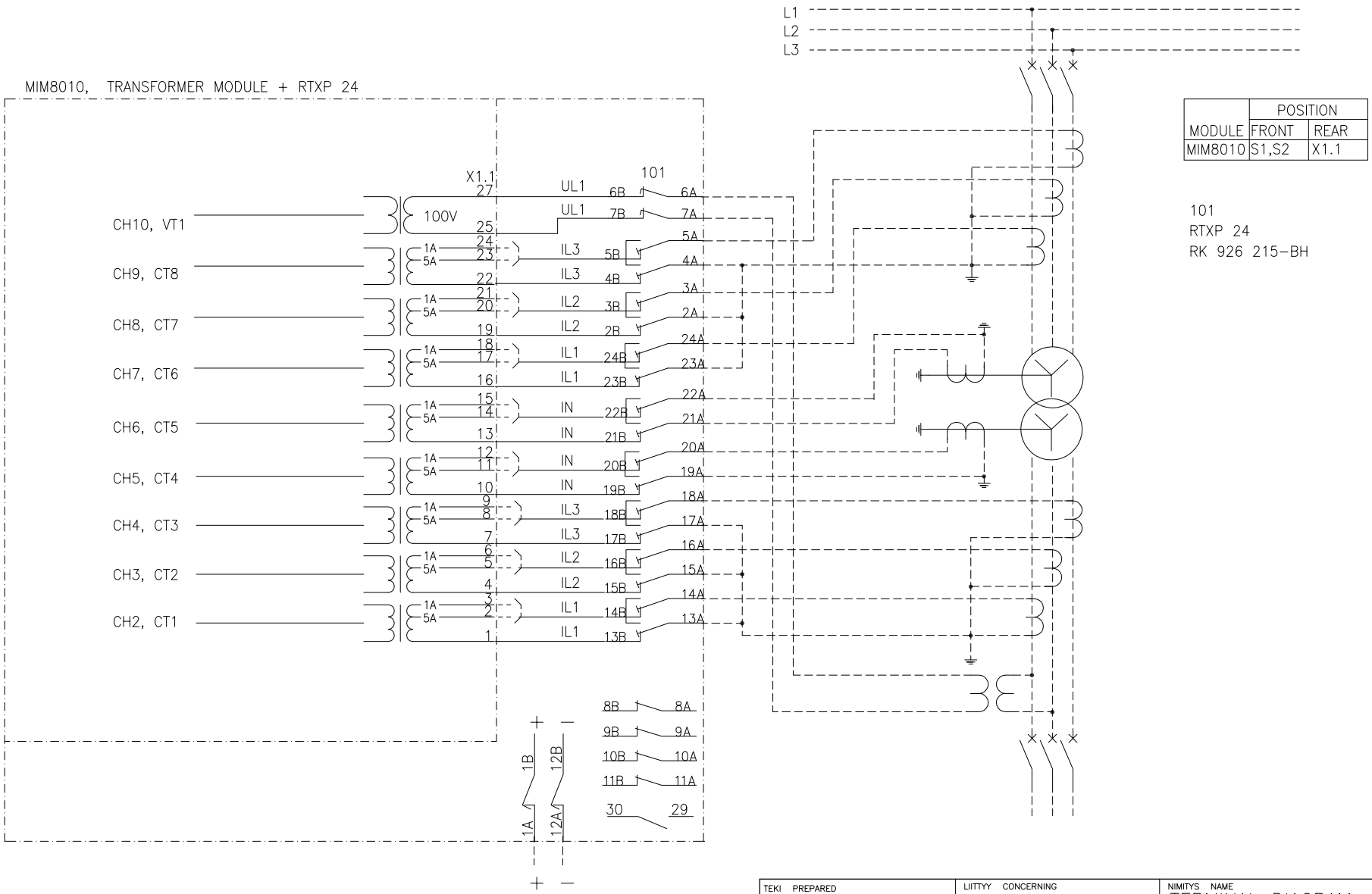

	POSITION	
MODULE	FRONT	REAR
MIM8010	S1,S2	X1.1

101
RTXP 24
RK 926 215–BH

MUUTOS REVISION		
C		
B	Connection to 101:20A and 101:21A changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , MIM8010 + RTXP 24	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 6 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

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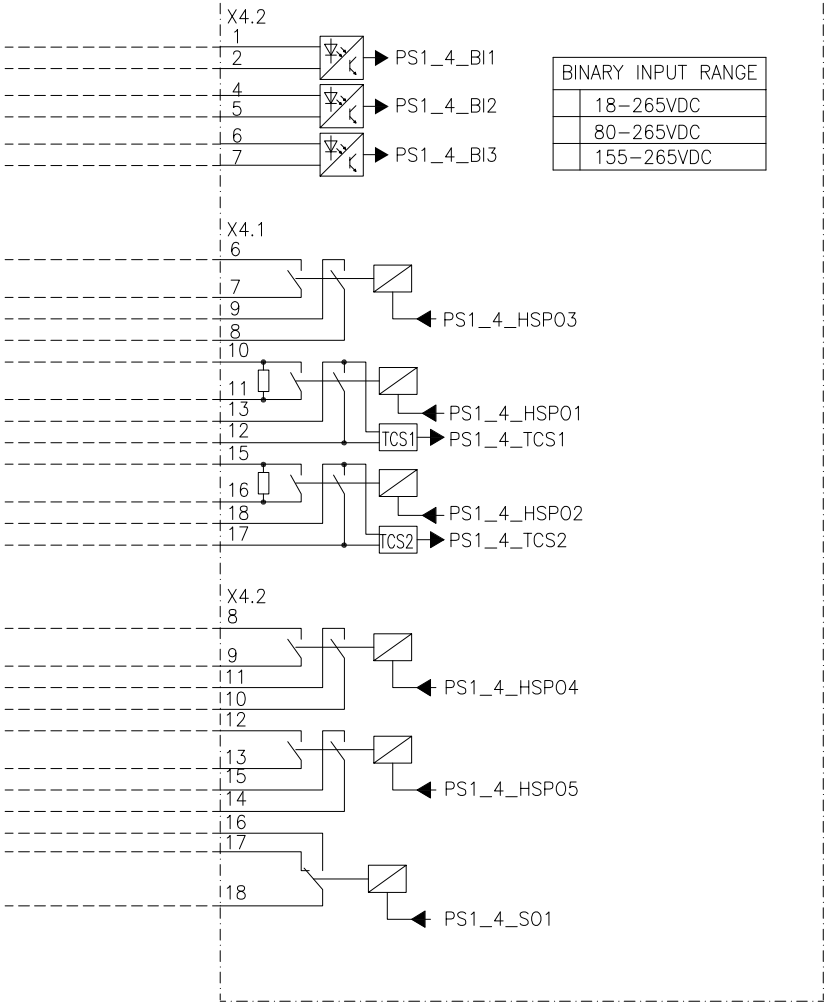
PS1 , POWER SUPPLY MODULE 1, BINARY IN/OUT



BINARY INPUT RANGE
18–265VDC
80–265VDC
155–265VDC

MODULE	POSITION	
	FRONT	REAR
PS1	S4	X4.1 and X4.2

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , PS1–MODULE, BINARY IN/OUT	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 7 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

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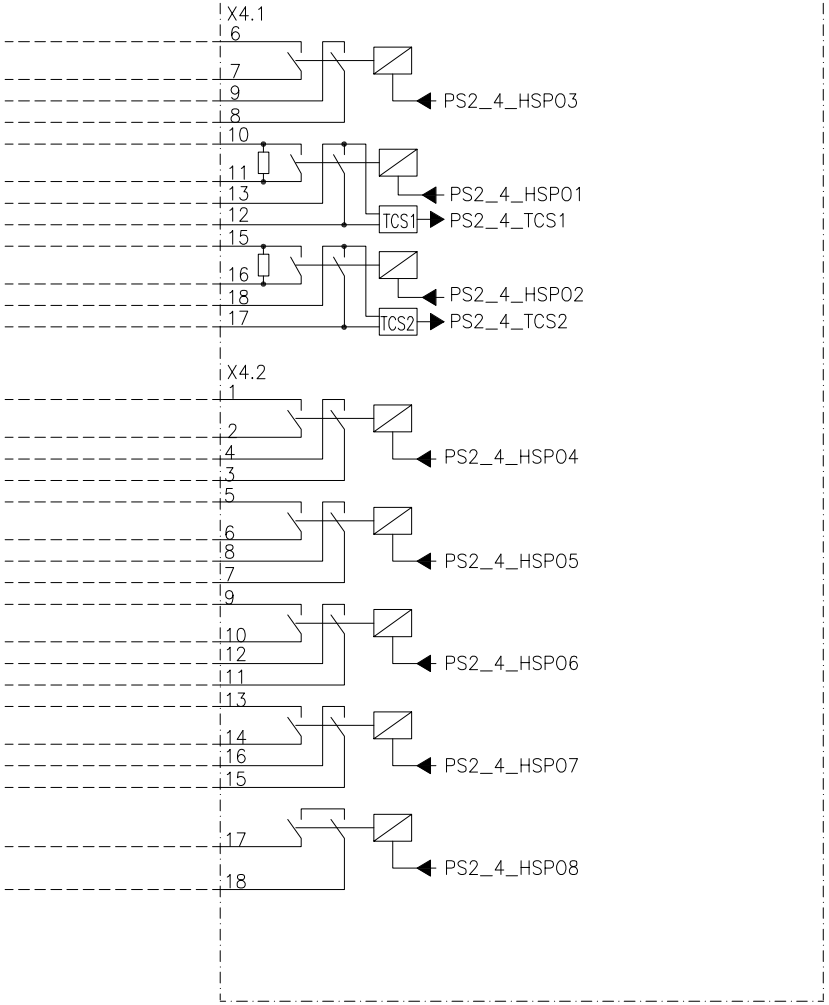
PS2 , POWER SUPPLY MODULE 2, BINARY OUT



MODULE	POSITION	
	FRONT	REAR
PS2	S4	X4.1 and X4.2

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 545 , PS2-MODULE , BINARY OUT		
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES			
HYVÄKSYI APPROVED K.Latva-Rasku	SUHDE SCALE	PROJ		LEHTI SHEET 8 / 12
ABB Oy Distribution Automation		OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254-AAA	PAINOS REVISION B

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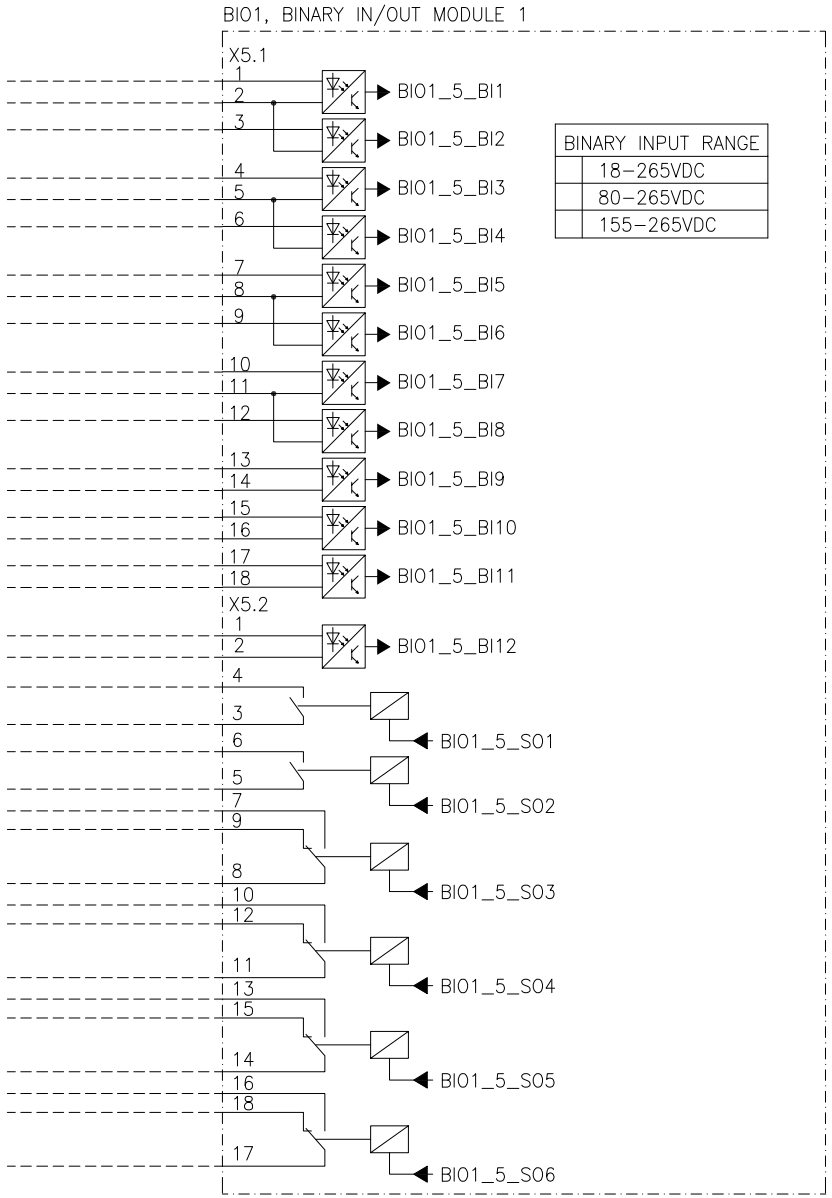

BINARY INPUT RANGE
18–265VDC
80–265VDC
155–265VDC

MODULE	POSITION	
	FRONT	REAR
BIO1	S5	X5.1 and X5.2

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , BIO1–MODULE, BINARY IN/OUT	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 9 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

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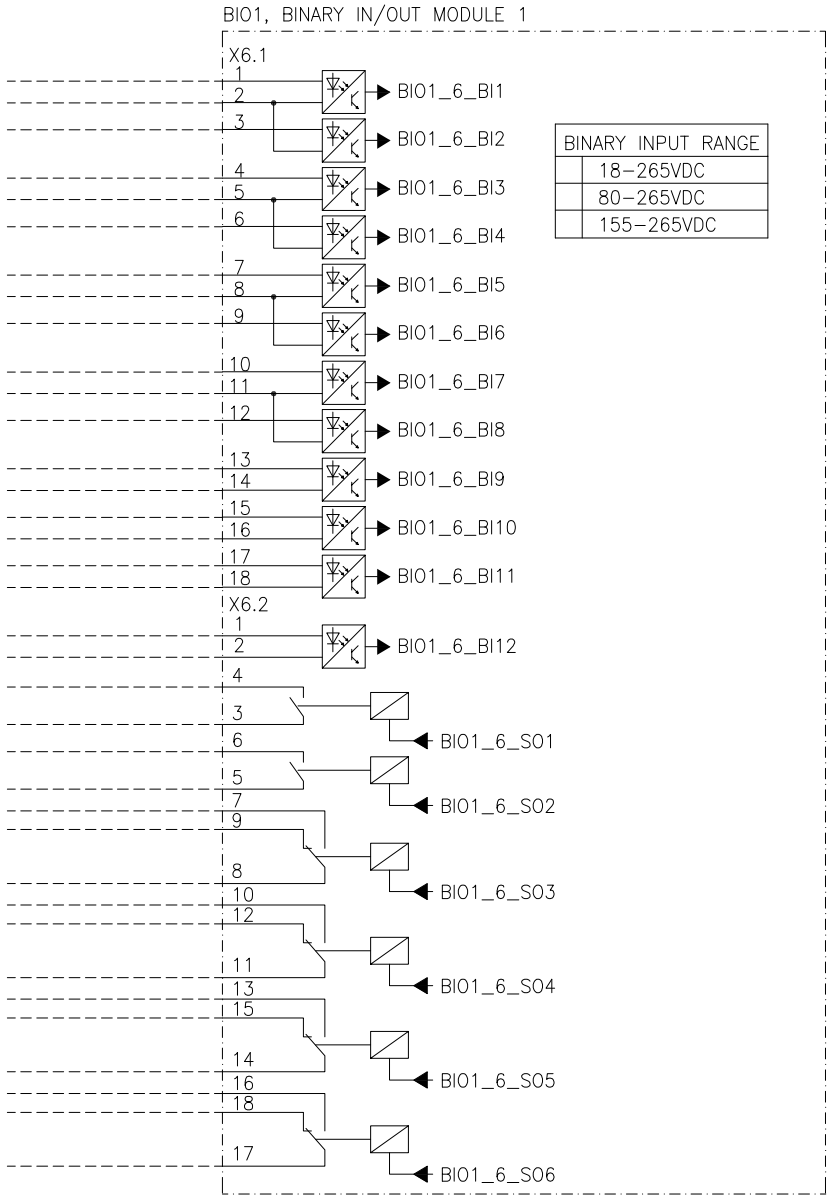

BINARY INPUT RANGE
18–265VDC
80–265VDC
155–265VDC

MODULE	POSITION	
	FRONT	REAR
BIO1	S6	X6.1 and X6.2

<-- USED IN RET545

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , BIO1–MODULE, BINARY IN/OUT	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 10 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

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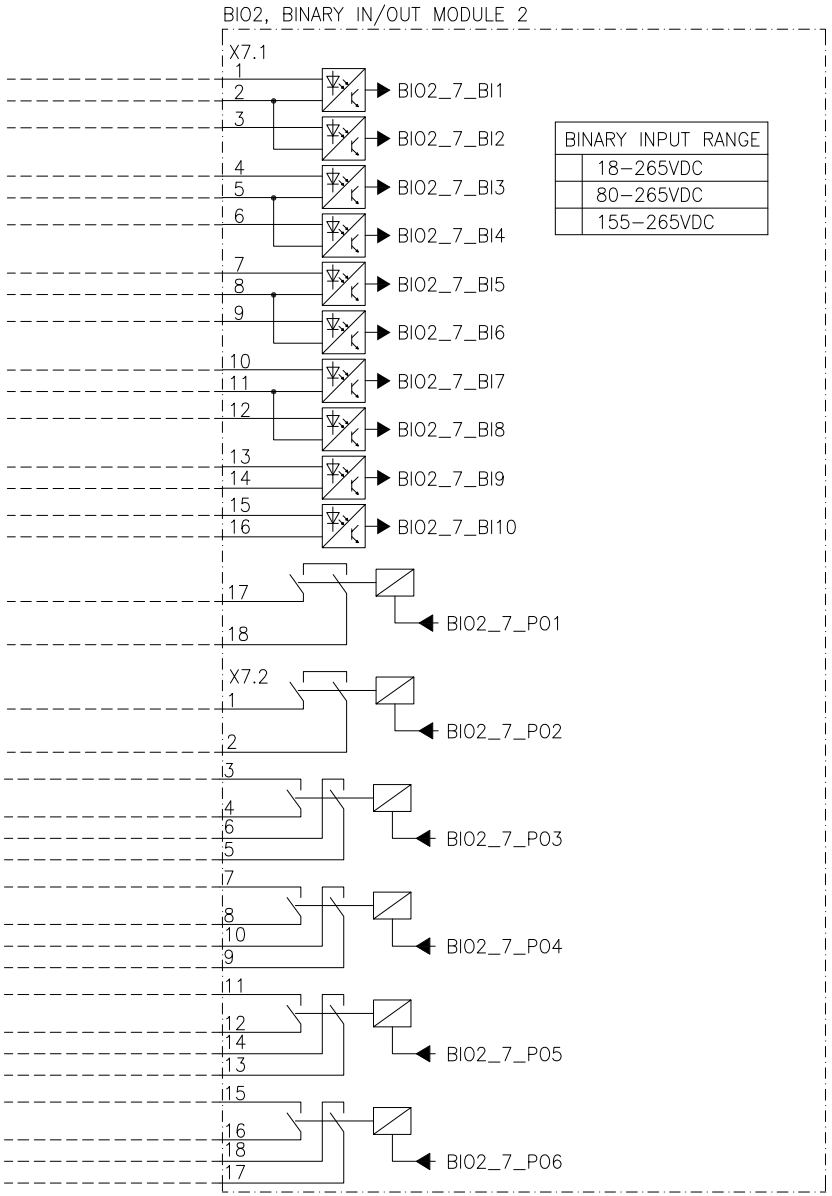

BINARY INPUT RANGE	
	18–265VDC
	80–265VDC
	155–265VDC

	POSITION	
MODULE	FRONT	REAR
BIO2	S7	X7.1 and X7.2

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING	NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_ , BIO2–MODULE, BINARY IN/OUT	
TARKASTI CHECKED A.Fagerroos	TOLERANSSIT TOLERANCES		
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE / PROJ		LEHTI SHEET 11 / 12
ABB Oy Distribution Automation	OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

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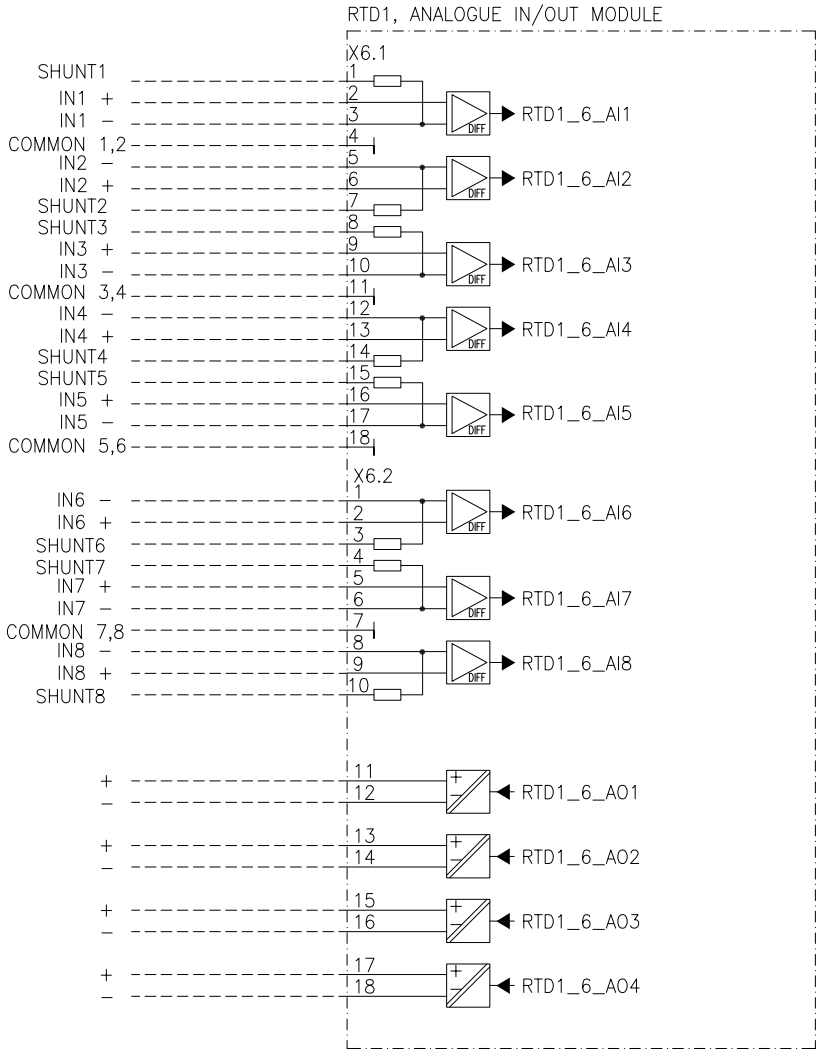

MODULE	POSITION	
	FRONT	REAR
RTD1	S6	X6.1 and X6.2

TEKI PREPARED 16.12.2004 S.Björklund	LIITTYY CONCERNING		NIMITYS NAME TERMINAL DIAGRAM TRANSFORMER TERMINAL RET 54_, RTD1–MODULE, ANALOGUE I/O	
TARKASTI CHECKED A.Fageroos	TOLERANSSIT TOLERANCES			
HYVÄKSYI APPROVED K.Latva–Rasku	SUHDE SCALE	PROJ		LEHTI SHEET 12 / 12
ABB Oy Distribution Automation		OSASTO DEPT. RSG	PIIRUSTUS NO DRAWING NO 1MRS010254–AAA	PAINOS REVISION B

MUUTOS REVISION		
C		
B	Sheet 6 changed. 13.12.2005/SB	