How to use the default configuration..... 1MRK 580 377-XEN
Terminal diagram 1MRK 001 452-AA
Default configuration..... 1MRK 001 697-20

1 Introduction

The user can use this default configuration as a base when starting the engineering work with REC 561. Different users have their own requirements for how the substation is controlled and monitored. The REC 561 control terminal can meet these requirements for flexibility of both software and hardware. With the CAP 531 configuration tool, the user can connect the different function blocks in the control terminal together in a user-friendly way.

The library for REx 5xx for CAP 531 (CAP/REx 500) must be installed on the same computer as the basic CAP 531 configuration tool.

In CAP 531, a function selector is used to select the type of included I/O modules, type of interlocking modules, and so on.

The example configuration is included in the library software CAP/REx 500. The appendix of this document contains a printout of the configuration.

2 Application

The default configuration consists of type solutions for a double busbar and single, circuit-breaker arrangement that includes three disconnectors and one earthing switch, see figure 1. Use the copy/paste and find/replace commands in CAP 531 to extend the number of apparatuses and bays (option). Connections of optional functions are not included in the default configuration, but can be found under the functions respectively in the technical reference manual or when the function is connected to the apparatus control function in the section *Apparatus Control*.

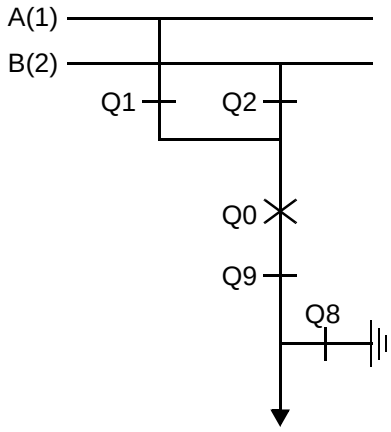

Figure 1: Switchyard arrangement for the default configuration

The configuration is divided into several worksheets, which are commented below.

2.1 General

For this default configuration, the function selector in the CAP 531 has these settings:

Table 1: Selected functions in the default configuration

Function group	Selector	Value
AppControlType	APCACTIVE	1=ON
AppControlType	APCGT8BAYS	0=0 bay > 8 app
AppControlType	APCSELSUP	0=None
AppControlType	APCSYNC	1=External/None Synchrocheck
I/O-module01	Type_IO1	1=BIM
I/O-module02	Type_IO2	2=BOM
I/O-module03	Type_IO3	0=None
I/O-module04	Type_IO4	0=None
I/O-module05	Type_IO5	0=None
I/O-module06	Type_IO6	0=None
I/O-module07	Type_IO7	0=None
I/O-module08	Type_IO8	0=None
I/O-module09	Type_IO9	0=None

Table 1: Selected functions in the default configuration

Function group	Selector	Value
I/O-module10	Type_IO10	0=None
I/O-module11	Type_IO11	0=None
I/O-module12	Type_IO12	0=None
I/O-module13	Type_IO13	0=None
InterlockType	ILTYPE1	2=ABC_LINE

The settings in table 1 mean:

- The apparatus control function is activated.
- No bays in the terminal have more than 8 apparatuses.
- No external selection relays are used.
- External synchrocheck is used.
- The binary input module of type BIM is defined as I/O module 1.
- The binary output module of type BOM is defined as I/O module 2.
- No other types of I/O modules are defined.
- The interlocking module ABC_LINE is selected.

With the above choices, the tool automatically selects the BAYCONA apparatus control module for the bay and SWICONB for the breaker and SWICONC for other apparatuses. The interlocking module ABC_LINE is also selected.

External fuse failure supervision is assumed, because no options are included in this default configuration.

2.2 Station HMI

The HMI worksheet contains function blocks for event handling of bay-oriented signals, for example:

- If the bay is connected to the busbar
- Abnormal status
- Blocking of the whole bay
- Position of remote/station/local switch

Control signals for blocking the whole bay and for switching the bay in station/remote are also displayed in this worksheet. Alarm signals for external signals (via the binary input module), for example, external voltage fuse failure or synchro-check failure, and internal signals are connected to the event function blocks for transferring to the station HMI and/or remote gateway. There might be more internal signals, depending on the options installed, for example, the A/D-conversion module.

If the time synchronisation is performed by a minute pulse, the time synchronisation block must be connected to a binary input via an I/O module block, see the I/O worksheet.

Note that the event function blocks start on number EV13, because EV01 to EV12 are reserved for protection functions or functions requiring fast execution times.

2.3 Communication with other bays

In the COMM worksheet the sending and receiving part of the reservation function between bays is displayed. The configuration is prepared to communicate with ten other bays including a bus-coupler bay. Normally, only the bays, which influence the interlocking conditions, are reserved. Complete the Multiple Command Function blocks for bay 2 to 10 with interlocking information from these bays in the same way as from the bus-coupler bay. If there are no interlocking information to be used from bays 2 to 10, the Multiple Command Function blocks for these bays can be deleted. For more information about the reservation principle see the section *Apparatus Control*.

The time for cyclic sending of data between control terminals is set to 20 s for the event function blocks. The interval time, in corresponding command function blocks for receiving of data, is set a little bit longer — 21 s in this configuration — to supervise the communication.

2.4 Reservation function

The reservation function within the own bay is configured in the BAY_RE worksheet. The solution follows the principle of reservation in the section *Apparatus Control*.

2.5 Bay control

The BAY_CON worksheet contains the bay-oriented control functions including blocking and interlocking functions. To create the abnormal status signal, connect all corresponding signals together via an OR gate.

Here, the VOLT_OP and VOLT_CL input signals are set to FALSE and TRUE, which means that the line voltage is not considered in the interlocking function. You can use the logic in this configuration to consider the voltage value by connecting the limit-supervision block for the analogue inputs and the fuse failure supervision. These functions are options and are not included in this default configuration.

2.6 Circuit breaker control

The configuration of circuit breaker control is made according to the Q0_CON worksheet. It is configured for use with external synchro-check, which means use of SWICONB. To use the optional internal synchro-check function, some modifications must be made according to the section *Apparatus Control*, which also describes the connections to other options, for example, autoreclosing. Trip signals from optional protection functions are connected via the tripping logic. All breaker specific indications, events and commands between the terminal and the station HMI and the remote gateway are configured in this worksheet.

In the event function block for transferring of signals to the station HMI, the suppression times for displaying and event handling of the breaker position are set to one second to avoid presentation of middle position.

2.7 Disconnector control

There is one worksheet for each disconnector. The designations of the worksheets are Q1_CON, Q2_CON and Q9_CON. The configuration is made in the same way as for the breaker—without the possibilities to connect synchrocheck, autoreclosing, and trip signals.

In the event function block for transferring of signals to the station HMI, the suppression time for displaying the disconnector position is set to zero to display the middle position. The suppression time for the event handling of the disconnector position is set to 10 seconds—to avoid events during the normal run of the disconnector.

2.8 Earthing switch control

The configuration in the Q8_CON worksheet for the earthing switch is the same as for the disconnector control.

2.9 Input/output modules

The I_O worksheet contains the configuration of the input/output signals. The FIXD-ON (true) and FIXD_OFF (false) signals are distributed to applicable function block inputs in their own and other worksheets. These signals are exchanged to other connections, for example, when options or other functions are added. This worksheet also displays the configuration that connects I/O slots to the I/O modules.

DECISION TABLE FOR SHEETS INCLUDED DEPENDING ON CHOSEN OPTIONS

SELECTED TYPE (X)	TYPE OF TERMINAL	SHEETS INCLUDED
	REx 5xx 1/2x19"	2, 5-7
	REx 5xx 3/4x19"	3, 5-7
	REx 5xx 1/1x19"	4, 5-7
	REx 5xx + TEST SWITCH MODULE RTXP 24 INTERNAL EARTHING (ONLY 1/2x19" AND 3/4x19")	8, 10
	REx 5xx + TEST SWITCH MODULE RTXP 24 EXTERNAL EARTHING (ONLY 1/2x19" AND 3/4x19")	8, 11
	TRANSFORMER INPUT MODULE + A/D-CONVERSION MODULE + SIGNAL PROCESSING MODULE	9
	NOTE! OPTIONAL ADDITION OF I/O MODULES - MAX 3 (1/2x19"), 8 (3/4x19"), 13 (1/1x19") OF MODULES (BIM, BOM, IOM, MIM, AND DCM) - OF THE ADDITIONAL MODULES MAX 1 (1/2x19"), 3 (3/4x19"), 6 (1/1x19") MAY BE MIM - OF THE ADDITIONAL MODULES MAX 1 MAY BE DCM IN POS. S19 (1/2x19"), S29 (3/4x19"),S36 (1/1x19")	
IOM/PSM	BINARY IN/OUT ON POWER SUPPLY MODULE	12
IOM	BINARY IN/OUT MODULE	13
BIM	BINARY IN 16 MODULE	14
BOM	BINARY OUT MODULE	15
MIM	mA INPUT MODULE	16
DCM	DIGITAL COMMUNICATION MODULE	17

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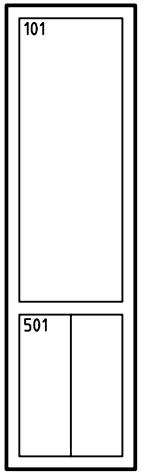
REx 5xx 1/2x19"

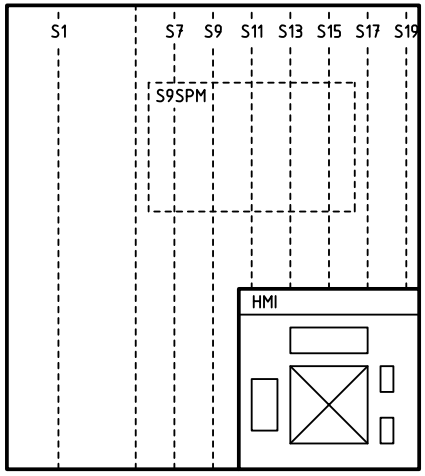


101 RTXP 24

501 DC-SWITCH

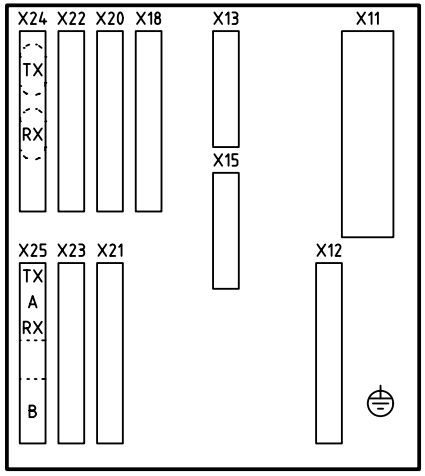
1/2x19" (241,3 mm)

FRONT VIEW



6U (266,7 mm)

REAR VIEW



DESIGNATION CORRESPONDING TO CASING		
1/2x19"		
MODULE	FRONT	REAR
TRM	S1	X11,12
ADM	S7	-
MPM	S9	X13,15
PSM	S13	X18
1)	S15	X20,21
1)	S17	X22,23
2)	S19	X24,25

TABLE 1

1) BIM, BOM, IOM AND/OR MIM

2) BIM, BOM, IOM, MIM OR DCM

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		Approved 98-03-26	P JENÅKER		
Rev Ind	Revision	Reg No 7433		Resp dep PS	Rev Ind 2 98-08-11
Based on		Pcl 891 150		ABB Network Partner AB	1MRK 001452-AA

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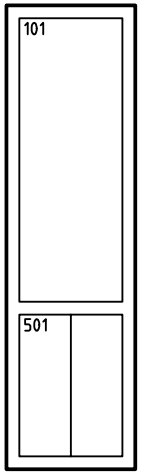
Sheet 2

Cont 3

REx 5xx 3/4x19"

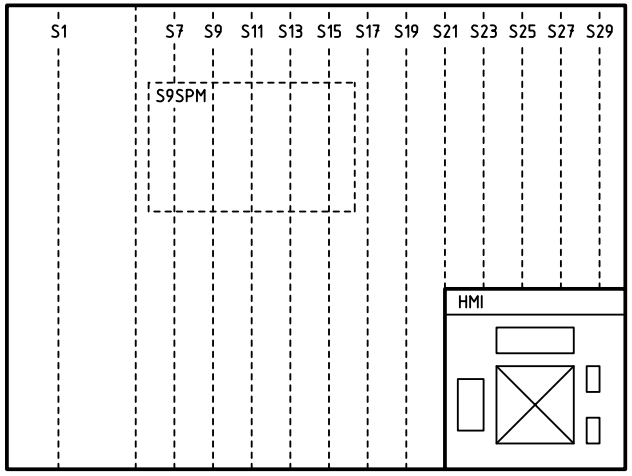


101 RTXP 24

501 DC-SWITCH

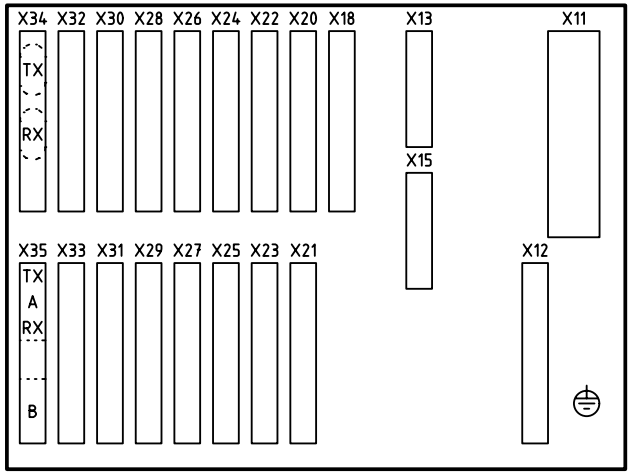
3/4x19" (362 mm)

FRONT VIEW



6U (266,7 mm)

REAR VIEW



DESIGNATION CORRESPONDING TO CASING		
3/4x19"		
MODULE	FRONT	REAR
TRM	S1	X11,12
ADM	S7	-
MPM	S9	X13,15
PSM	S13	X18
1)	S15	X20,21
1)	S17	X22,23
1)	S19	X24,25
1)	S21	X26,27
1)	S23	X28,29
1)	S25	X30,31
1)	S27	X32,33
2)	S29	X34,35

TABLE 2

1) BIM, BOM, IOM AND/OR MIM

2) BIM, BOM, IOM, MIM OR DCM

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Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No	7433
Based on		Pcl	891 150

TERMINAL DIAGRAM
PROTECTION AND CONTROL TERMINAL
REx 5xx 3/4x19"

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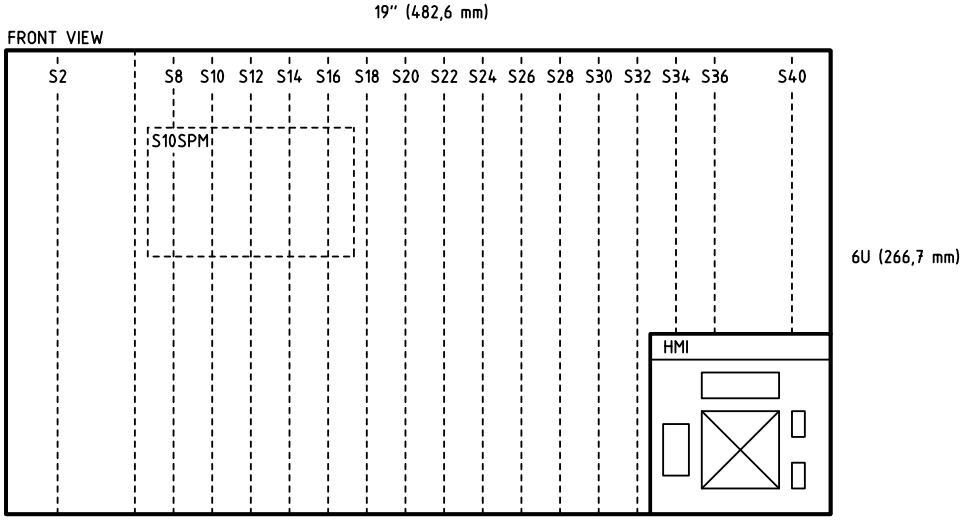
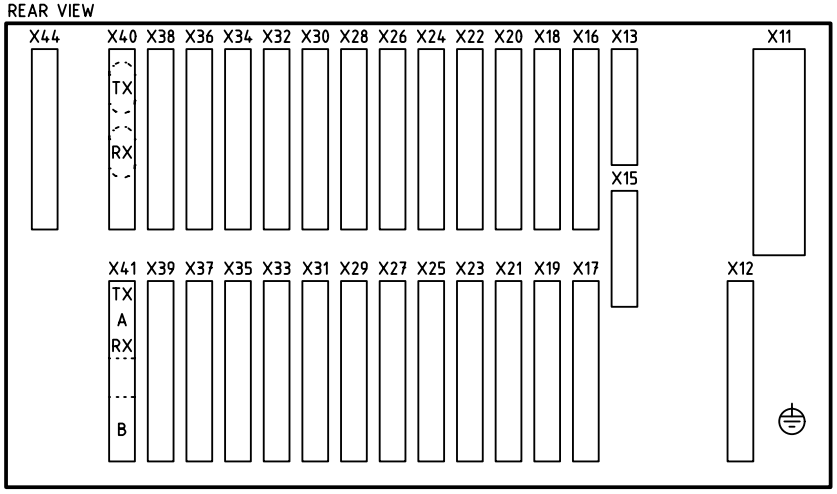
Sheet 3 | Cont 4

REx 5xx 1/1x19"





DESIGNATION CORRESPONDING TO CASING		
1/1x19"		
MODULE	FRONT	REAR
TRM	S2	X11,12
ADM	S8	-
MPM	S10	X13,15
1)	S12	X16,17
1)	S14	X18,19
1)	S16	X20,21
1)	S18	X22,23
1)	S20	X24,25
1)	S22	X26,27
1)	S24	X28,29
1)	S26	X30,31
1)	S28	X32,33
1)	S30	X34,35
1)	S32	X36,37
1)	S34	X38,39
2)	S36	X40,41
PSM	S40	X44

TABLE 3

1) BIM, BOM, IOM AND/OR MIM

2) BIM, BOM, IOM, MIM OR DCM

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Rev Ind	Revision	Reg No 7433		Resp dep PS	Rev Ind 2 98-08-11
Based on		Pcl 891 150		ABB Network Partner AB	1MRK 001452-AA

Lang en
Sheet 4
Cont 5

HARDWARE AND DATA

CASING	TYPE OF CASING
TEST SWITCH	TEST SWITCH MODULE
MODULE	DESCRIPTION
TRM	TRANSFORMER INPUT MODULE SEE TABLE 4
ADM	A/D-CONVERSION MODULE
MPM	MAIN PROCESSING MODULE
SPM	SIGNAL PROCESSING MODULE
PSM	POWER SUPPLY MODULE (AND BINARY I/O)
HMI	HUMAN MACHINE INTERFACE
BOM	BINARY OUT MODULE SEE TABLE 5 SHEET 6
BIM	BINARY IN 16 MODULE SEE TABLE 5 SHEET 6
MIM	mA INPUT MODULE MAX 1pc (1/2x19") 3pc (3/4x19") 6pc (1/1x19") SEE TABLE 5 SHEET 6
IOM	BINARY IN/OUT MODULE SEE TABLE 5 SHEET 6
DCM	DIGITAL COMMUNICATION MODULE
SCM	SERIAL COMMUNICATION MODULE { X13 SPA / IEC 870-5-103; X15 LON }

TYPE OF CASING		
1/2x19" 6U	3/4x19" 6U	1/1x19" 6U

TEST SWITCH MODULE	TYPE OF EARTHING	
RTXP 24	INTERNAL	EXTERNAL

POWER SUPPLY AND BINARY I/O				
AUXILIARY VOLTAGE, EL (DC)	AUXILIARY VOLTAGE, RL (DC)			
	RL24	RL48	RL110	RL220
48/60V / 110/125V / 220/250V	24/30V	48/60V	110/125V	220/250V

COMMUNICATION MODULE							
TYPE OF COMMUNICATION							
V36CO	V36CONTRA	X21	RS530CO	RS530CONTRA	OPTICAL	SHORT RANGE GALVANIC	SHORT RANGE OPTICAL

SERIAL COMMUNICATION MODULE		
TYPE OF CONNECTORS	R:GLASS / T:GLASS	R:PLASTIC / T:PLASTIC
SPA / IEC 870-5-103		
LON		

TRANSFORMER INPUT MODULE			
RATED FREQUENCY,fr 50Hz / 60Hz			
NORMAL INPUTS			
CURRENT INPUT (A)		VOLTAGE INPUT (V)	
I 1-5 NOMINAL CURRENT		U 1-5 NOMINAL VOLTAGE	
1	5	$110/\sqrt{3}$	$220/\sqrt{3}$

TABLE 4

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HARDWARE AND DATA

LOCATION			TERMINAL DESIGNATION		BINARY IN 16 MODULE				BINARY OUT MODULE	BINARY IN/OUT MODULE				mA INPUT MODULE	DIGITAL COMMUNICATION MODULE
					AUXILIARY VOLTAGE (DC)					AUXILIARY VOLTAGE (DC)					
SN=			XA=	XB=	RL24	RL48	RL110	RL220		RL24	RL48	RL110	RL220		
1/2x19"	3/4x19"	1/1x19"			24/30V	48/60V	110/125V	220/250V		24/30V	48/60V	110/125V	220/250V		
-	-	S12	X16	X17											-
-	-	S14	X18	X19											-
S15	S15	S16	X20	X21											-
S17	S17	S18	X22	X23											-
S19	S19	S20	X24	X25											1)
-	S21	S22	X26	X27											-
-	S23	S24	X28	X29											-
-	S25	S26	X30	X31											-
-	S27	S28	X32	X33											-
-	S29	S30	X34	X35											1)
-	-	S32	X36	X37											-
-	-	S34	X38	X39											-
-	-	S36	X40	X41											1)

1) POSSIBLE LOCATION ACCORDING TO SIZE OF CASING RESPECTIVELY

TABLE 5

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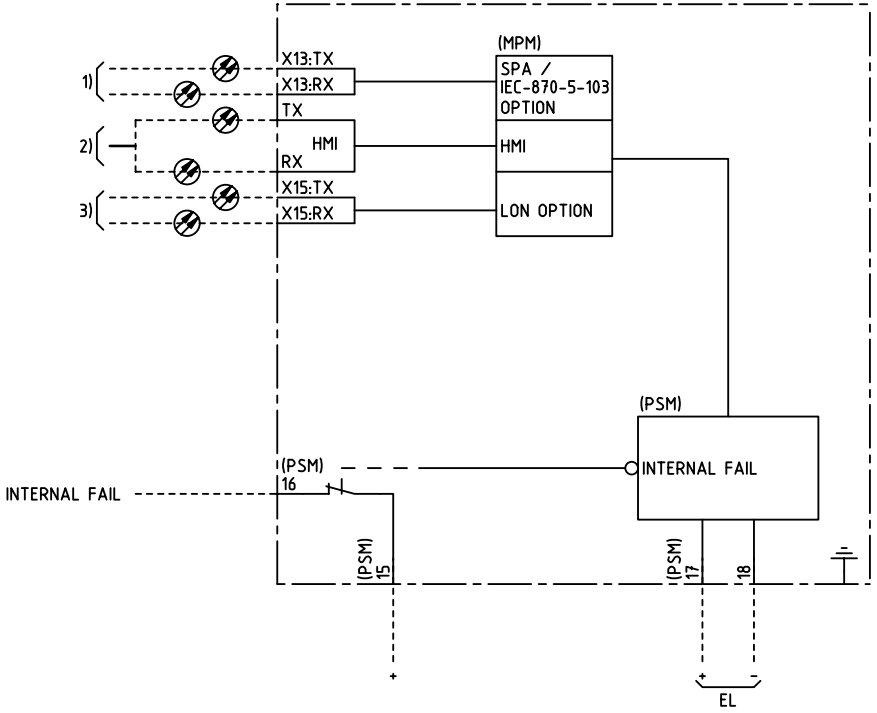
REx 5xx



MODULE	POSITIONS DESIGNATION		
	1/2x19"	3/4x19"	1/1x19"
MPM	S9	S9	S10
PSM	S13	S13	S40

1) COMMUNICATION PORT
SPA / IEC 870-5-103

2) OPTICAL PORT FROM LOCAL HMI.
CONNECTION MADE WITH A
SPECIAL OPTICAL INTERFACE CABLE.

3) COMMUNICATION PORT LON

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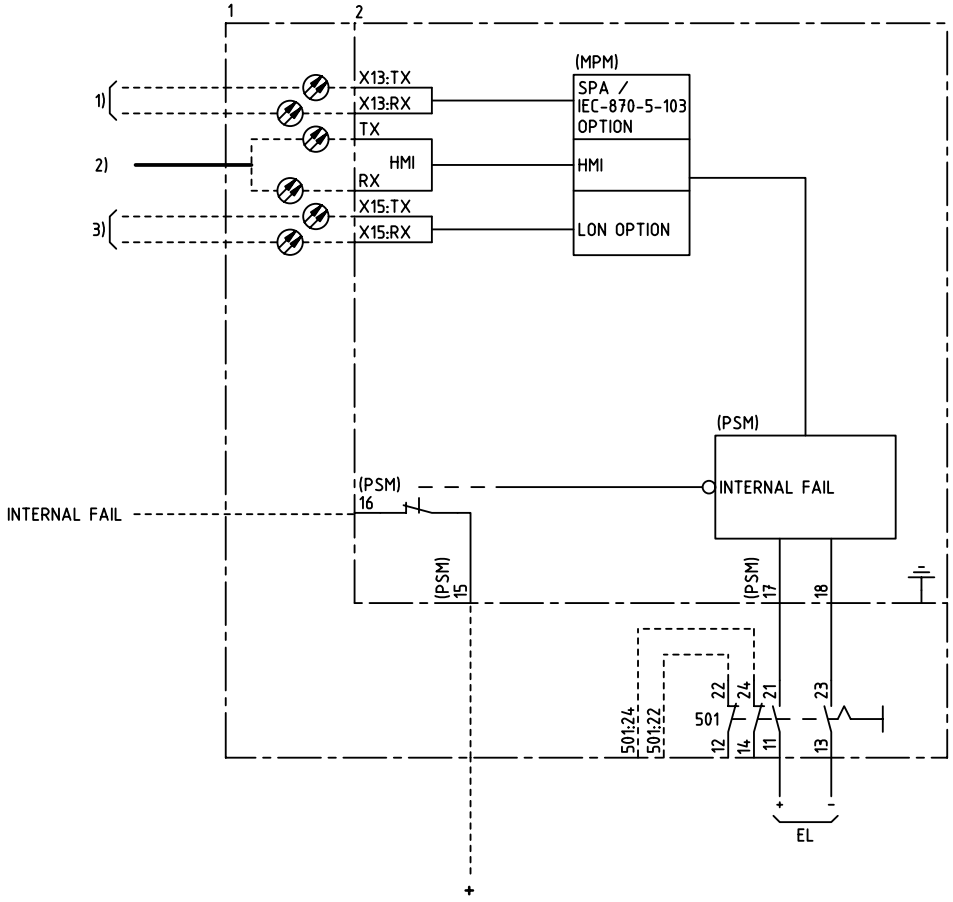
		Approved 98-03-26	P JENÅKER		
Rev Ind	Revision	Reg No 7433		Resp dep PS	Rev Ind 2 98-08-11
Based on		Pcl 891 150		ABB Network Partner AB	1MRK 001452-AA

Lang en
Sheet 7
Cont 8

REx 5xx WITH DC-SWITCH



MODULE	POSITIONS DESIGNATION		
	1/2x19"	3/4x19"	1/1x19"
MPM	2.S9	2.S9	2.S10
PSM	2.S13	2.S13	2.S40

1) COMMUNICATION PORT
SPA / IEC 870-5-103

2) OPTICAL PORT FROM LOCAL HMI.
CONNECTION MADE WITH A
SPECIAL OPTICAL INTERFACE CABLE.

3) COMMUNICATION PORT LON

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TERMINAL DIAGRAM
PROTECTION AND CONTROL TERMINAL
REx 5xx WITH DC-SWITCH

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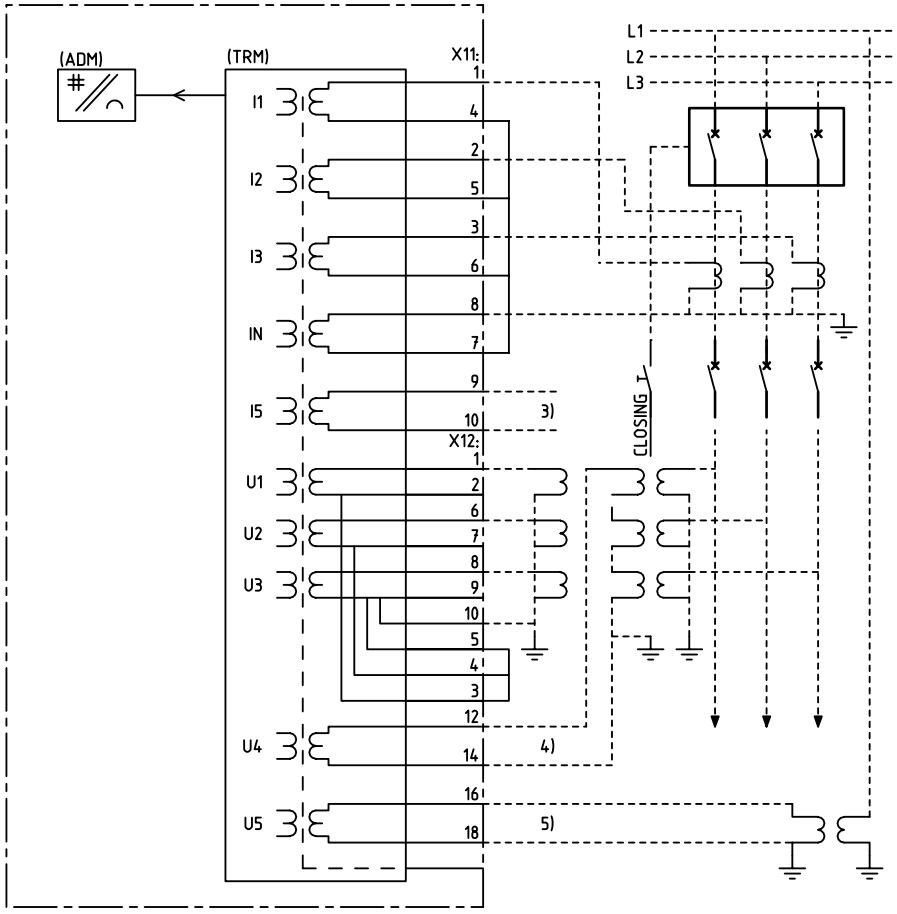
Sheet 8
Cont 9

TRANSFORMER INPUT MODULE AND A/D-CONVERSION MODULE
OPTION



MODULE	POSITIONS DESIGNATION		
	1/2x19"	3/4x19"	1/1x19"
TRM	S1	S1	S2
ADM	S7	S7	S8

3) RESERVED FOR PARALLEL LINE COMPENSATION OR CT SUPERVISION

4) RESERVED FOR DIRECTIONAL EARTH-FAULT FUNCTION

5) RESERVED FOR REF. VOLTAGE

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Rev Ind	Revision	Reg No 7433	
Based on		Pcl 891 150	

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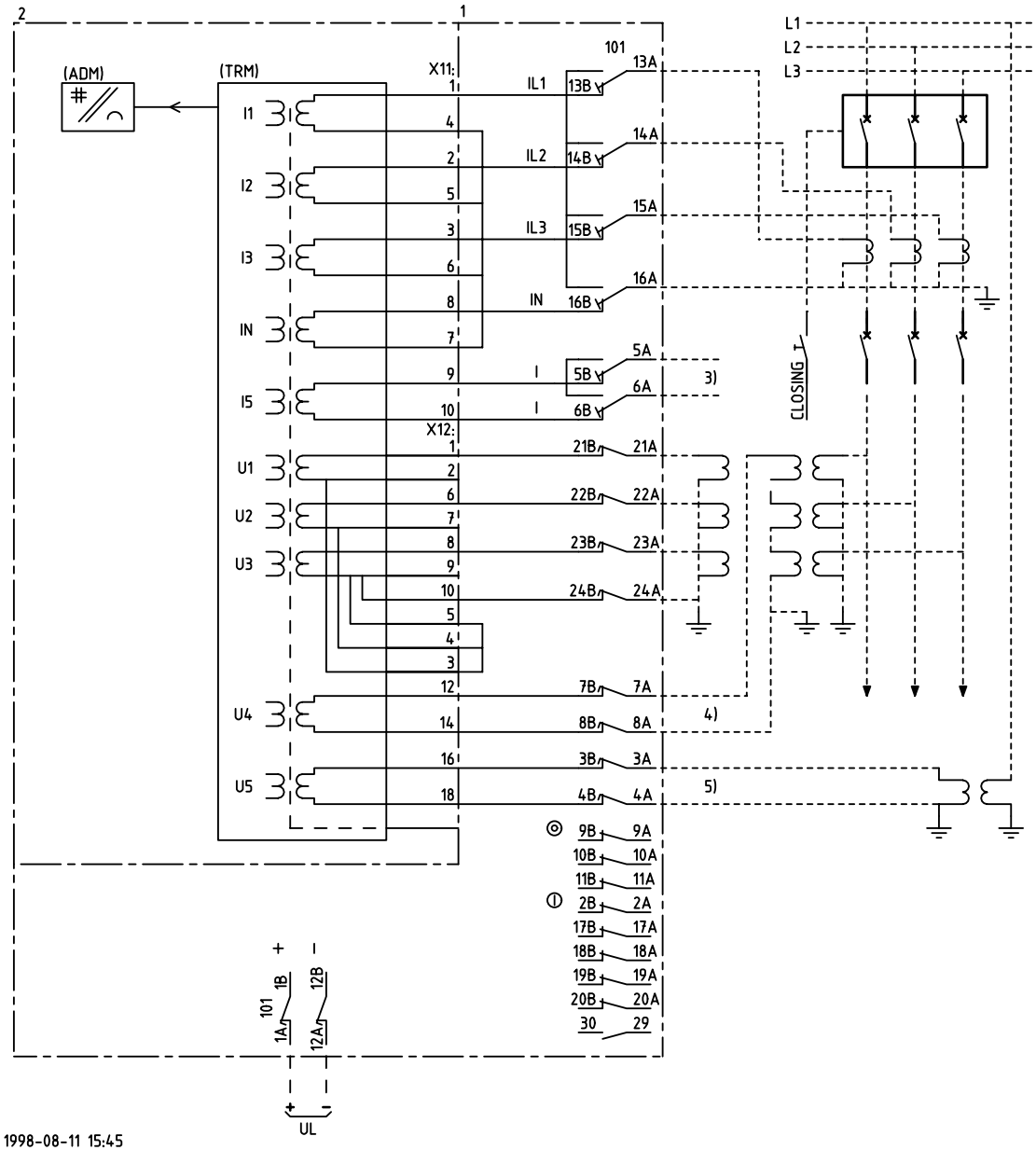
Sheet 9 | Cont 10

TRANSFORMER INPUT MODULE AND A/D-CONVERSION MODULE
OPTION WITH RTXP 24
INTERNAL EARTHING



MODULE	POSITIONS DESIGNATION		
	1/2x19"	3/4x19"	1/1x19"
TRM	2.S1	2.S1	2.S2
ADM	2.S7	2.S7	2.S8

NOTE ! MARKING CLIPS FOR REC 561 ACC. TO OH

DIVERGENT MARKING CLIPS FOR REx5xx							
TERMINAL	REL 501	REL 511	REL 521	REL 561	REL 551	REL 531	REB 551
3B	U	U	U	U	*)	U	U
4B	U	U	U	U	*)	U	U
7B	U	U	U	U	*)	U	U
8B	U	U	U	U	*)	U	U
10B	*)	◎	◎	◎	◎	◎	◎
11B	*)	◎	◎	◎	*)	◎	◎
21B	UL1	UL1	UL1	UL1	*)	UL1	UL1
22B	UL2	UL2	UL2	UL2	*)	UL2	UL2
23B	UL3	UL3	UL3	UL3	*)	UL3	UL3
24B	UN	UN	UN	UN	*)	UN	UN

*) UNMARKED

3) RESERVED FOR PARALLEL LINE COMPENSATION OR CT SUPERVISION

4) RESERVED FOR DIRECTIONAL EARTH-FAULT FUNCTION

5) RESERVED FOR REF. VOLTAGE

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ELCAD ID PS/rex5xx DATE 1998-08-11 15:45 Issued in ARCADE

Prepared	97-05-15	T EINARSSON / A RYDH	
Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No	7433
Based on		Pcl	891 150

TERMINAL DIAGRAM
PROTECTION AND CONTROL TERMINAL
TRM + ADM WITH TEST SWITCH (INT. EARTH)

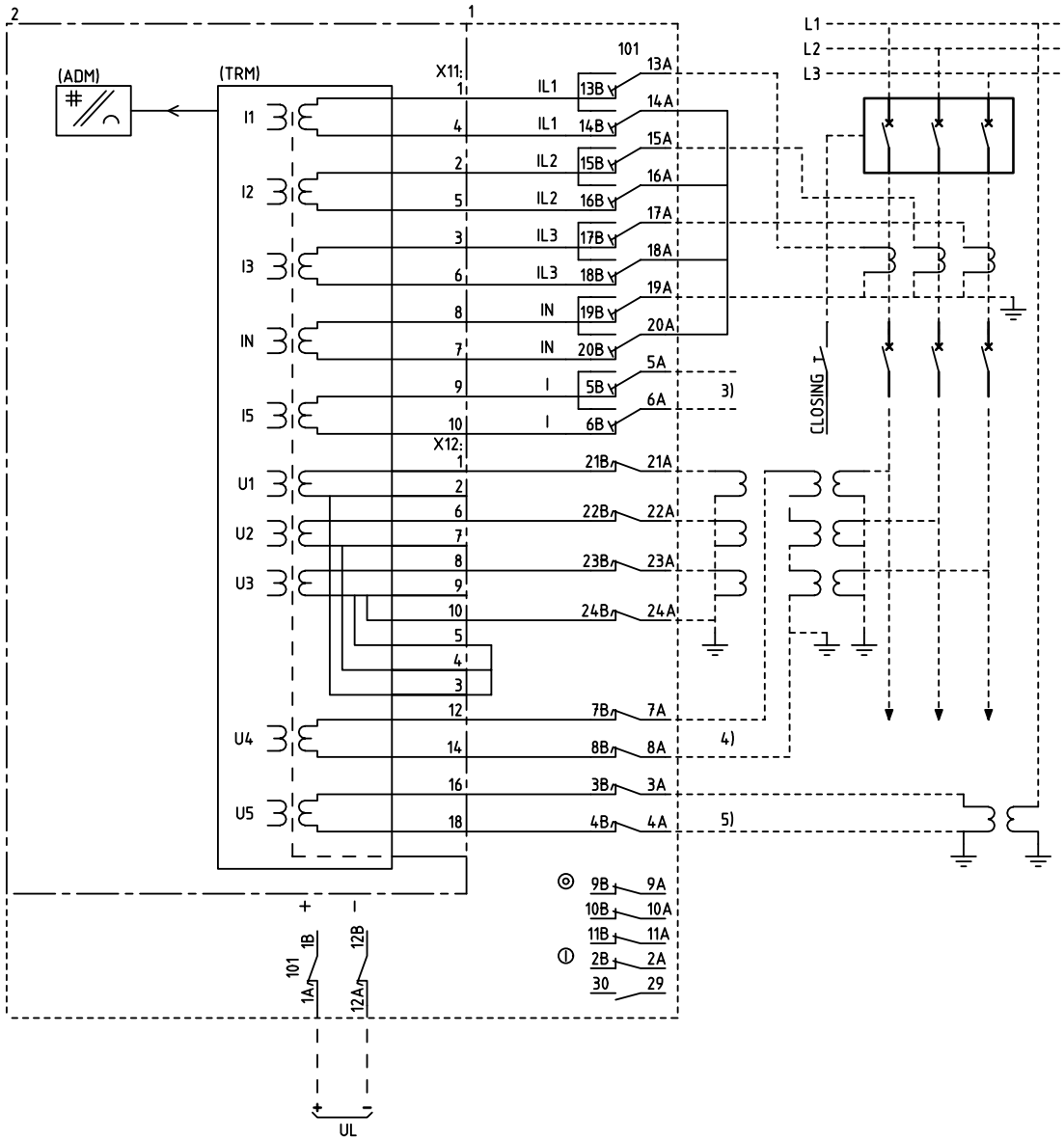
ABB Network Partner AB

Resp dep PS | Rev Ind 2 98-08-11 | Lang en

1MRK 001452-AA

Sheet 10
Cont 11

TRANSFORMER INPUT MODULE AND A/D-CONVERSION MODULE
OPTION WITH RTXP 24
EXTERNAL EARTHING



MODULE	POSITIONS DESIGNATION		
	1/2x19"	3/4x19"	1/1x19"
TRM	2.S1	2.S1	2.S2
ADM	2.S7	2.S7	2.S8

NOTE ! MARKING CLIPS FOR REC 561 ACC. TO OH

DIVERGENT MARKING CLIPS FOR REx5xx							
TERMINAL	REL 501	REL 511	REL 521	REL 561	REL 551	REL 531	REB 551
3B	U	U	U	U	*)	U	U
4B	U	U	U	U	*)	U	U
7B	U	U	U	U	*)	U	U
8B	U	U	U	U	*)	U	U
10B	*)	◎	◎	◎	◎	◎	◎
11B	*)	◎	◎	◎	*)	◎	◎
21B	UL1	UL1	UL1	UL1	*)	UL1	UL1
22B	UL2	UL2	UL2	UL2	*)	UL2	UL2
23B	UL3	UL3	UL3	UL3	*)	UL3	UL3
24B	UN	UN	UN	UN	*)	UN	UN

*) UNMARKED

3) RESERVED FOR PARALLEL LINE COMPENSATION OR CT SUPERVISION

4) RESERVED FOR DIRECTIONAL EARTH-FAULT FUNCTION

5) RESERVED FOR REF. VOLTAGE

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Prepared	97-05-15	T EINARSSON / A RYDH	
Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No	7433
Based on		Pcl	891 150

TERMINAL DIAGRAM
PROTECTION AND CONTROL TERMINAL
TRM + ADM WITH TEST SWITCH (EXT. EARTH)

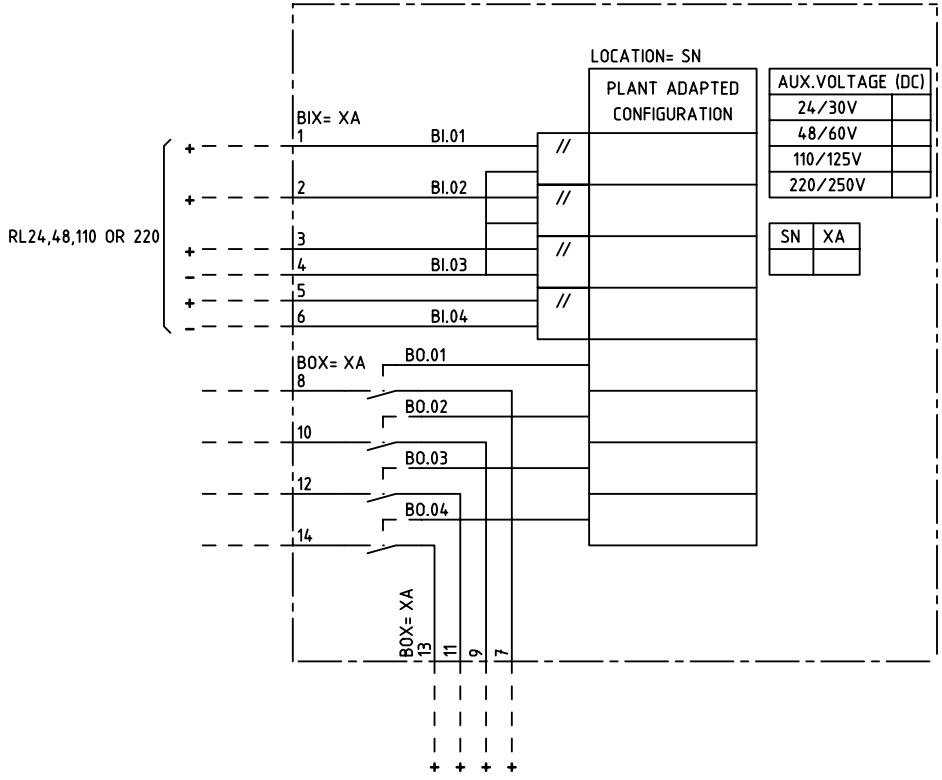
ABB Network Partner AB

Resp dep PS | Rev Ind 2 98-08-11 | Lang en

1MRK 001452-AA

Sheet 11
Cont 12

BINARY IN/OUT POWER SUPPLY MODULE
OPTION



MODULE	POSITIONS DESIGNATION		
	1/2x19"	3/4x19"	1/1x19"
PSM	S13	S13	-

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Prepared	97-05-15	T EINARSSON / A RYDH	TERMINAL DIAGRAM PROTECTION AND CONTROL TERMINAL BINARY IN/OUT POWER SUPPLY MODULE
Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No 7433	
Based on		Pcl 891 150	

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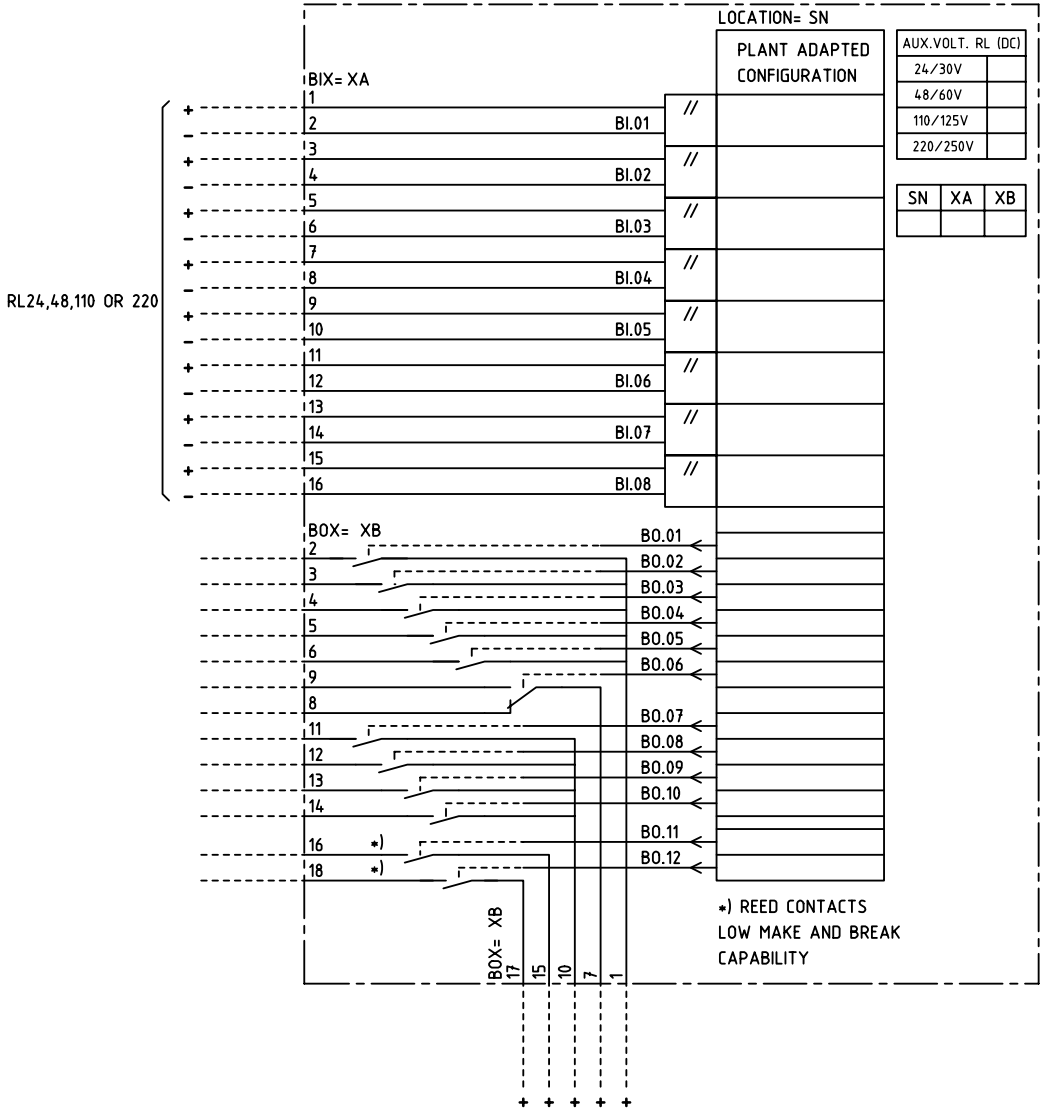
Resp dep PS | Rev Ind 2 98-08-11 | Lang en | Sheet 12 | Cont 13

1MRK 001452-AA

BINARY IN/OUT MODULE
OPTION



AUX.VOLT. RL (DC)	
24/30V	
48/60V	
110/125V	
220/250V	

SN	XA	XB

POSITIONS DESIGNATION		
1/2x19"	3/4x19"	1/1x19"
S15	S15	S12
S17	S17	S14
S19	S19	S16
-	S21	S18
-	S23	S20
-	S25	S22
-	S27	S24
-	S29	S26
-	-	S28
-	-	S30
-	-	S32
-	-	S34
-	-	S36

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Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No 7433	
Based on		Pcl 891 150	

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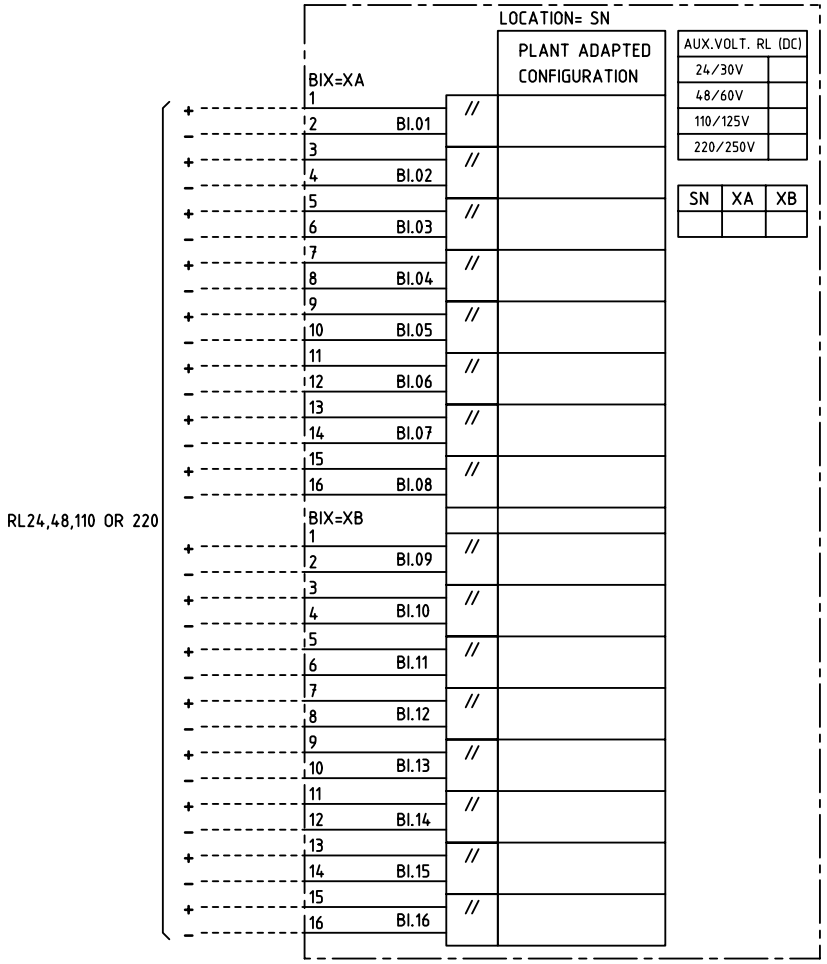
Sheet 13 | Cont 14

BINARY IN 16 MODULE
OPTION



POSITIONS DESIGNATION		
1/2x19"	3/4x19"	1/1x19"
S15	S15	S12
S17	S17	S14
S19	S19	S16
-	S21	S18
-	S23	S20
-	S25	S22
-	S27	S24
-	S29	S26
-	-	S28
-	-	S30
-	-	S32
-	-	S34
-	-	S36

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Prepared	97-05-15	T EINARSSON / A RYDH	TERMINAL DIAGRAM PROTECTION AND CONTROL TERMINAL BINARY IN 16 MODULE
Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No 7433	
Based on		Pcl 891 150	

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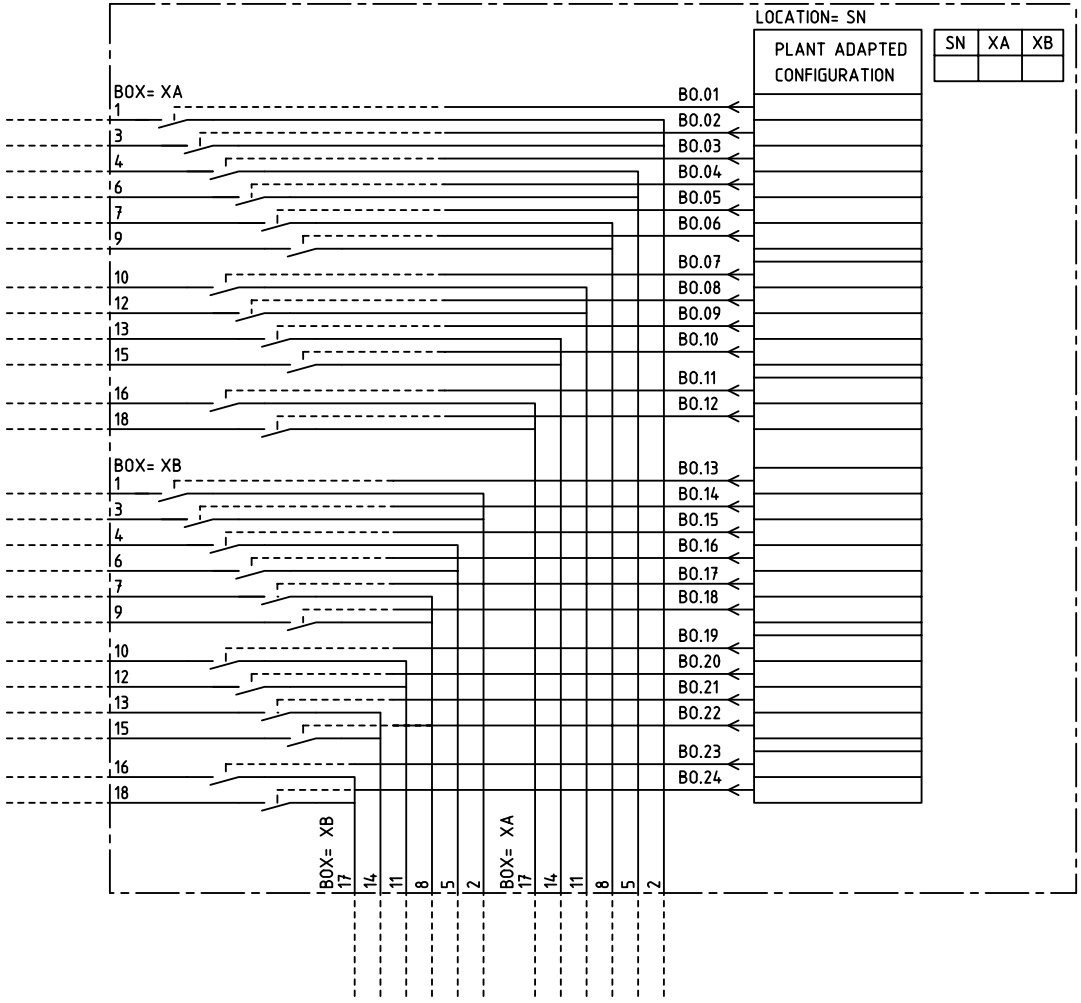
1MRK 001452-AA

Sheet 14 | Cont 15

BINARY OUT MODULE
OPTION



POSITIONS DESIGNATION		
1/2x19"	3/4x19"	1/1x19"
S15	S15	S12
S17	S17	S14
S19	S19	S16
-	S21	S18
-	S23	S20
-	S25	S22
-	S27	S24
-	S29	S26
-	-	S28
-	-	S30
-	-	S32
-	-	S34
-	-	S36

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Prepared	97-05-15	T EINARSSON / A RYDH	TERMINAL DIAGRAM PROTECTION AND CONTROL TERMINAL BINARY OUT MODULE
Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No 7433	
Based on		Pcl 891 150	

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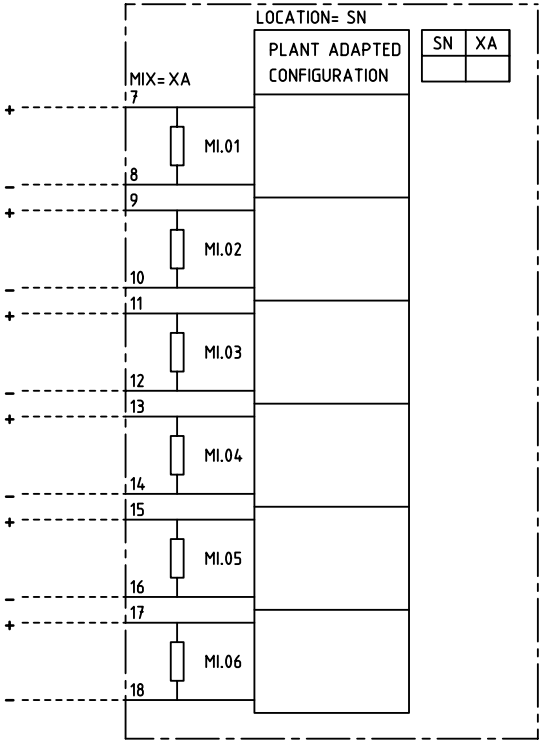
1MRK 001452-AA

Sheet 15 | Cont 16

mA INPUT MODULE
OPTION



POSITIONS DESIGNATION		
1/2x19" MAX 1 PC	3/4x19" MAX 3 PC	1/1x19" MAX 6 PC
S15	S15	S12
S17	S17	S14
S19	S19	S16
-	S21	S18
-	S23	S20
-	S25	S22
-	S27	S24
-	S29	S26
-	-	S28
-	-	S30
-	-	S32
-	-	S34
-	-	S36

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Prepared	97-05-15	T EINARSSON / A RYDH	TERMINAL DIAGRAM PROTECTION AND CONTROL TERMINAL mA INPUT MODULE
Approved	98-03-26	P JENÅKER	
Rev Ind	Revision	Reg No 7433	
Based on		Pcl 891 150	

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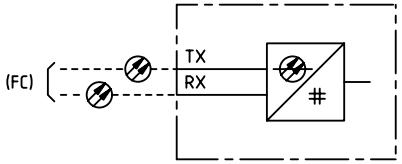
1MRK 001452-AA

Sheet 16
Cont 17

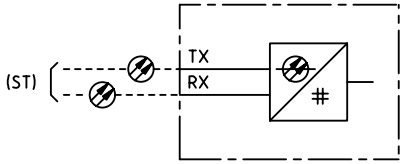
DIGITAL COMMUNICATION MODULE
OPTION

OPTICAL COMMUNICATION MODULE



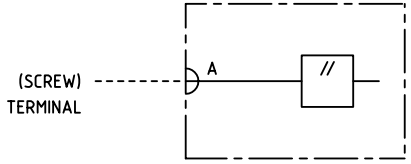
CASING	TERMINAL
1/2x19"	X24:TX, X24:RX
3/4x19"	X34:TX, X34:RX
1/1x19"	X40:TX, X40:RX

SHORT RANGE OPTICAL COMMUNICATION MODULE



CASING	TERMINAL
1/2x19"	X25:TX, X25:RX
3/4x19"	X35:TX, X35:RX
1/1x19"	X41:TX, X41:RX

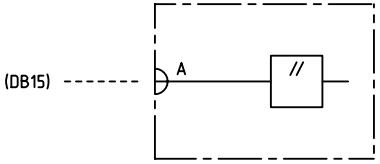
SHORT RANGE GALVANIC COMMUNICATION MODULE



CASING	TERMINAL
1/2x19"	X25:A
3/4x19"	X35:A
1/1x19"	X41:A

PIN NO. FROM TOP	DESCRIPTION
1	R+ RECEIVER
2	R- RECEIVER
3	T+ TRANSMITTER
4	T- TRANSMITTER
5	SCREW

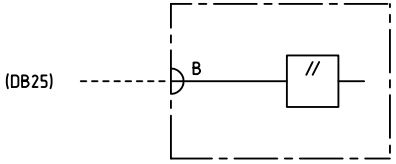
GALVANIC COMMUNICATION MODULE X21



CASING	TERMINAL
1/2x19"	X25:B
3/4x19"	X35:B
1/1x19"	X41:B

PIN NO.	DESCRIPTION
1	SCREEN
2	TXD (A)
4	RXD (A)
6	RCLK (A)
8	GND
9	TXD (B)
11	RXD (B)
13	RCLK (B)

GALVANIC COMMUNICATION MODULE V.36, RS 530



CASING	TERMINAL
1/2x19"	X25:A
3/4x19"	X35:A
1/1x19"	X41:A

PIN NO.	DESCRIPTION
1	SCREEN
2	TXD (A)
3	RXD (A)
4	REQ SEND (A)
7	GND
9	RCLK (B)
11	TCLK DTE (B)
12	TCLK DCE (B)
14	TXD (B)
15	TCLK DCE (A)
16	RXD (B)
17	RCLK (A)
19	REQ SEND (B) *)
20	DTE READY (A)
23	DTE READY (B) *)
24	TCLK DTE (A)

*) NOT FOR V.36

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DEFAULT CONFIGURATION

REC 561

Description	Sheet
List of content	OVERVIEW
Communication with the station HMI, bay and terminal level	HMI
Communication with other bays	COMM
Reservation of own and other bays	BAY_RE
Bay control and interlocking	BAY_CON
Circuit breaker Q0 control	Q0_CON
Disconnector Q9 control	Q9_CON
Disconnector Q1 control	Q1_CON
Disconnector Q2 control	Q2_CON
Earthing switch Q8 control	Q8_CON
Binary inputs and outputs	I_O

Rev	Date/sign	Comment
01	980811/LF	Standard -> Default

Prepared	M Wallin Andersson	98-06-18	
Approved	L-G Malmqvist	98-06-18	
Rev Ind		Reg nr	
Based on		Pcl	

REC 561
Default configuration

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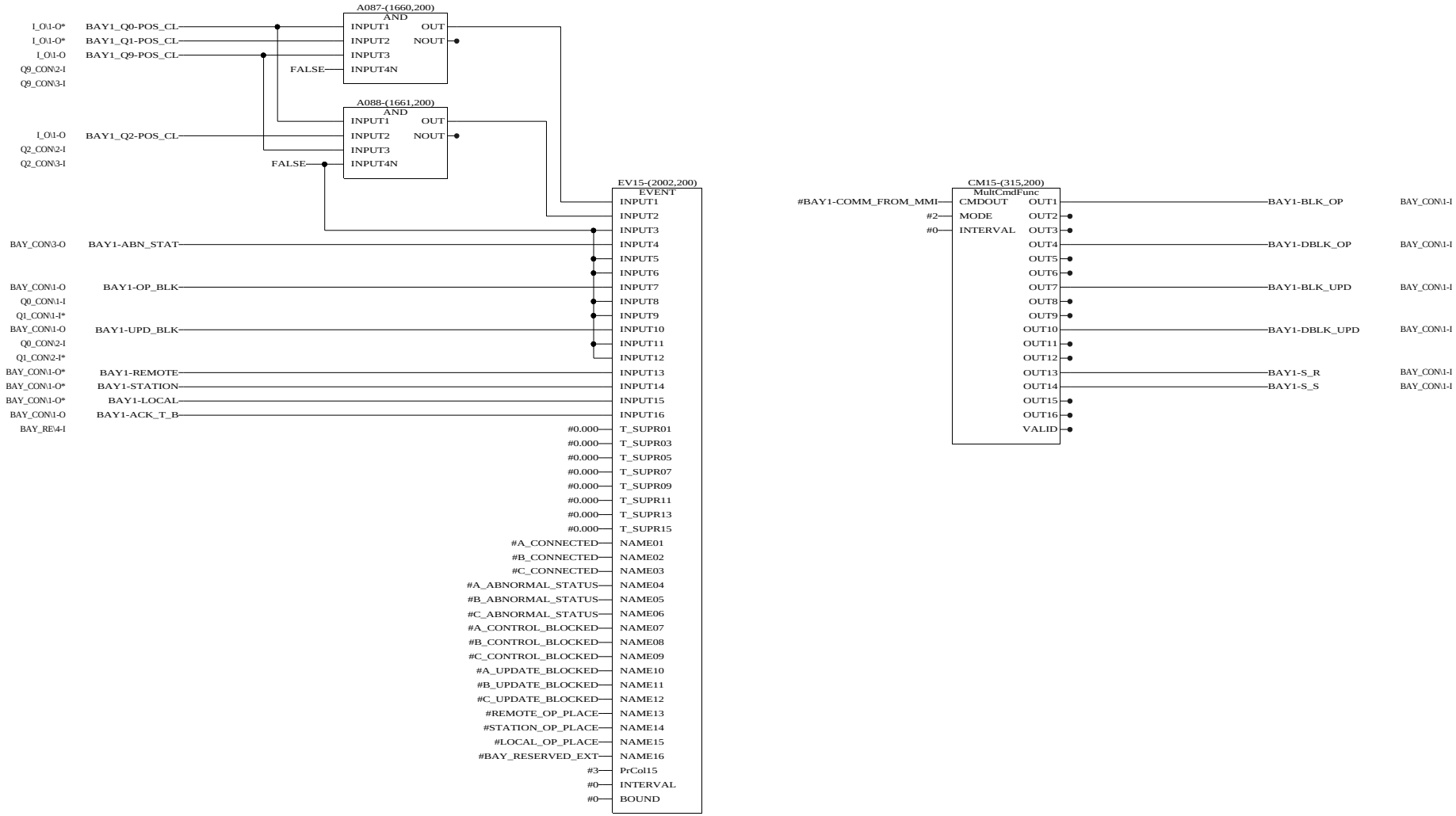
OVERVIEW

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

Sheet 1/1



Events and commands, bay level

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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HMI

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

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BAY1-LOCAL	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-OP_BLK	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-REMOTE	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-STATION	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-UPD_BLK	Q2_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I
BAY1_Q0-POS_CL	Q0_CON\2-I
	Q0_CON\3-I
BAY1_Q1-POS_CL	Q1_CON\2-I
	Q1_CON\3-I

Alarms

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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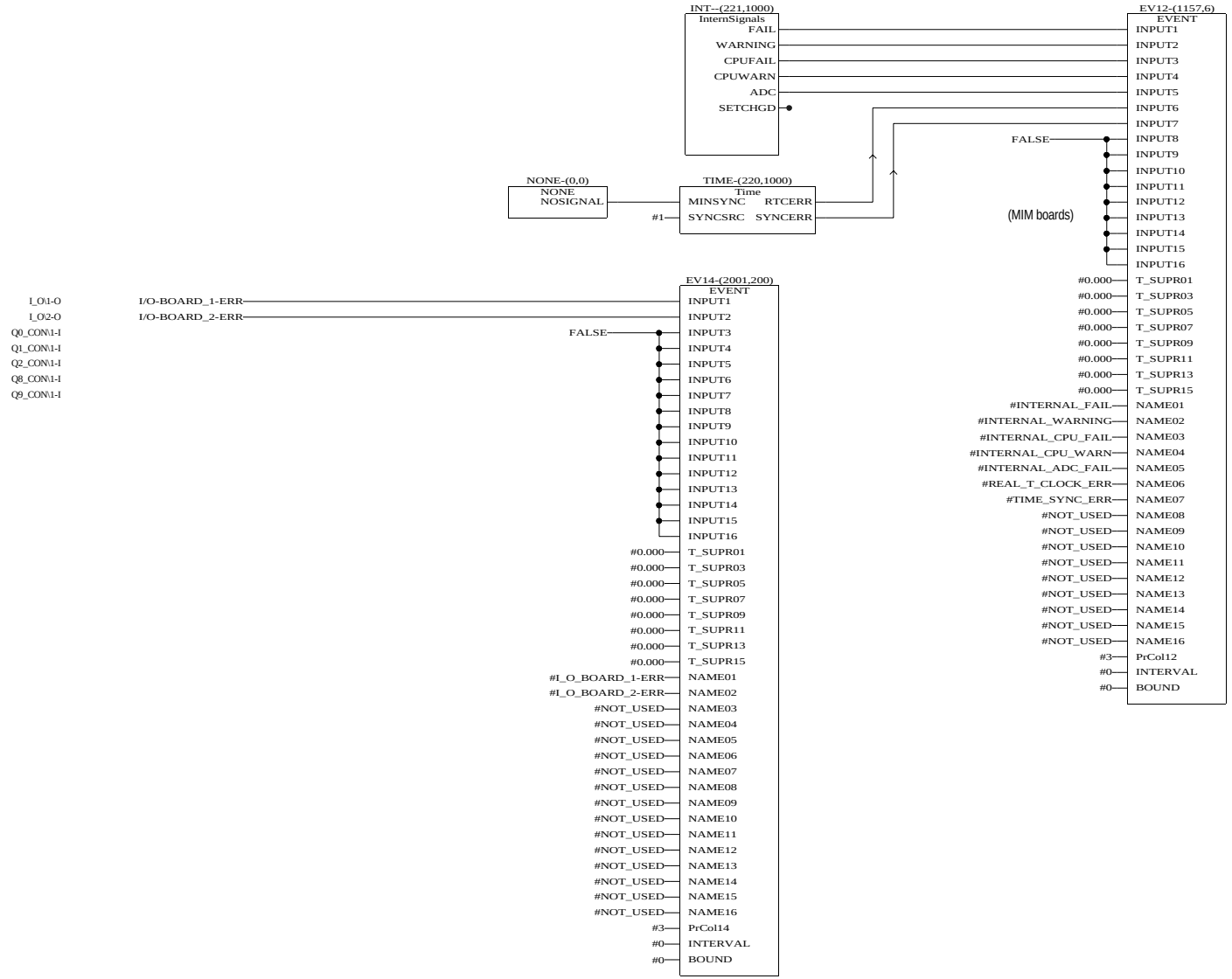
1 MRK 001697-20

HMI

Sheet 2/3



Internal signals, terminal

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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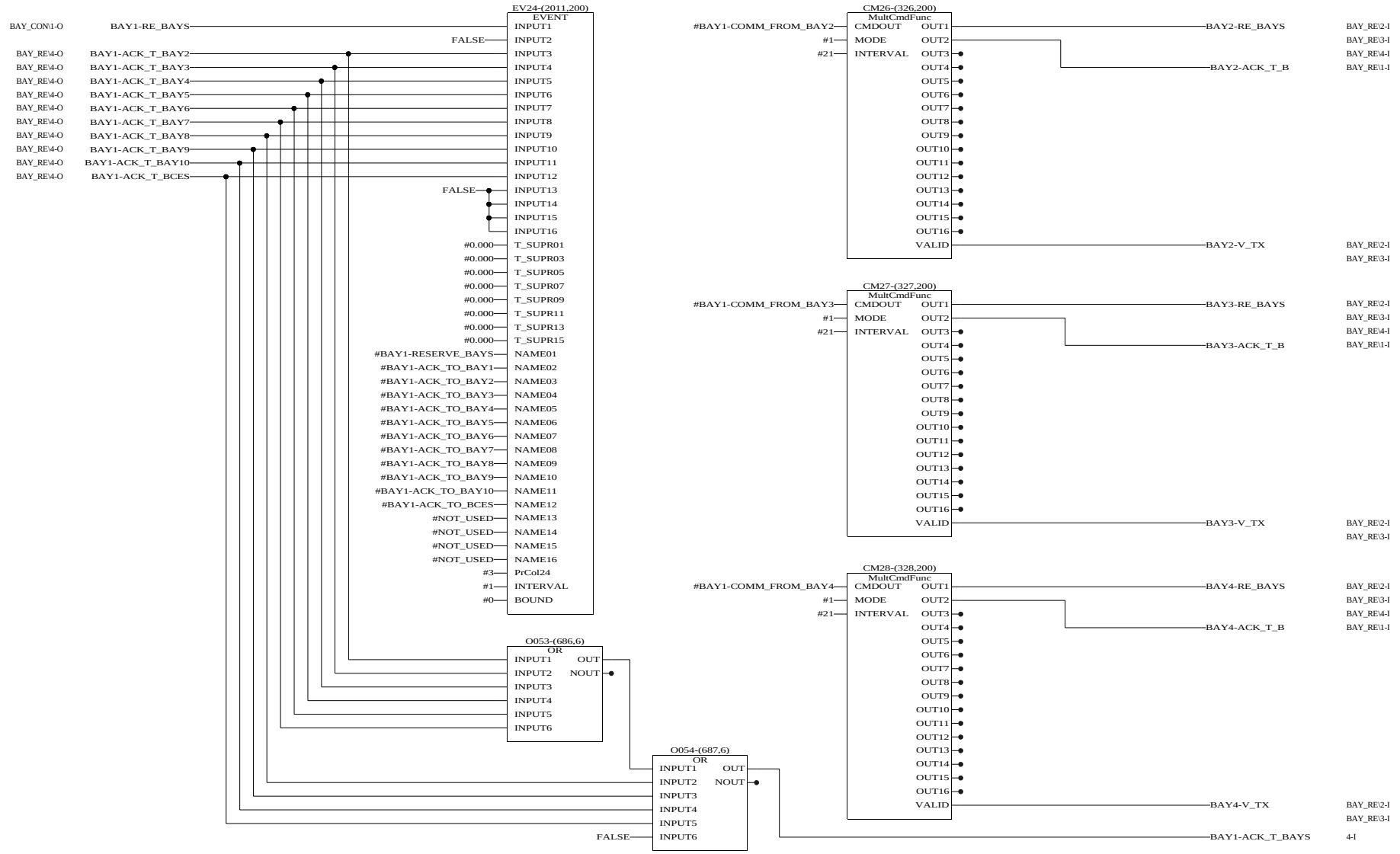
HMI

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

Sheet 3/3



Communication with other bays

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

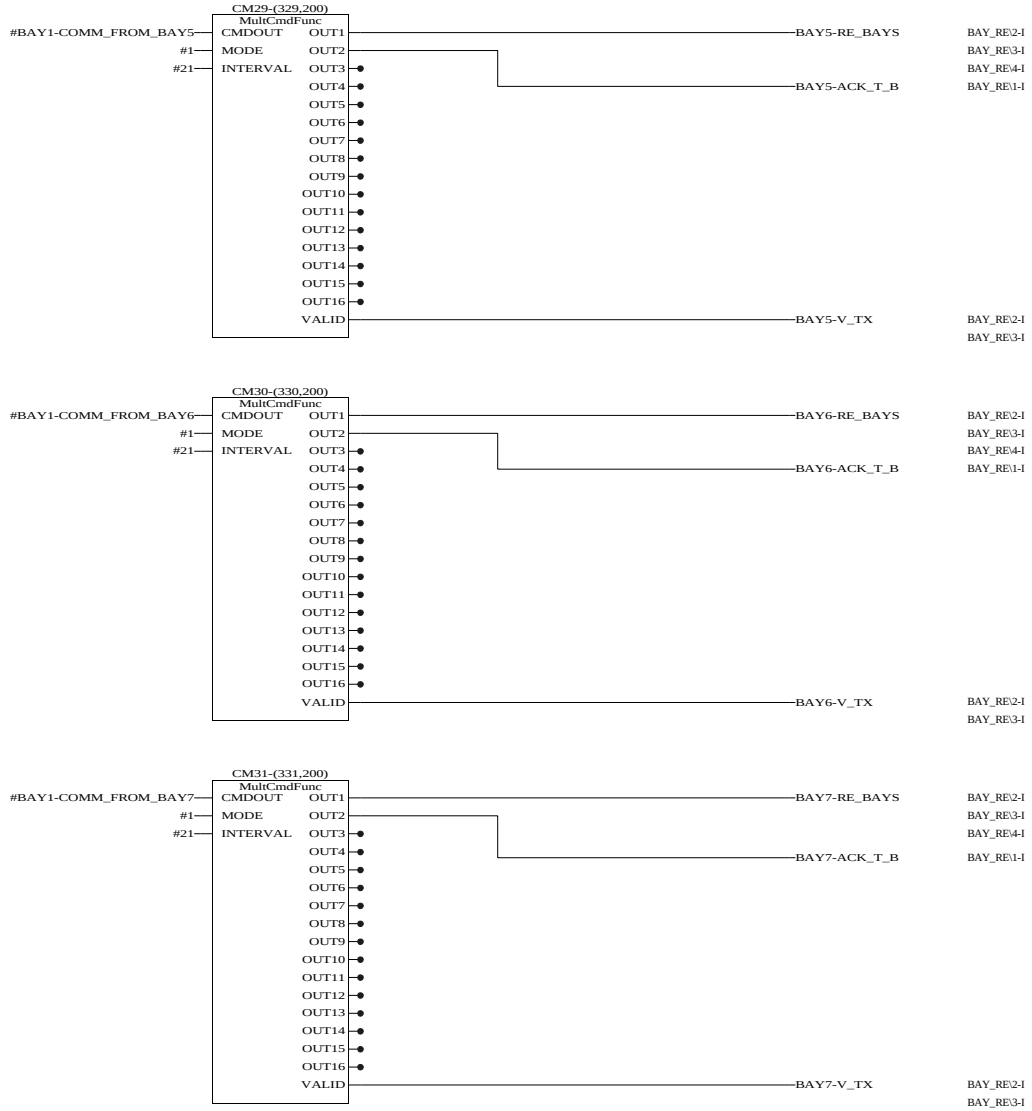
ABB Network Partner AB

COMM

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

Sheet 1/4



Communication with other bays

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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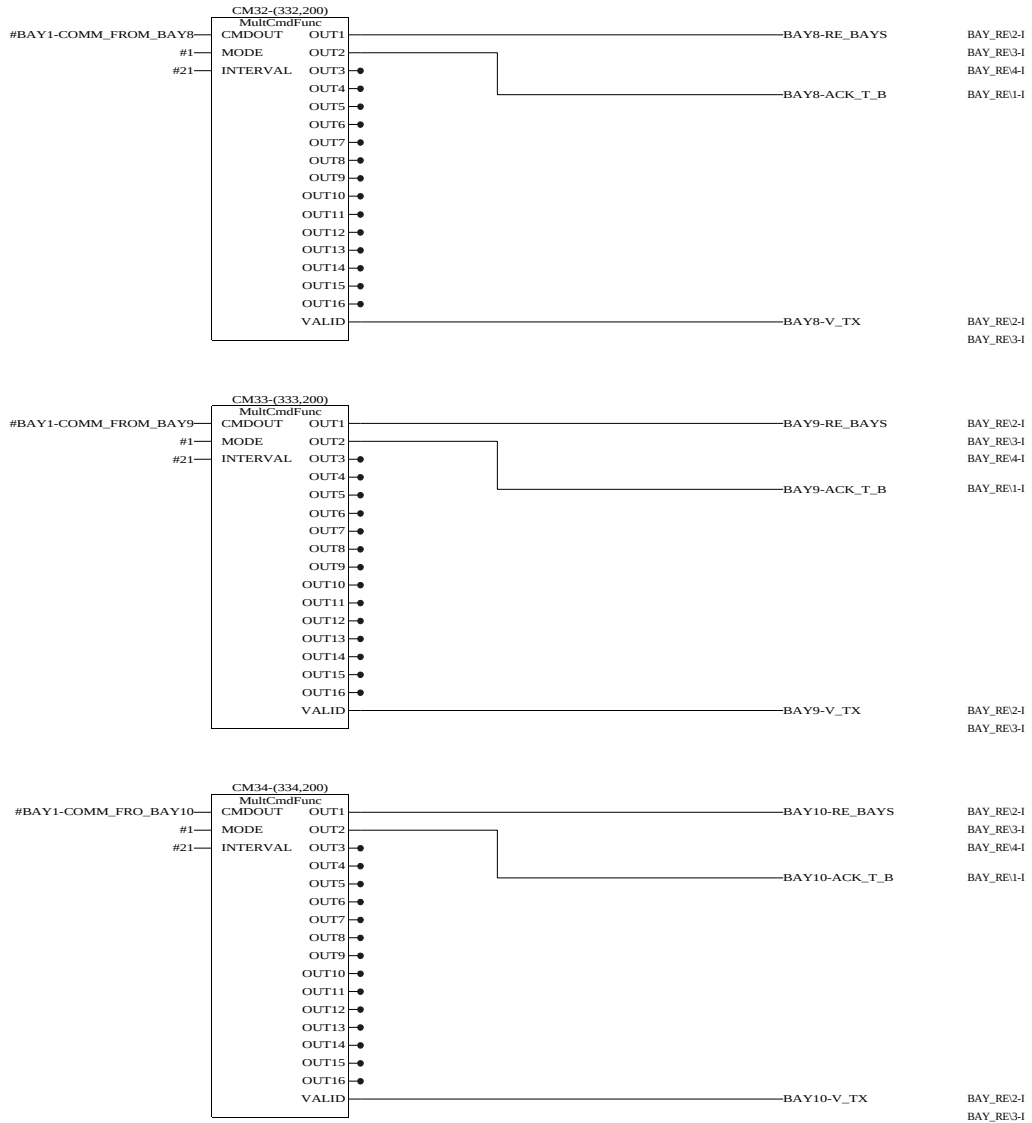
COMM

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

Sheet 2/4



Communication with other bays

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

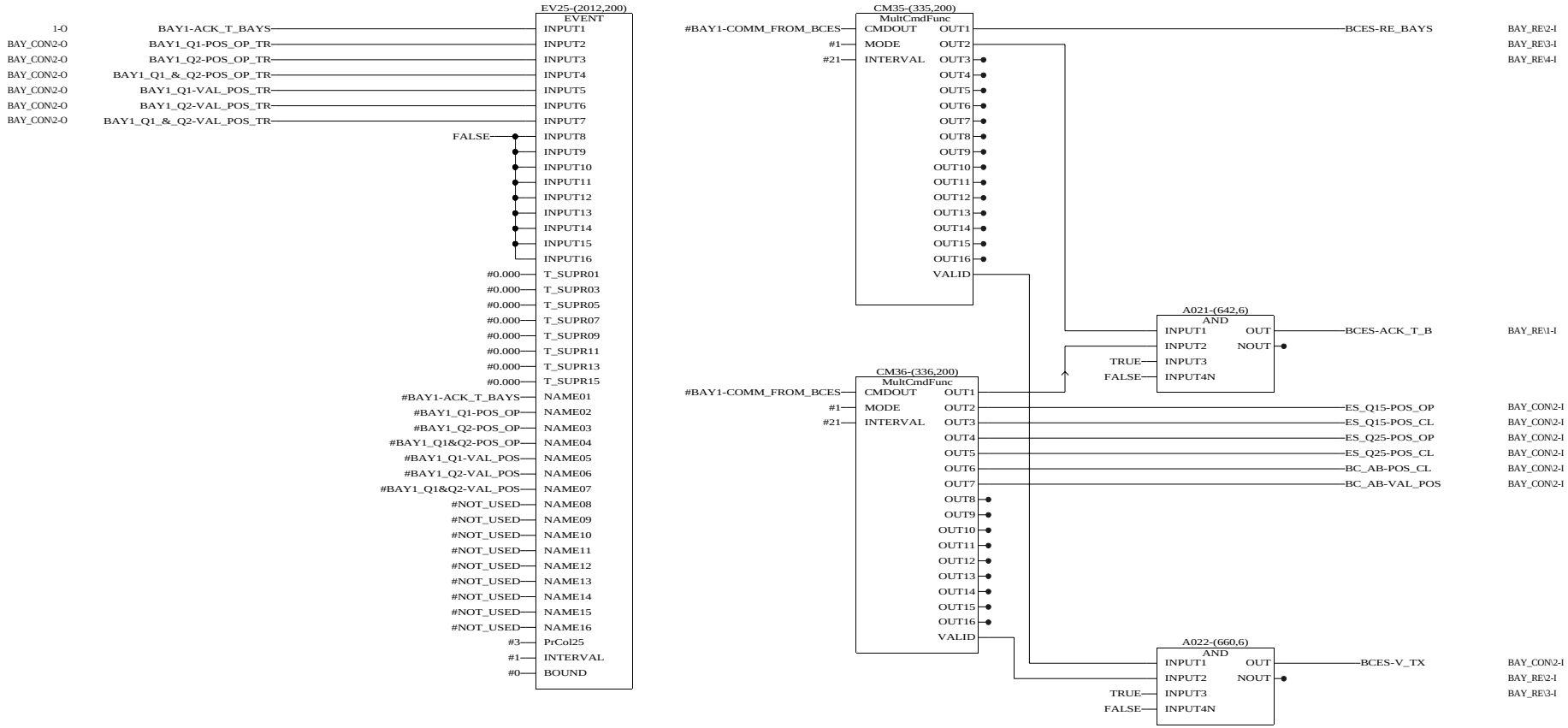
ABB Network Partner AB

COMM

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

Sheet 3/4



Comm. with bus-earthing switches and -coupler

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

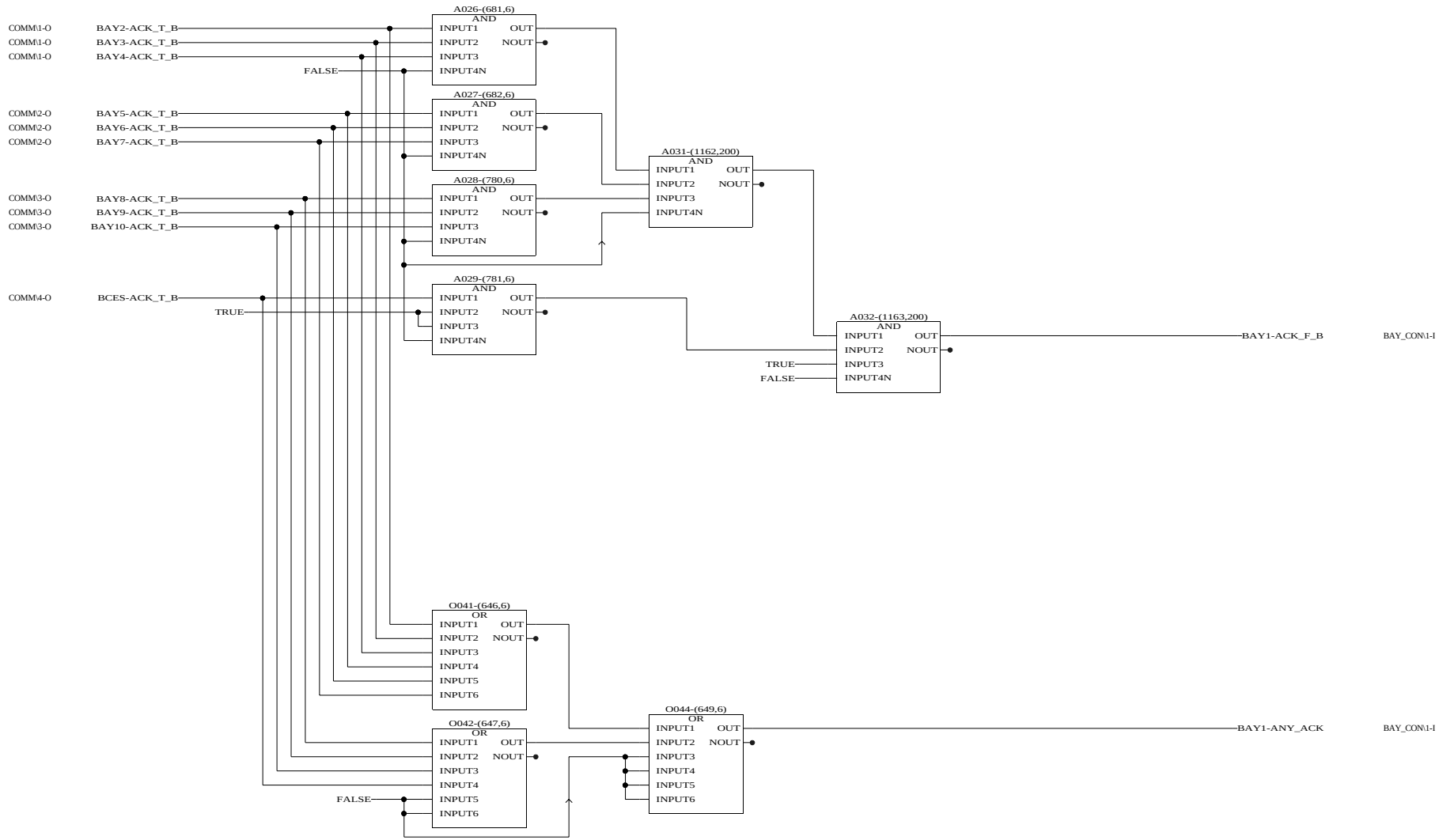
COMM

Resp dep | Rev Ind 01 9833

ABB Network Partner AB

1 MRK 001697-20

Sheet 4/4



Bay reservation - own

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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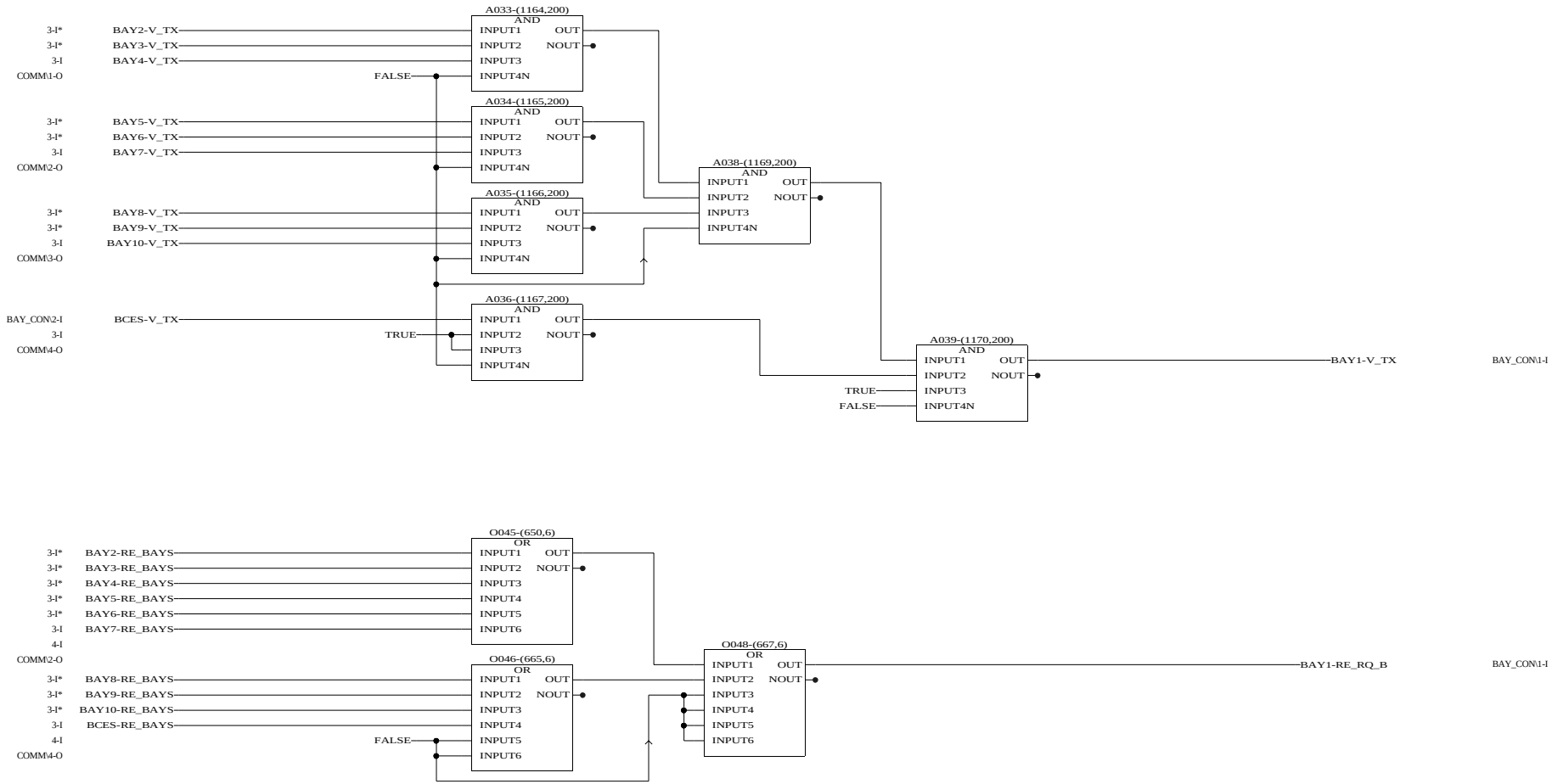
		BAY_RE
Resp dep	Rev Ind 01 9833	
1 MRK 001697-20		Sheet 1/4



Bay reservation - own

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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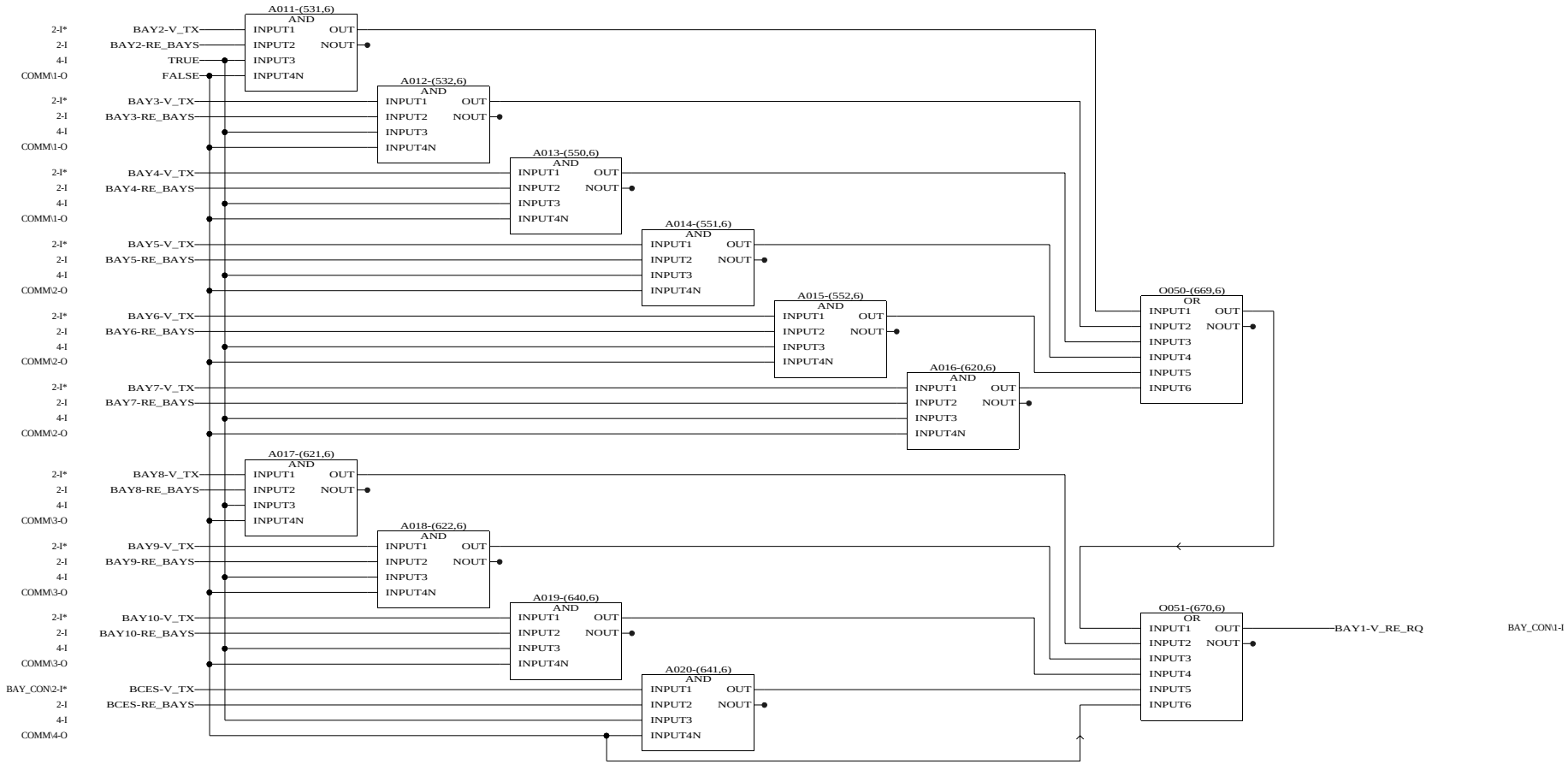
		BAY_RE
Resp dep	Rev Ind 01 9833	
1 MRK 001697-20		Sheet 2/4

BAY10-RE_BAYS	BAY_RE\4-I
	COMM\3-O
BAY2-RE_BAYS	BAY_RE\4-I
	COMM\1-O
BAY2-V_TX	COMM\1-O
BAY3-RE_BAYS	BAY_RE\4-I
	COMM\1-O
BAY3-V_TX	COMM\1-O
BAY4-RE_BAYS	BAY_RE\4-I
	COMM\1-O
BAY5-RE_BAYS	BAY_RE\4-I
	COMM\2-O
BAY5-V_TX	COMM\2-O
BAY6-RE_BAYS	BAY_RE\4-I
	COMM\2-O
BAY6-V_TX	COMM\2-O
BAY8-RE_BAYS	BAY_RE\4-I
	COMM\3-O
BAY8-V_TX	COMM\3-O
BAY9-RE_BAYS	BAY_RE\4-I
	COMM\3-O
BAY9-V_TX	COMM\3-O

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

		BAY_RE
Resp dep	Rev Ind 01 9833	
1 MRK 001697-20		Sheet 2a/4



Bay reservation - own

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

BAY_RE

Resp dep | Rev Ind 01 9833

1 MRK 001697-20

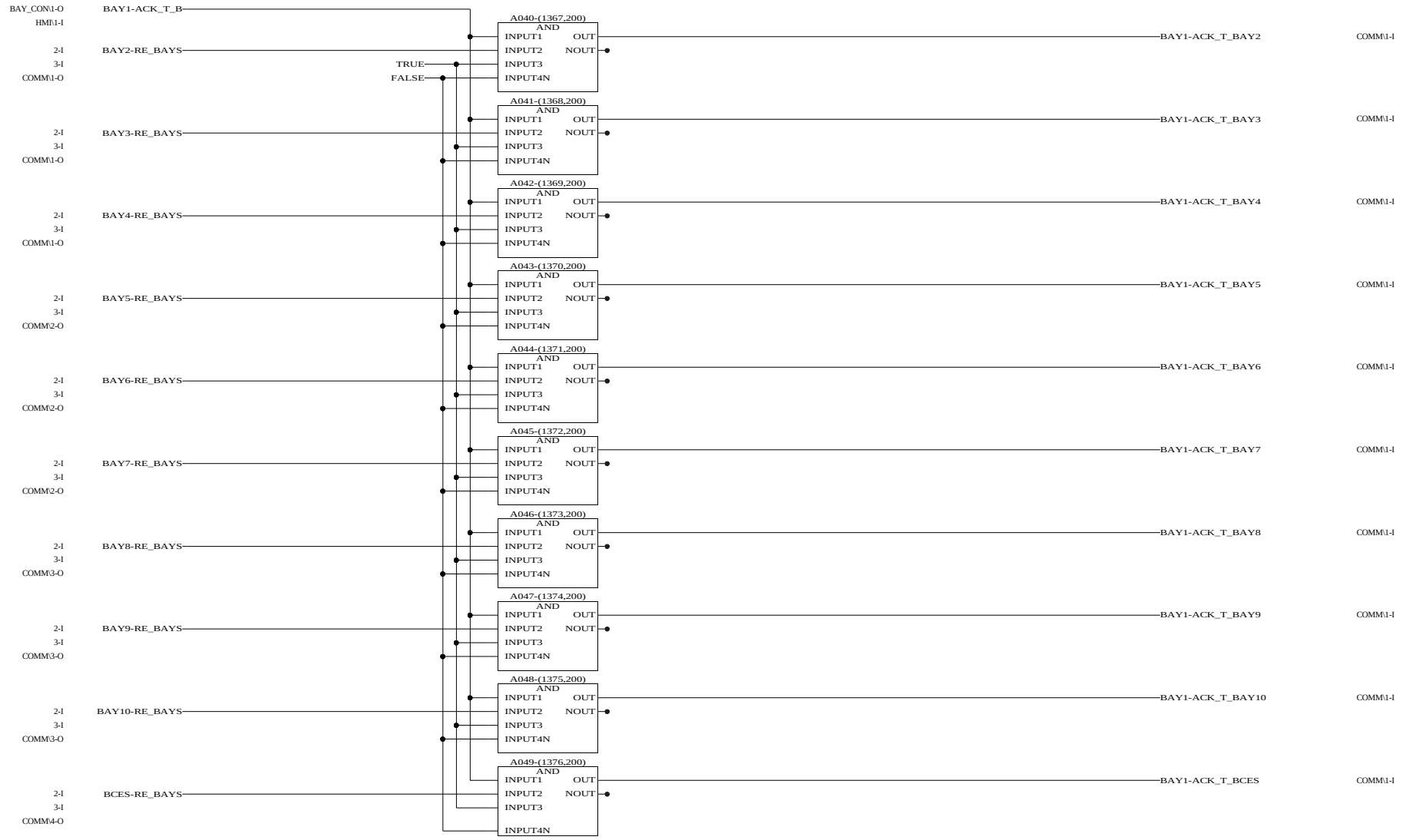
Sheet 3/4

BAY10-V_TX	COMM\3-O
BAY2-V_TX	COMM\1-O
BAY3-V_TX	COMM\1-O
BAY4-V_TX	COMM\1-O
BAY5-V_TX	COMM\2-O
BAY6-V_TX	COMM\2-O
BAY7-V_TX	COMM\2-O
BAY8-V_TX	COMM\3-O
BAY9-V_TX	COMM\3-O
BCES-V_TX	BAY_RE\2-I
	COMM\4-O

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

		BAY_RE
Resp dep	Rev Ind 01 9833	
1 MRK 001697-20		Sheet 3a/4



Bay reservation - other

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

BAY_RE

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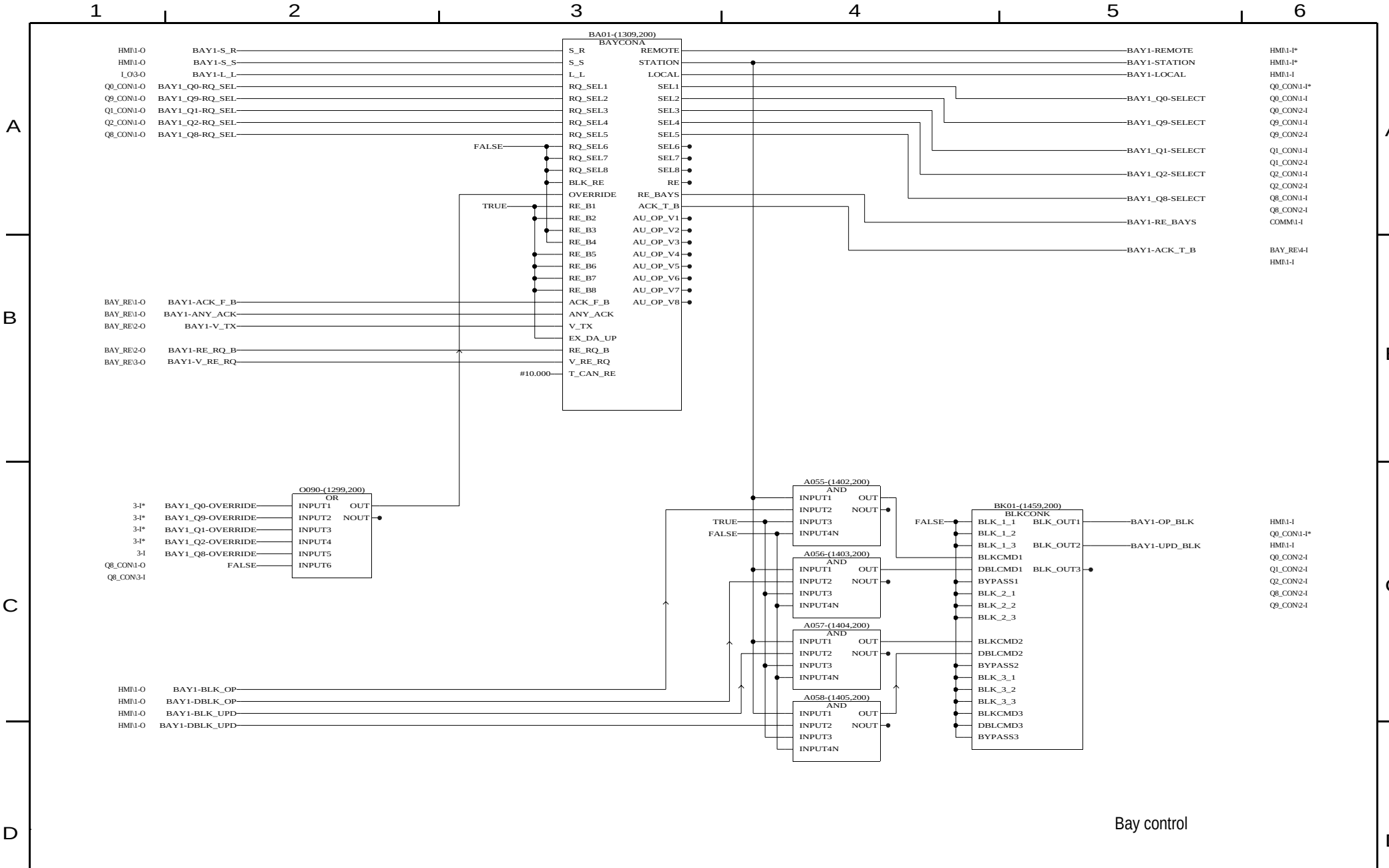

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

BAY_CON

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BAY1-LOCAL	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-OP_BLK	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-REMOTE	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-STATION	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1_Q0-OVERRIDE	Q0_CON\1-O
	Q0_CON\3-I
BAY1_Q1-OVERRIDE	Q1_CON\1-O
	Q1_CON\3-I
BAY1_Q2-OVERRIDE	Q2_CON\1-O
	Q2_CON\3-I
BAY1_Q9-OVERRIDE	Q9_CON\1-O
	Q9_CON\3-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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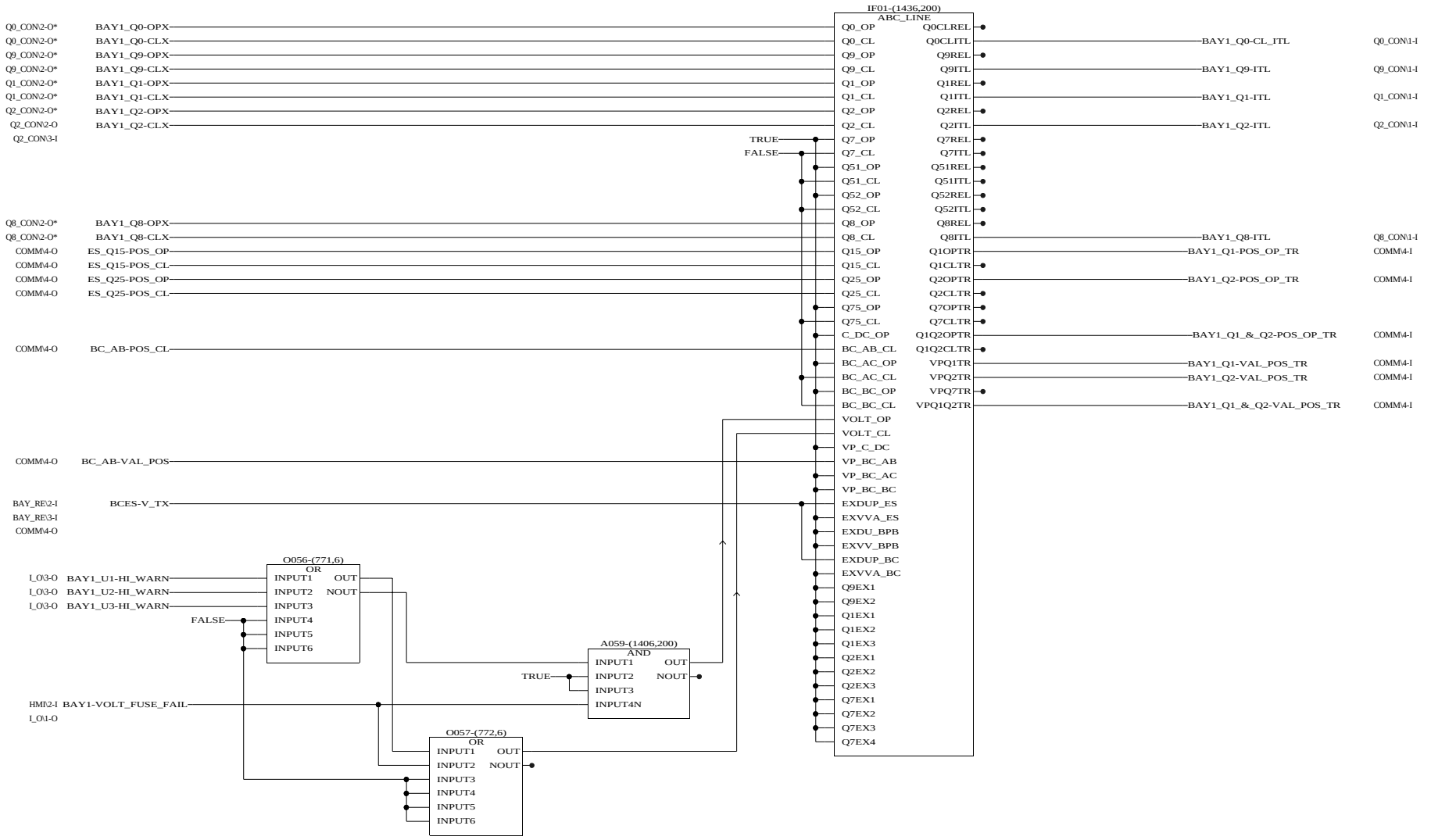

Interlocking

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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BAY1_Q0-CLX	Q0_CON\3-I
BAY1_Q0-OPX	Q0_CON\3-I
BAY1_Q1-CLX	Q1_CON\3-I
BAY1_Q1-OPX	Q1_CON\3-I
BAY1_Q2-OPX	Q2_CON\3-I
BAY1_Q8-CLX	Q8_CON\3-I
BAY1_Q8-OPX	Q8_CON\3-I
BAY1_Q9-CLX	Q9_CON\3-I
BAY1_Q9-OPX	Q9_CON\3-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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BAY_CON

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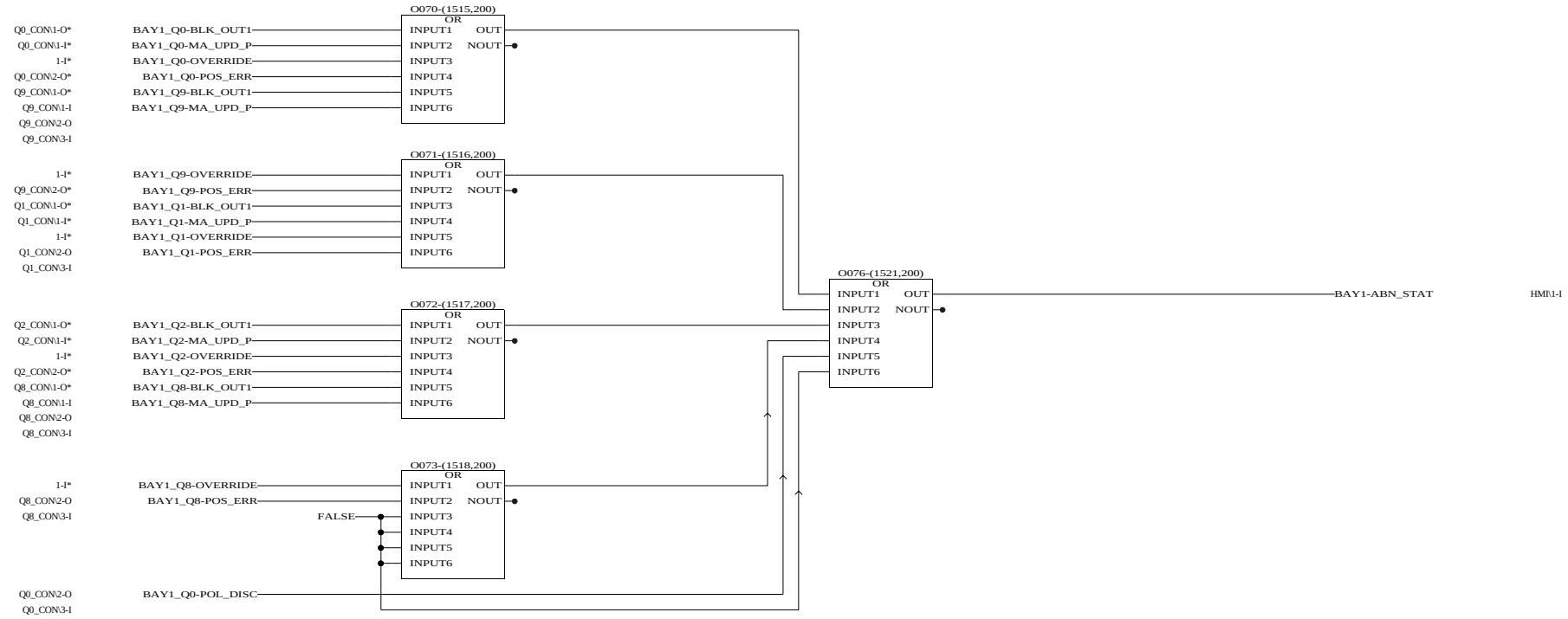

Bay abnormal status

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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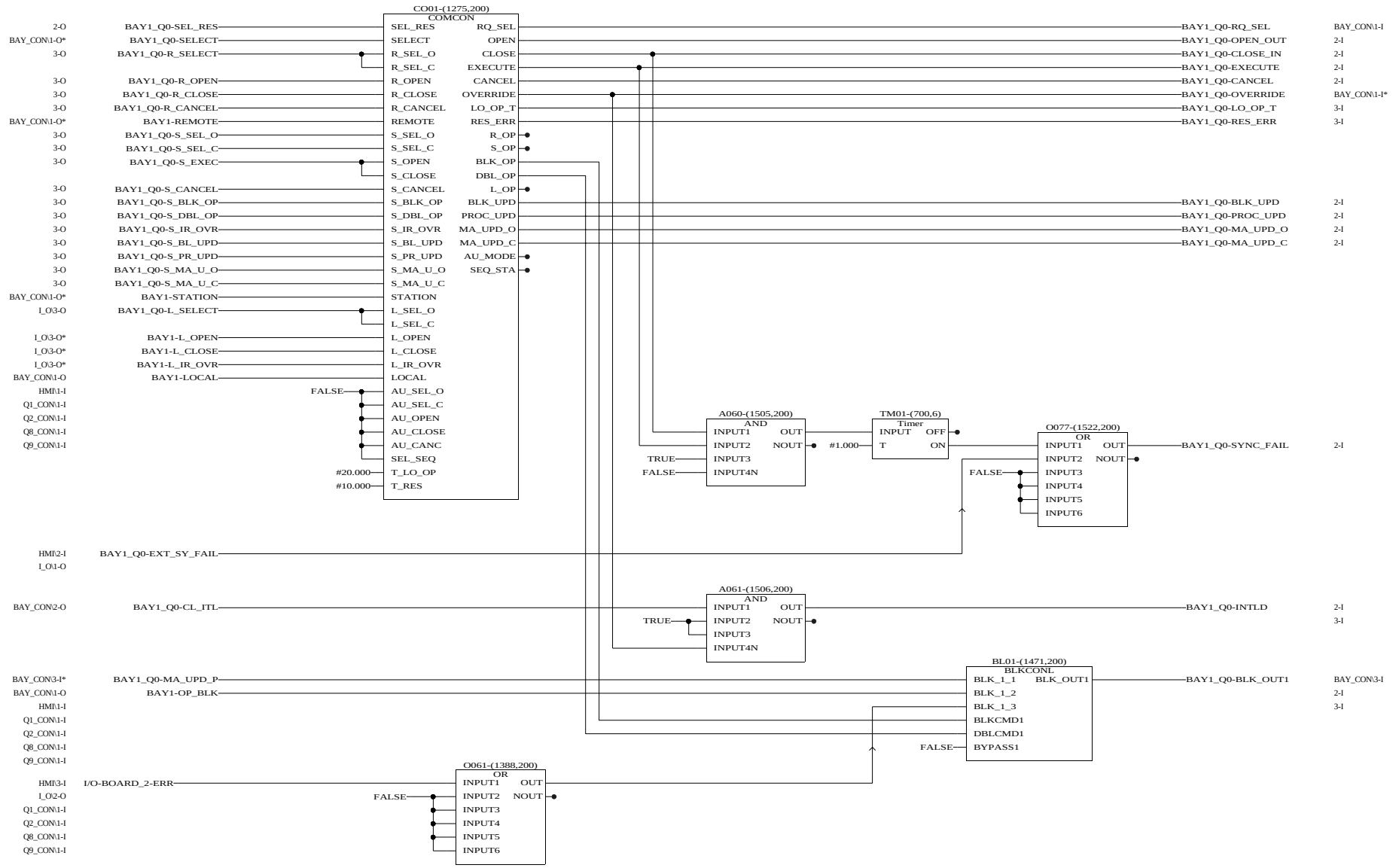
BAY1_Q0-BLK_OUT1	Q0_CON\2-I
	Q0_CON\3-I
BAY1_Q0-MA_UPD_P	Q0_CON\2-O
	Q0_CON\3-I
BAY1_Q0-OVERRIDE	Q0_CON\1-O
	Q0_CON\3-I
BAY1_Q0-POS_ERR	Q0_CON\3-I
BAY1_Q1-BLK_OUT1	Q1_CON\2-I
	Q1_CON\3-I
BAY1_Q1-MA_UPD_P	Q1_CON\2-O
	Q1_CON\3-I
BAY1_Q1-OVERRIDE	Q1_CON\1-O
	Q1_CON\3-I
BAY1_Q2-BLK_OUT1	Q2_CON\2-I
	Q2_CON\3-I
BAY1_Q2-MA_UPD_P	Q2_CON\2-O
	Q2_CON\3-I
BAY1_Q2-OVERRIDE	Q2_CON\1-O
	Q2_CON\3-I
BAY1_Q2-POS_ERR	Q2_CON\3-I
BAY1_Q8-BLK_OUT1	Q8_CON\2-I
	Q8_CON\3-I
BAY1_Q8-OVERRIDE	Q8_CON\1-O
	Q8_CON\3-I
BAY1_Q9-BLK_OUT1	Q9_CON\2-I
	Q9_CON\3-I
BAY1_Q9-OVERRIDE	Q9_CON\1-O
	Q9_CON\3-I
BAY1_Q9-POS_ERR	Q9_CON\3-I



		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q0_CON

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BAY1-L_CLOSE	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-L_IR_OVR	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-L_OPEN	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-REMOTE	HMI\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-STATION	HMI\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1_Q0-MA_UPD_P	Q0_CON\2-O
	Q0_CON\3-I
BAY1_Q0-OVERRIDE	BAY_CON\3-I
	Q0_CON\3-I
BAY1_Q0-SELECT	Q0_CON\2-I

Prepared	M Wallin Andersson	98-06-18	
Approved	L-G Malmqvist	98-06-18	
Rev Ind		Reg nr	
Based on		Pcl	

REC 561
Default configuration

ABB Network Partner AB

Q0_CON

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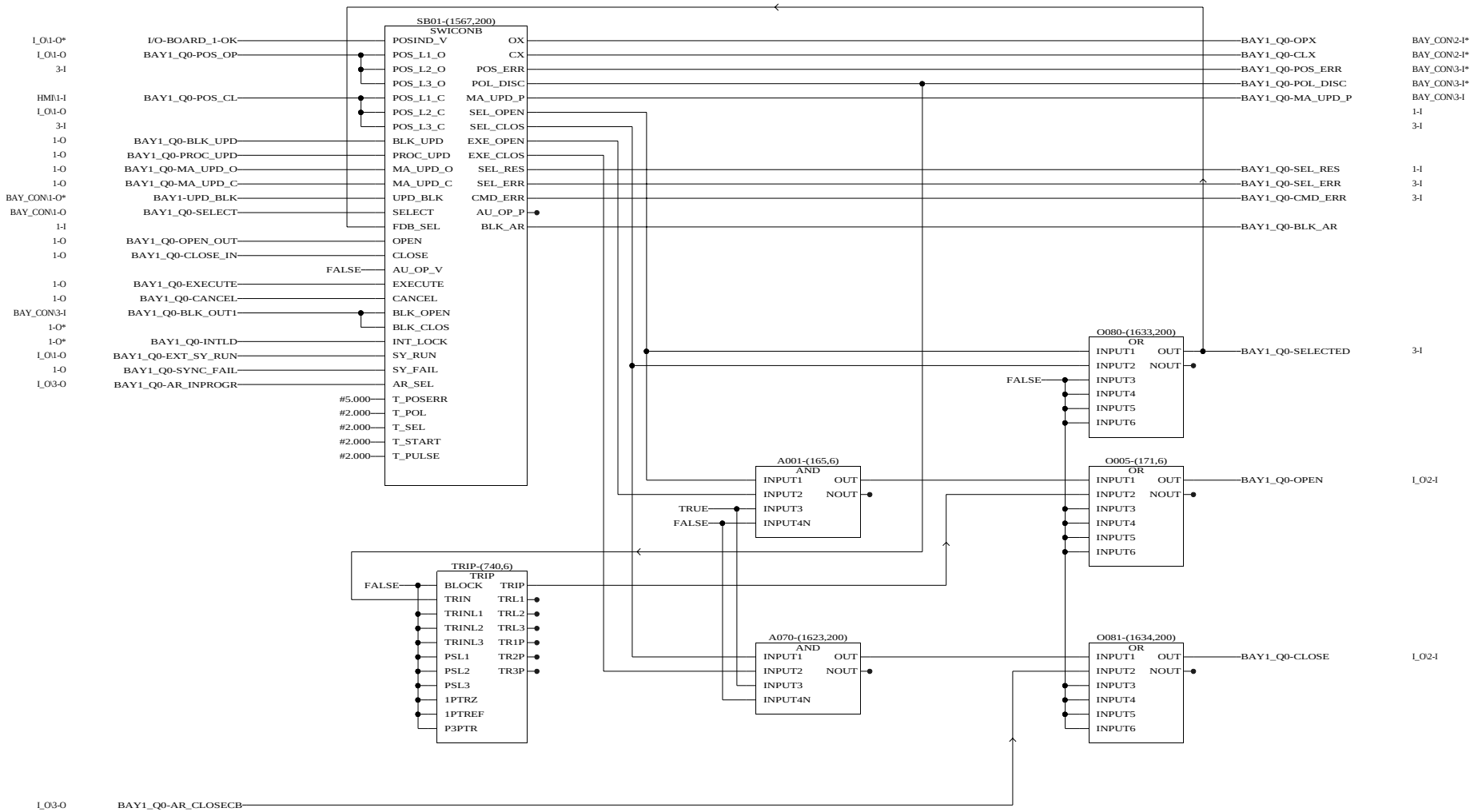

Bay1 circuitbreaker Q0

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

Q0_CON

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BAY1-UPD_BLK	HMI\1-I
	Q1_CON\2-I
	Q2_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I
BAY1_Q0-BLK_OUT1	Q0_CON\3-I
BAY1_Q0-CLX	Q0_CON\3-I
BAY1_Q0-INTLD	Q0_CON\3-I
BAY1_Q0-OPX	Q0_CON\3-I
BAY1_Q0-POL_DISC	Q0_CON\3-I
BAY1_Q0-POS_ERR	Q0_CON\3-I
I/O-BOARD_1-OK	Q1_CON\2-I
	Q2_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

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Q0_CON

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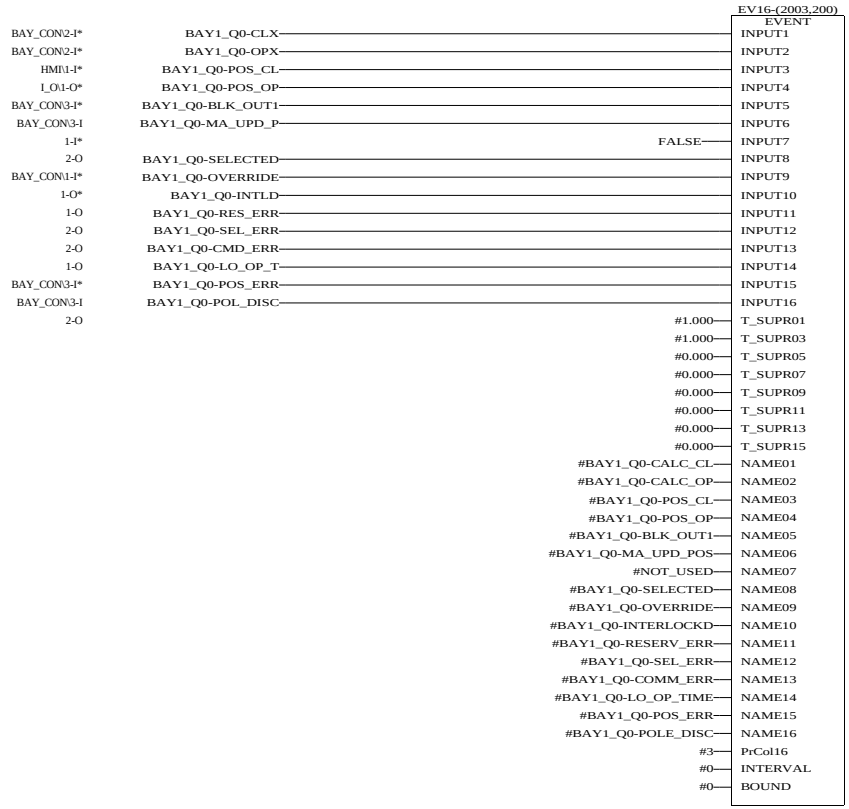

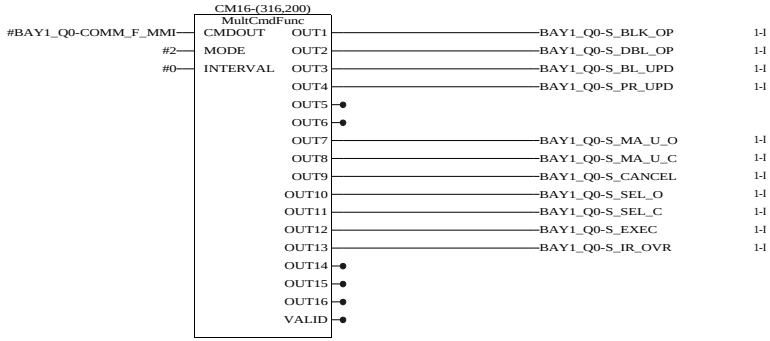

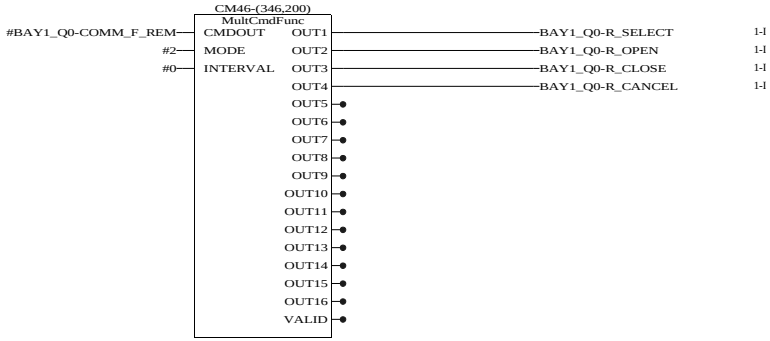

Bay1 events and commands Q0

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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Q0_CON

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BAY1_Q0-BLK_OUT1	Q0_CON\1-O
	Q0_CON\2-I
BAY1_Q0-CLX	Q0_CON\2-O
BAY1_Q0-INTLD	Q0_CON\2-I
BAY1_Q0-MA_UPD_P	Q0_CON\2-O
BAY1_Q0-OPX	Q0_CON\2-O
BAY1_Q0-OVERRIDE	BAY_CON\3-I
	Q0_CON\1-O
BAY1_Q0-POS_CL	I_O\1-O
	Q0_CON\2-I
BAY1_Q0-POS_ERR	Q0_CON\2-O
BAY1_Q0-POS_OP	Q0_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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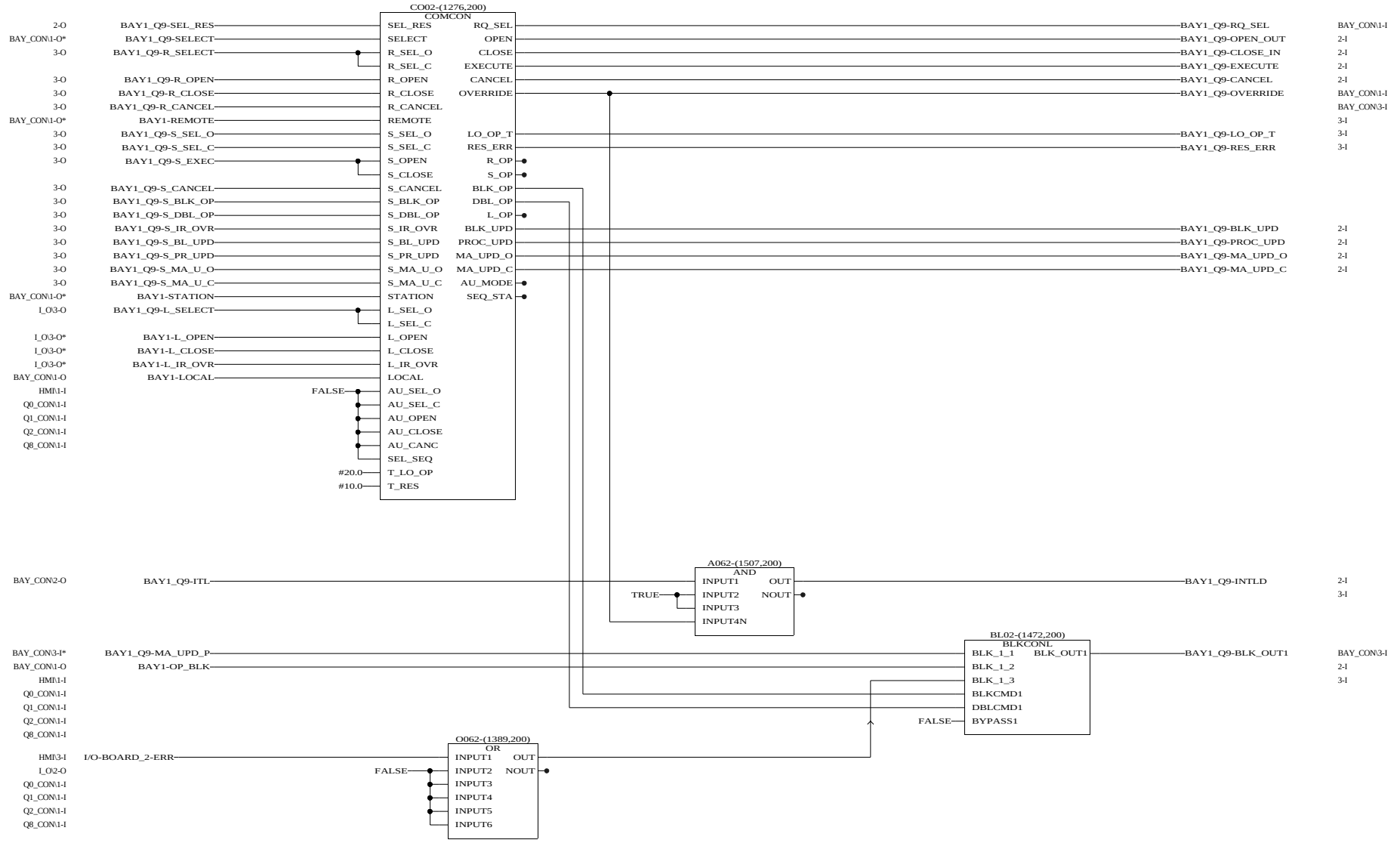

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

Q9_CON

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BAY1-L_CLOSE	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
BAY1-L_IR_OVR	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
BAY1-L_OPEN	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
BAY1-REMOTE	HMI\1-I
	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
BAY1-STATION	HMI\1-I
	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
BAY1_Q9-MA_UPD_P	Q9_CON\2-O
	Q9_CON\3-I
BAY1_Q9-SELECT	Q9_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

ABB Network Partner AB

Q9_CON	
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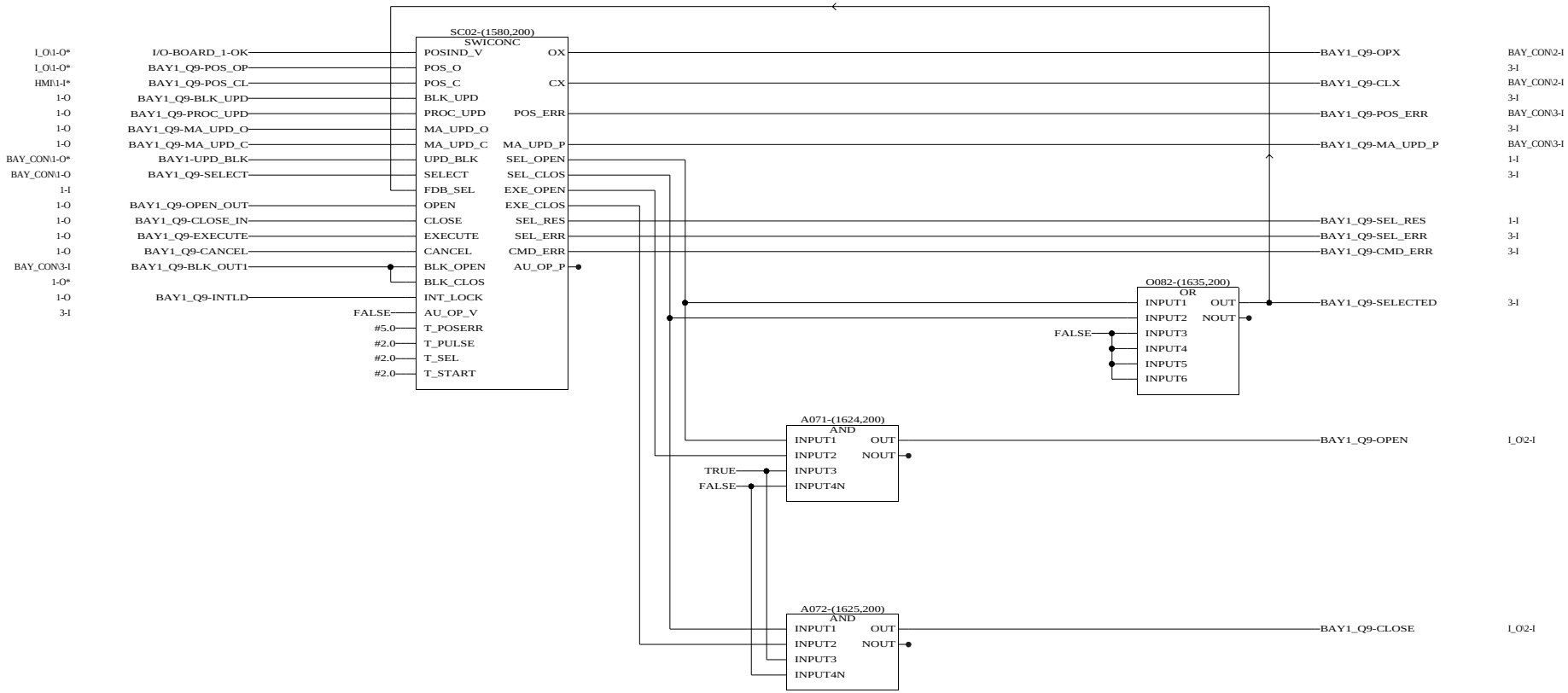

Bay1 disconnector Q9

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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BAY1-UPD_BLK	HMI\1-I
	Q0_CON\2-I
	Q1_CON\2-I
	Q2_CON\2-I
	Q8_CON\2-I
BAY1_Q9-BLK_OUT1	Q9_CON\3-I
BAY1_Q9-POS_CL	I_O\1-O
	Q9_CON\3-I
BAY1_Q9-POS_OP	Q9_CON\3-I
I/O-BOARD_1-OK	Q0_CON\2-I
	Q1_CON\2-I
	Q2_CON\2-I
	Q8_CON\2-I

Prepared	M Wallin Andersson	98-06-18	
Approved	L-G Malmqvist	98-06-18	
Rev Ind		Reg nr	
Based on		Pcl	

REC 561
Default configuration

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Q9_CON

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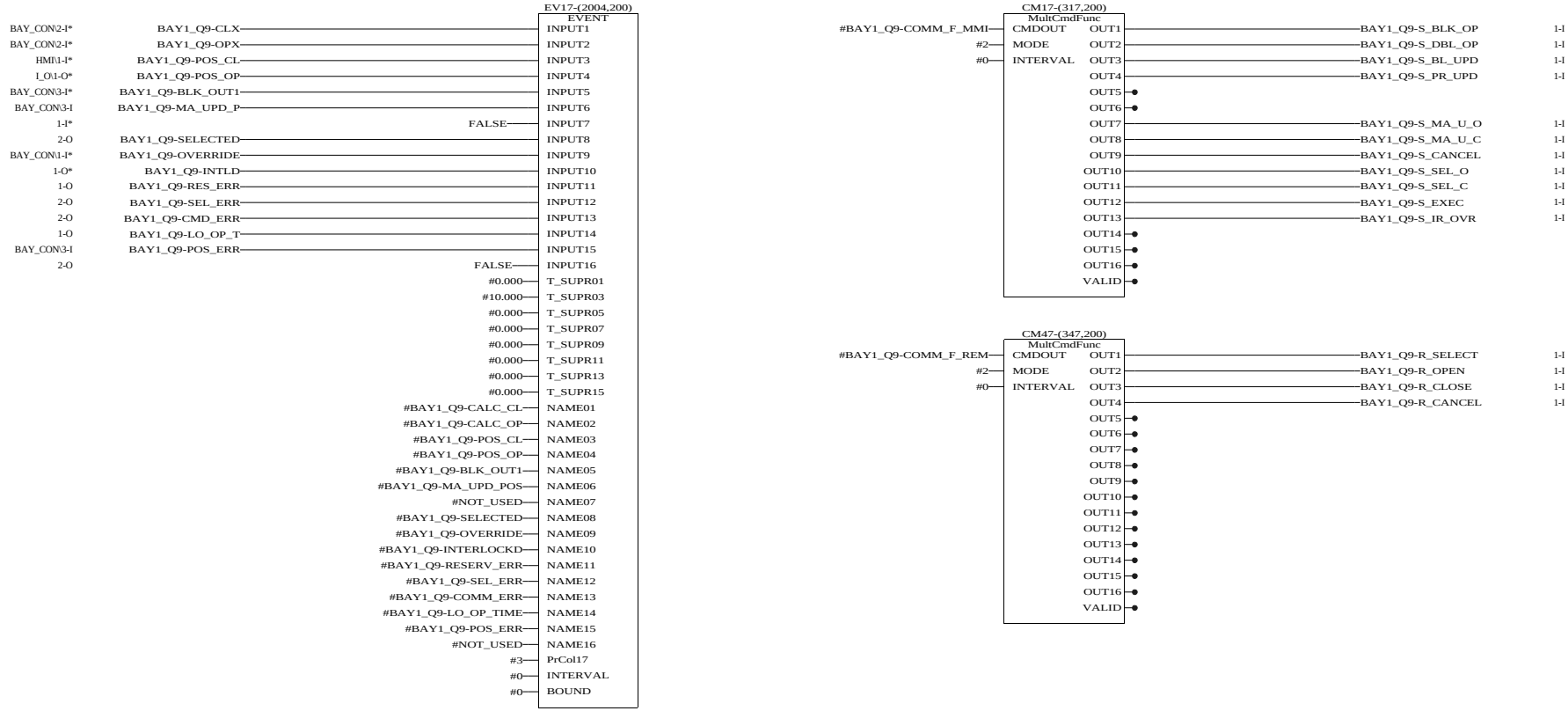

Bay1 events and commands Q9

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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BAY1_Q9-BLK_OUT1	Q9_CON\1-O
	Q9_CON\2-I
BAY1_Q9-CLX	Q9_CON\2-O
BAY1_Q9-INTLD	Q9_CON\2-I
BAY1_Q9-MA_UPD_P	Q9_CON\2-O
BAY1_Q9-OPX	Q9_CON\2-O
BAY1_Q9-OVERRIDE	BAY_CON\3-I
	Q9_CON\1-O
BAY1_Q9-POS_CL	I_O\1-O
	Q9_CON\2-I
BAY1_Q9-POS_OP	Q9_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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Q9_CON

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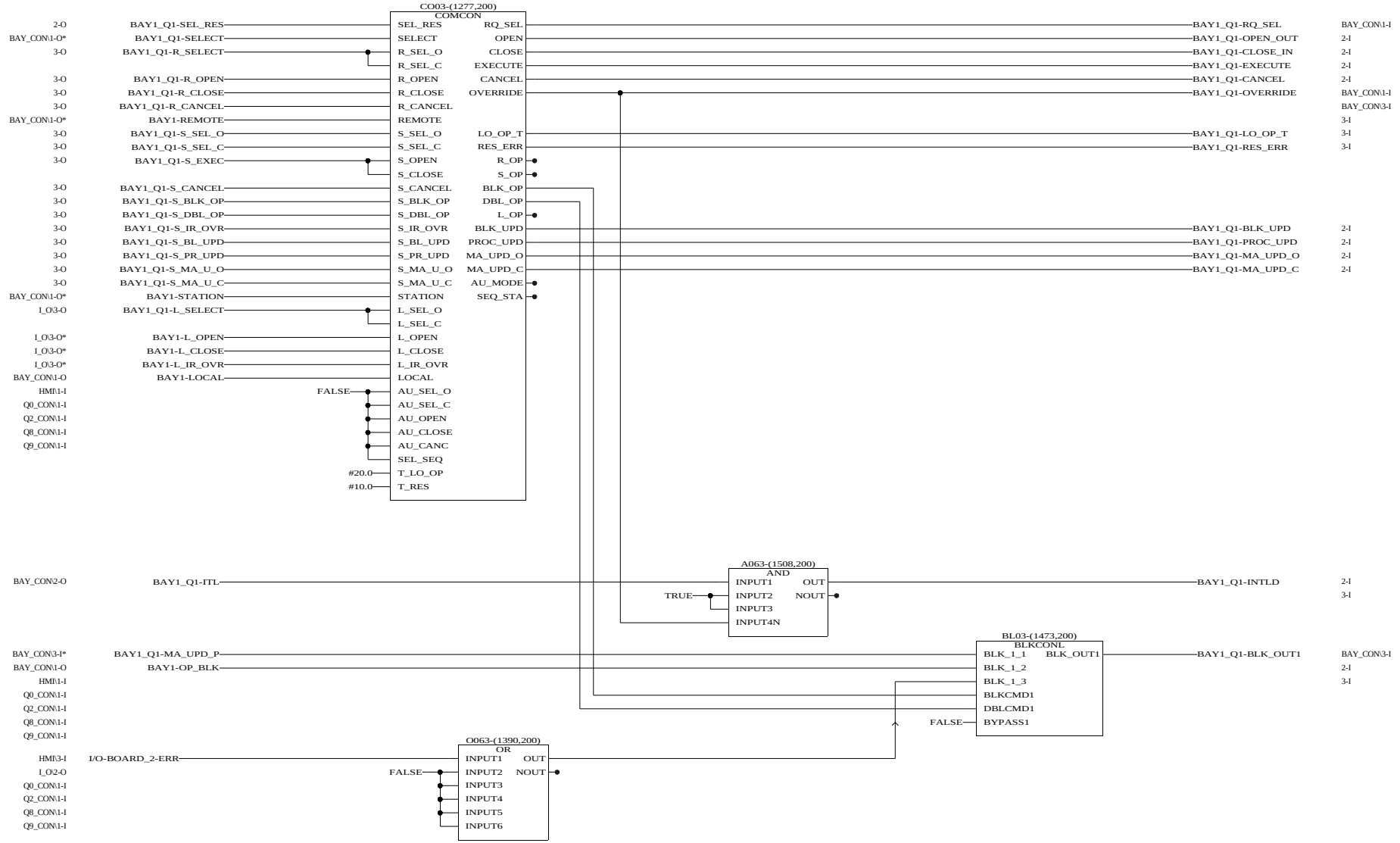

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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Q1_CON

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BAY1-L_CLOSE	Q0_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-L_IR_OVR	Q0_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-L_OPEN	Q0_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-REMOTE	HMI\1-I
	Q0_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-STATION	HMI\1-I
	Q0_CON\1-I
	Q2_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1_Q1-MA_UPD_P	Q1_CON\2-O
	Q1_CON\3-I
BAY1_Q1-SELECT	Q1_CON\2-I

Prepared	M Wallin Andersson	98-06-18	
Approved	L-G Malmqvist	98-06-18	
Rev Ind		Reg nr	
Based on		Pcl	

REC 561
Default configuration

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Q1_CON

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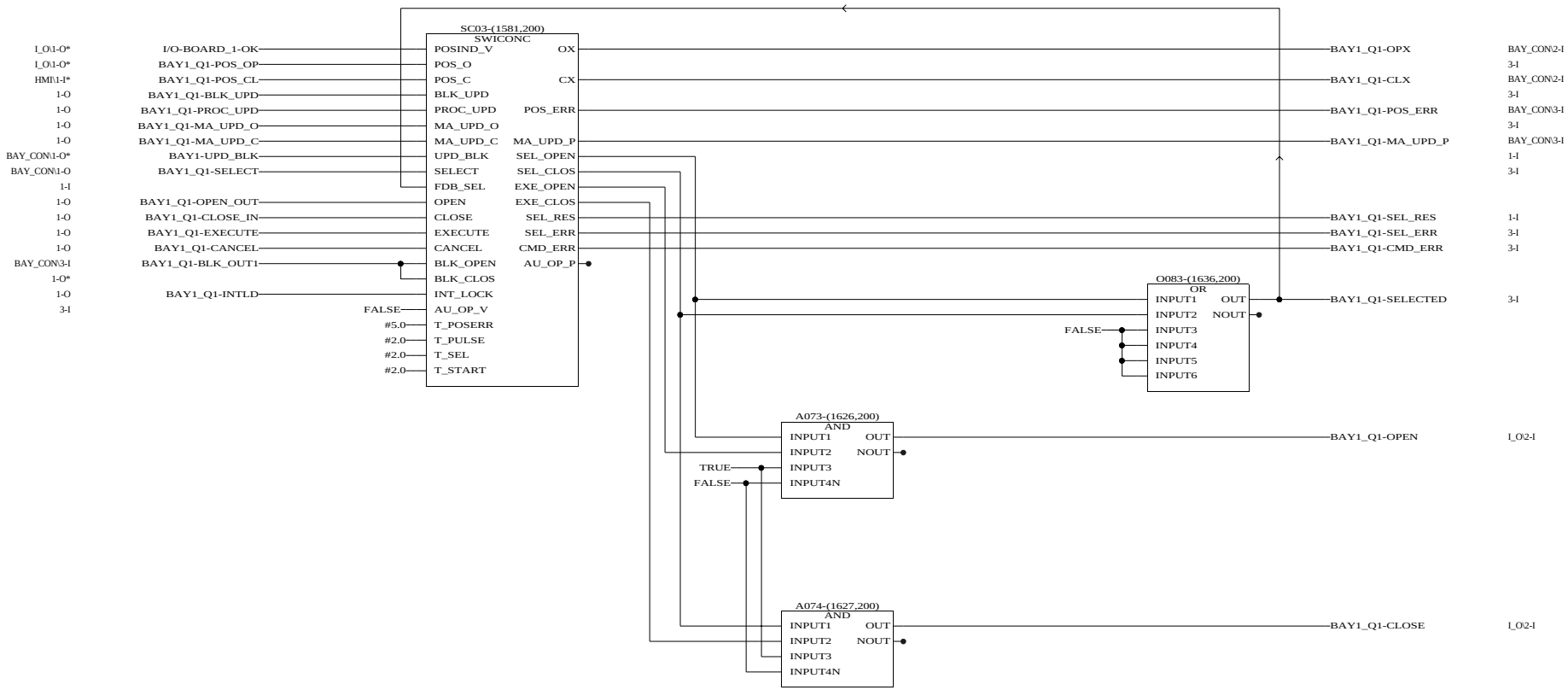

Bay1 disconnector Q1

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q1_CON

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BAY1-UPD_BLK	HMI\1-I
	Q0_CON\2-I
	Q2_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I
BAY1_Q1-BLK_OUT1	Q1_CON\3-I
BAY1_Q1-POS_CL	I_O\1-O
	Q1_CON\3-I
BAY1_Q1-POS_OP	Q1_CON\3-I
I/O-BOARD_1-OK	Q0_CON\2-I
	Q2_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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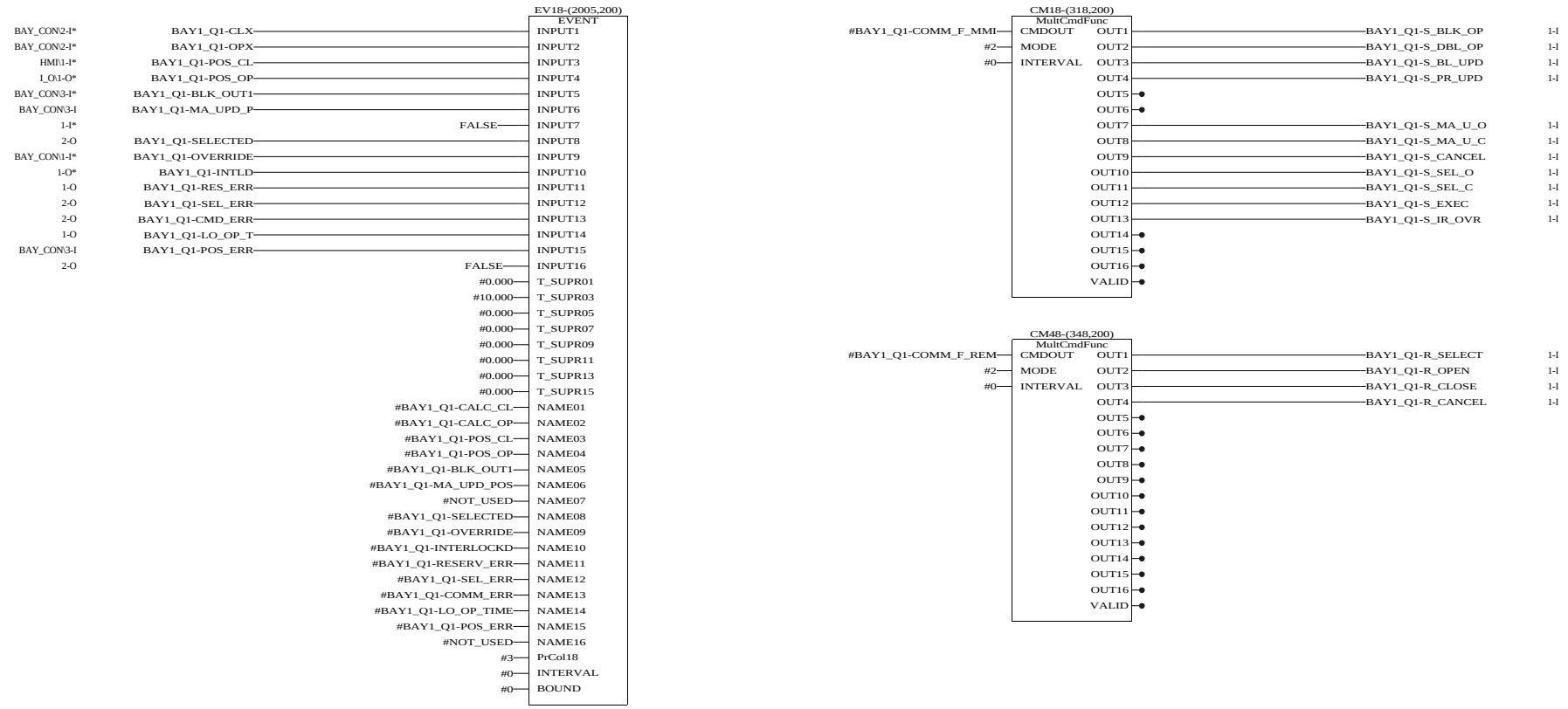

Bay1 events and commands Q1

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q1_CON

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BAY1_Q1-BLK_OUT1	Q1_CON\1-O
	Q1_CON\2-I
BAY1_Q1-CLX	Q1_CON\2-O
BAY1_Q1-INTLD	Q1_CON\2-I
BAY1_Q1-MA_UPD_P	Q1_CON\2-O
BAY1_Q1-OPX	Q1_CON\2-O
BAY1_Q1-OVERRIDE	BAY_CON\3-I
	Q1_CON\1-O
BAY1_Q1-POS_CL	I_O\1-O
	Q1_CON\2-I
BAY1_Q1-POS_OP	Q1_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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Q1_CON

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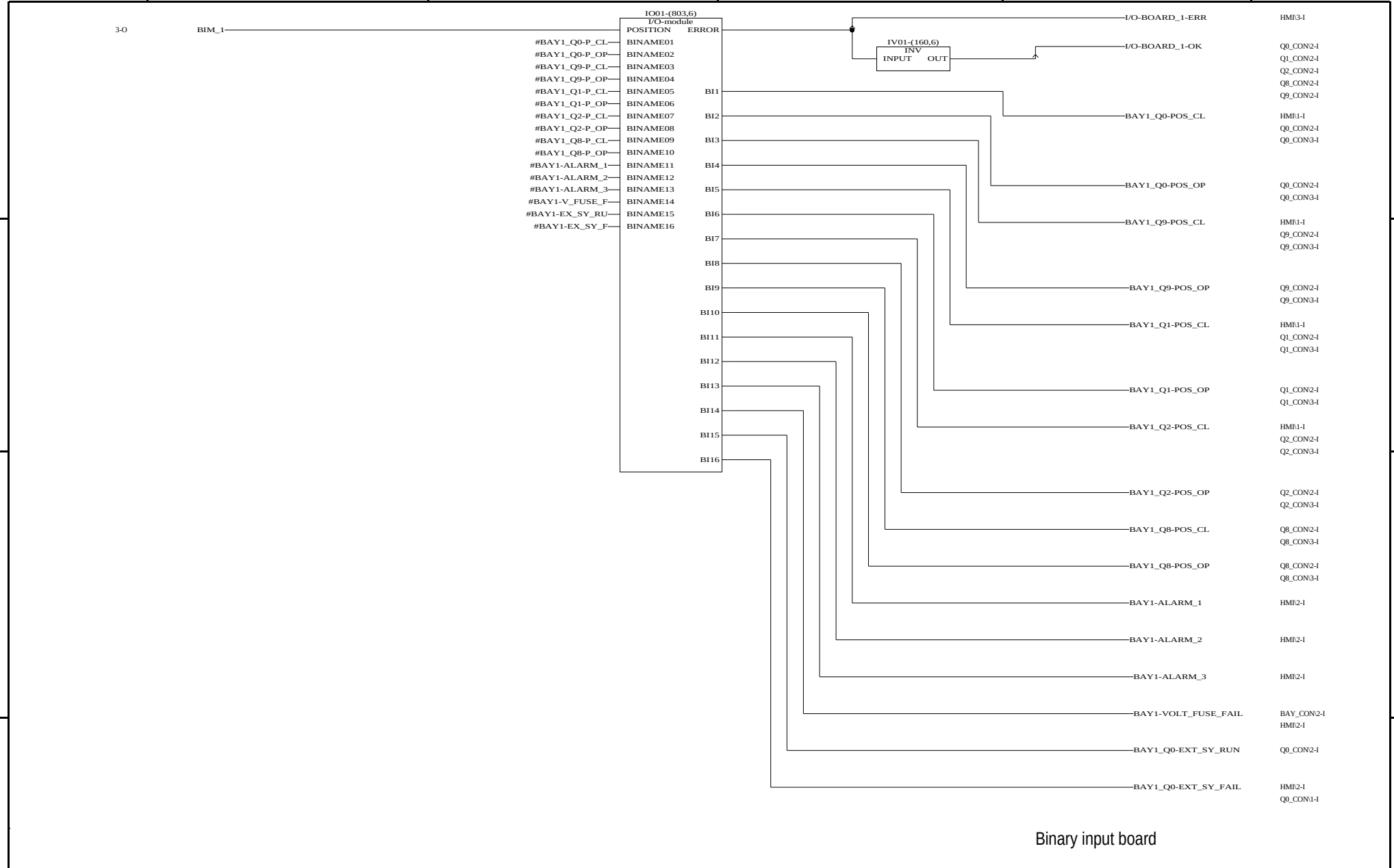

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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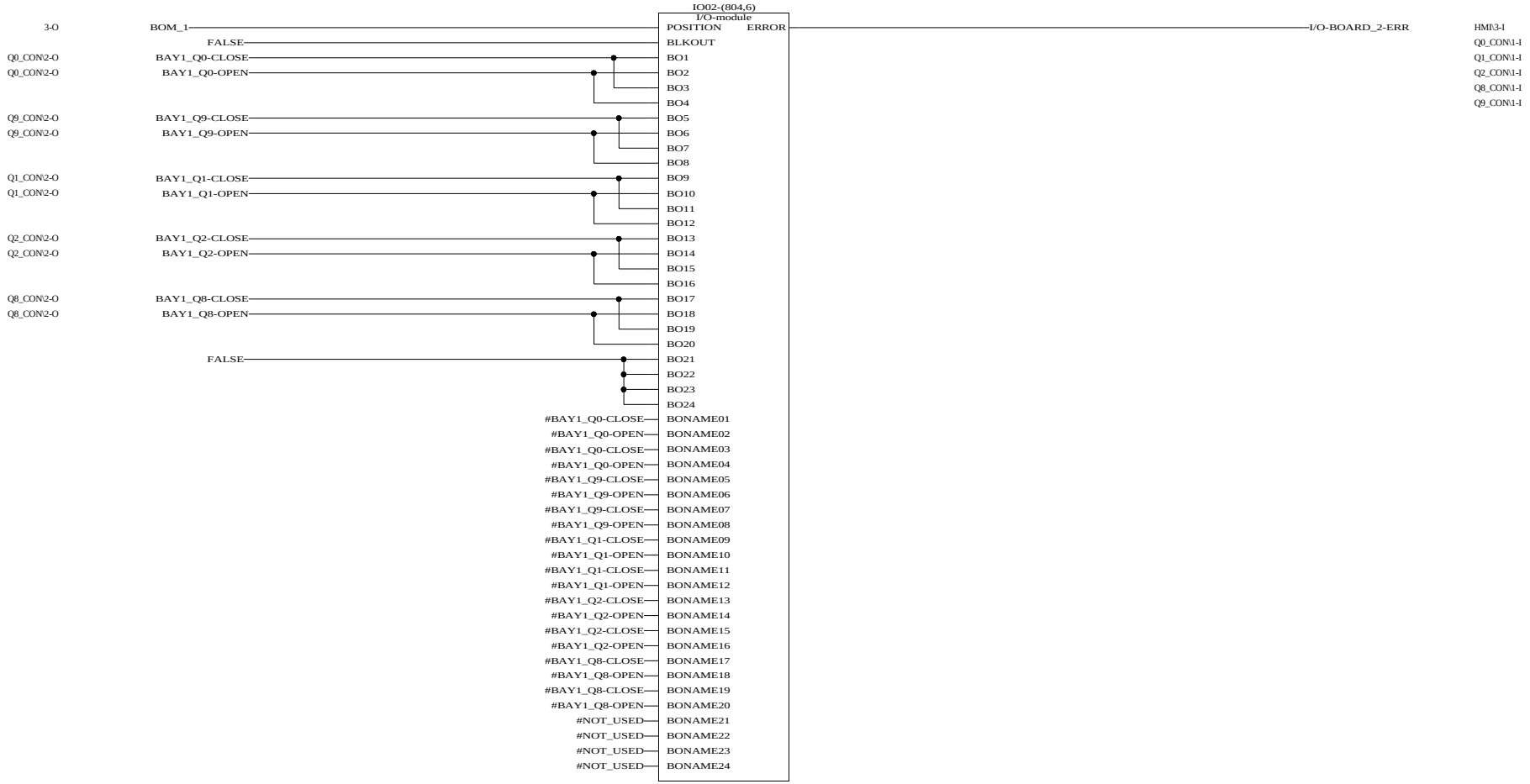

Binary output board

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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I_O

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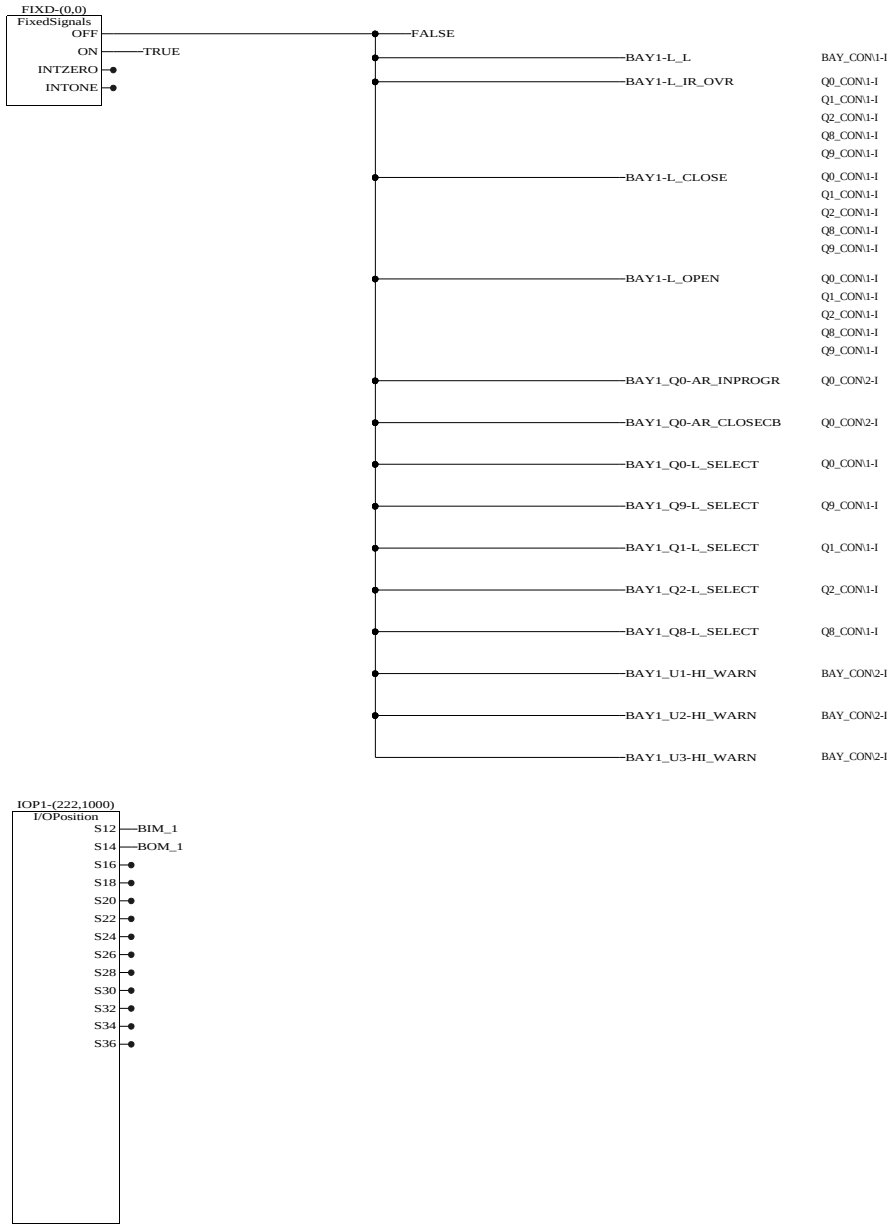

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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BIM_1 I_O\1-I
BOM_1 I_O\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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		I_O
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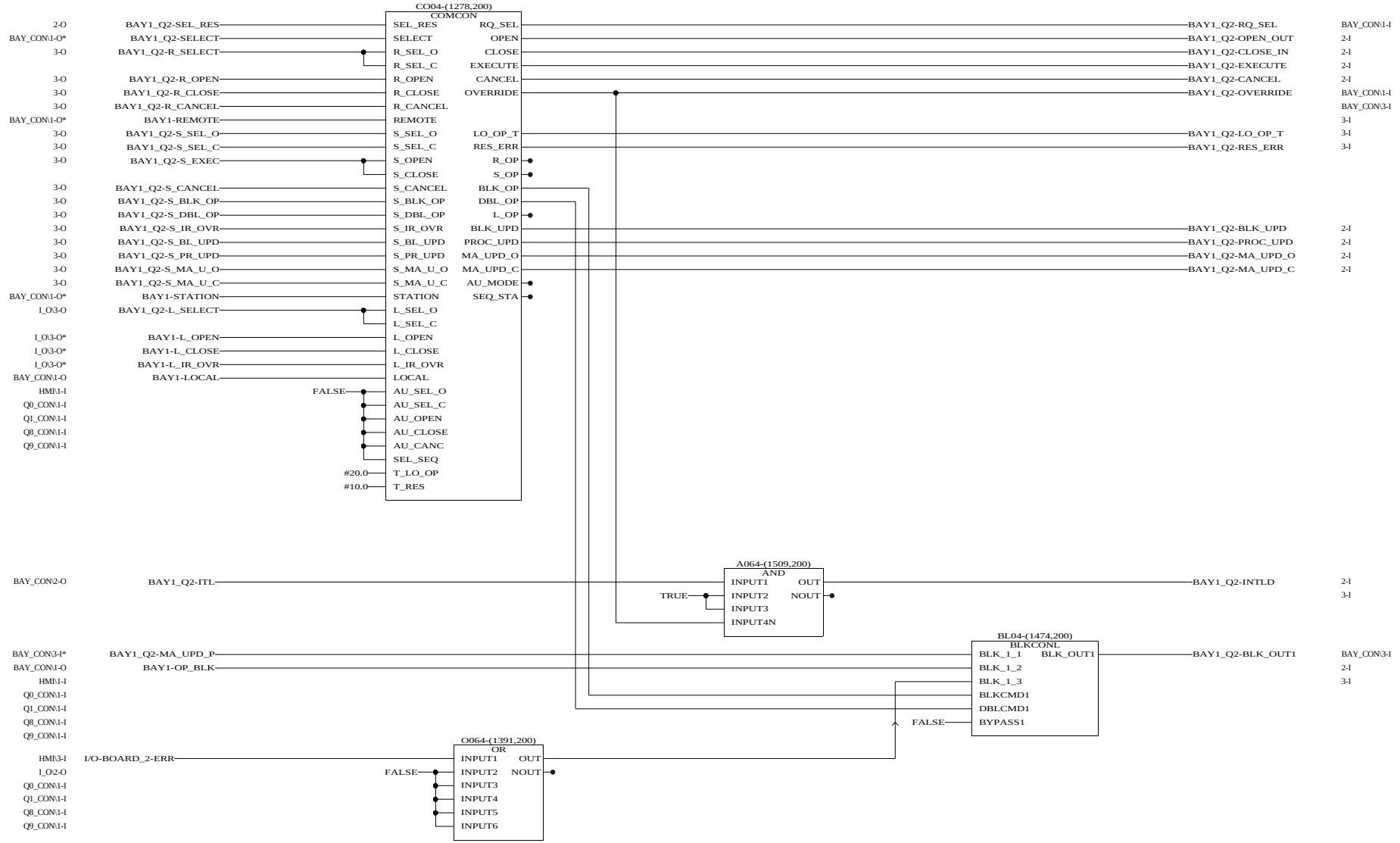

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q2_CON

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BAY1-L_CLOSE	Q0_CON\1-I
	Q1_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-L_IR_OVR	Q0_CON\1-I
	Q1_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-L_OPEN	Q0_CON\1-I
	Q1_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-REMOTE	HMI\1-I
	Q0_CON\1-I
	Q1_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1-STATION	HMI\1-I
	Q0_CON\1-I
	Q1_CON\1-I
	Q8_CON\1-I
	Q9_CON\1-I
BAY1_Q2-MA_UPD_P	Q2_CON\2-O
	Q2_CON\3-I
BAY1_Q2-SELECT	Q2_CON\2-I

Prepared	M Wallin Andersson	98-06-18	
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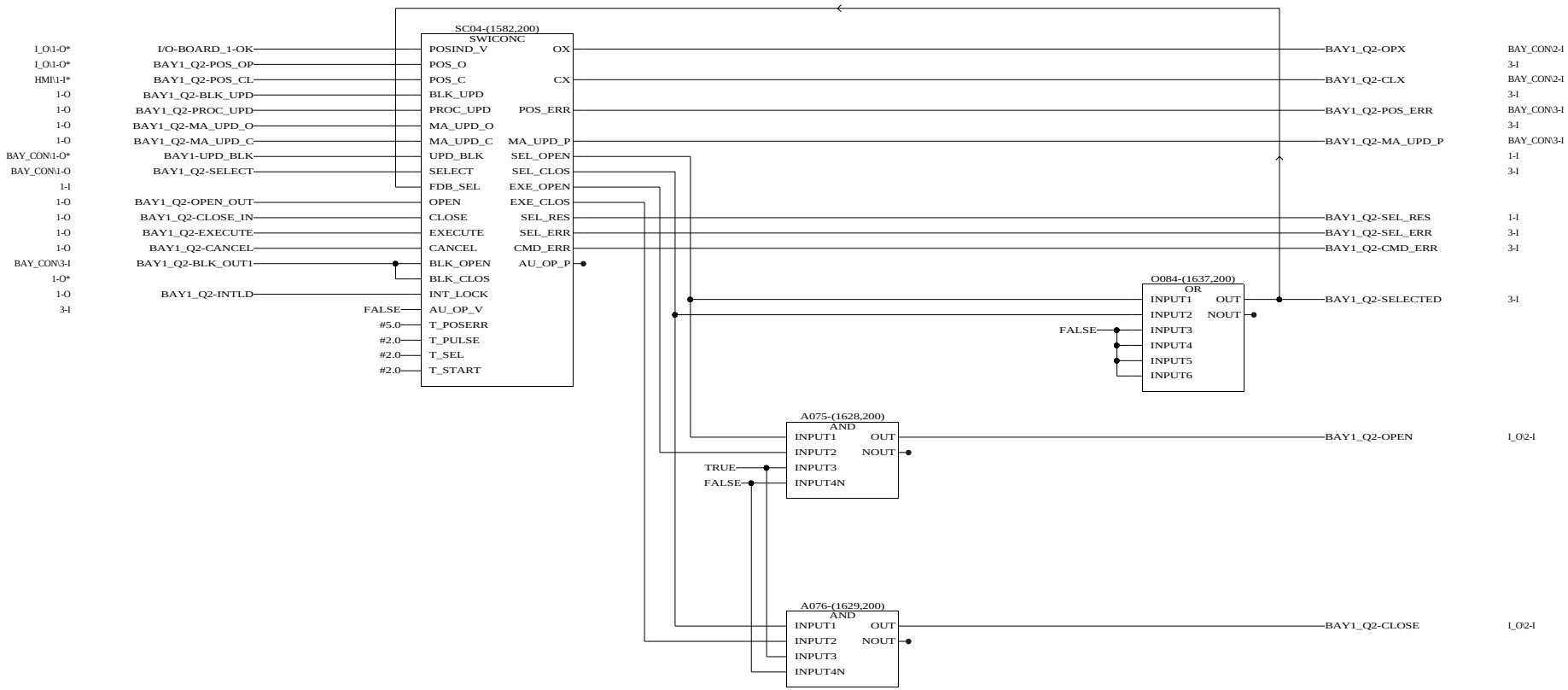

Bay1 disconnector Q2

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
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BAY1-UPD_BLK	HMI\1-I
	Q0_CON\2-I
	Q1_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I
BAY1_Q2-BLK_OUT1	Q2_CON\3-I
BAY1_Q2-POS_CL	I_O\1-O
	Q2_CON\3-I
BAY1_Q2-POS_OP	Q2_CON\3-I
I/O-BOARD_1-OK	Q0_CON\2-I
	Q1_CON\2-I
	Q8_CON\2-I
	Q9_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q2_CON

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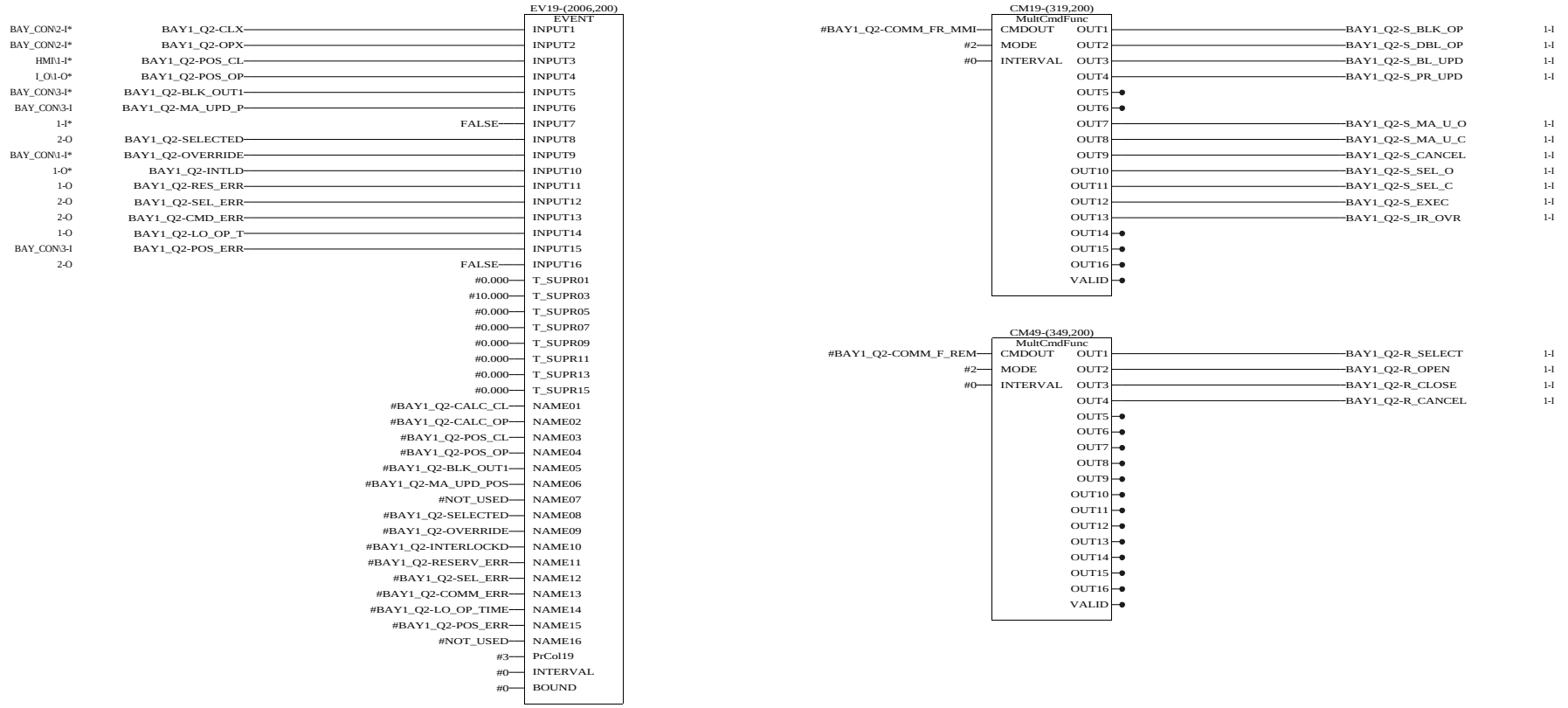

Bay1 events and commands Q2

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q2_CON

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BAY1_Q2-BLK_OUT1	Q2_CON\1-O
	Q2_CON\2-I
BAY1_Q2-CLX	Q2_CON\2-O
BAY1_Q2-INTLD	Q2_CON\2-I
BAY1_Q2-MA_UPD_P	Q2_CON\2-O
BAY1_Q2-OPX	Q2_CON\2-O
BAY1_Q2-OVERRIDE	BAY_CON\3-I
	Q2_CON\1-O
BAY1_Q2-POS_CL	I_O\1-O
	Q2_CON\2-I
BAY1_Q2-POS_OP	Q2_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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Q2_CON

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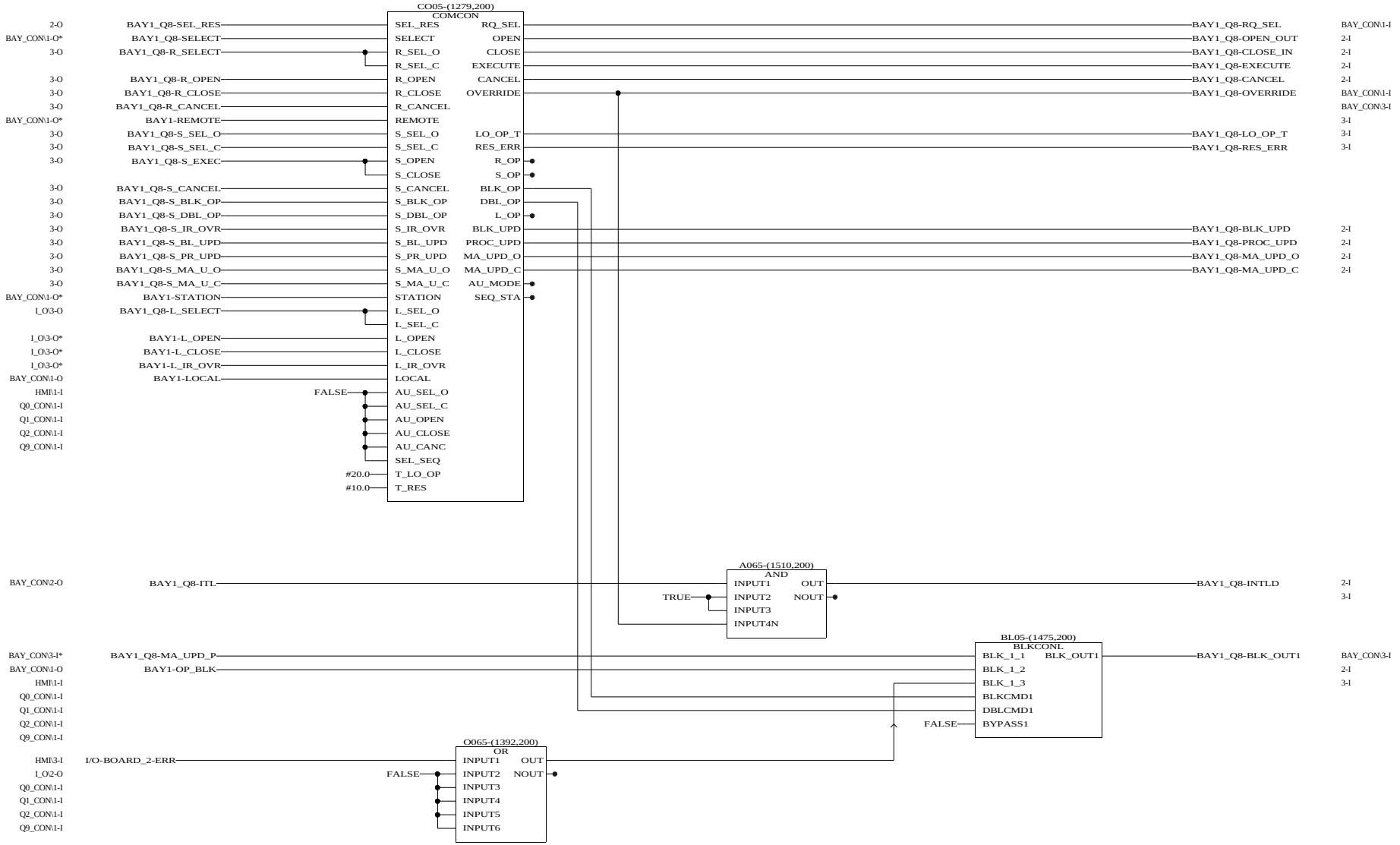

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
Based on		Pcl			

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Q8_CON

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BAY1-L_CLOSE	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q9_CON\1-I
BAY1-L_IR_OVR	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q9_CON\1-I
BAY1-L_OPEN	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q9_CON\1-I
BAY1-REMOTE	HMI\1-I
	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q9_CON\1-I
BAY1-STATION	HMI\1-I
	Q0_CON\1-I
	Q1_CON\1-I
	Q2_CON\1-I
	Q9_CON\1-I
BAY1_Q8-MA_UPD_P	Q8_CON\2-O
	Q8_CON\3-I
BAY1_Q8-SELECT	Q8_CON\2-I

Prepared	M Wallin Andersson	98-06-18	
Approved	L-G Malmqvist	98-06-18	
Rev Ind		Reg nr	
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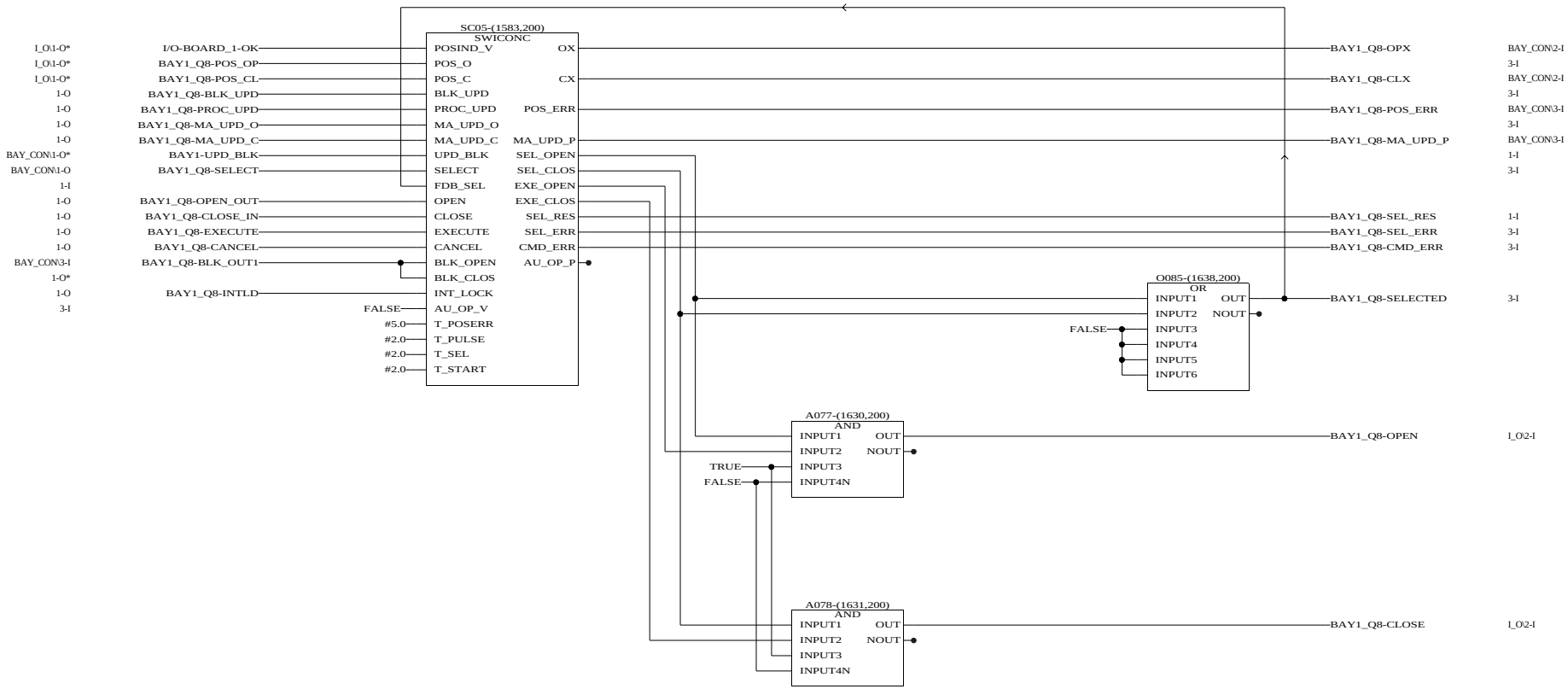

Bay1 earthing switch Q8

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
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Q8_CON

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BAY1-UPD_BLK	HMI\1-I
	Q0_CON\2-I
	Q1_CON\2-I
	Q2_CON\2-I
	Q9_CON\2-I
BAY1_Q8-BLK_OUT1	Q8_CON\3-I
BAY1_Q8-POS_CL	Q8_CON\3-I
BAY1_Q8-POS_OP	Q8_CON\3-I
I/O-BOARD_1-OK	Q0_CON\2-I
	Q1_CON\2-I
	Q2_CON\2-I
	Q9_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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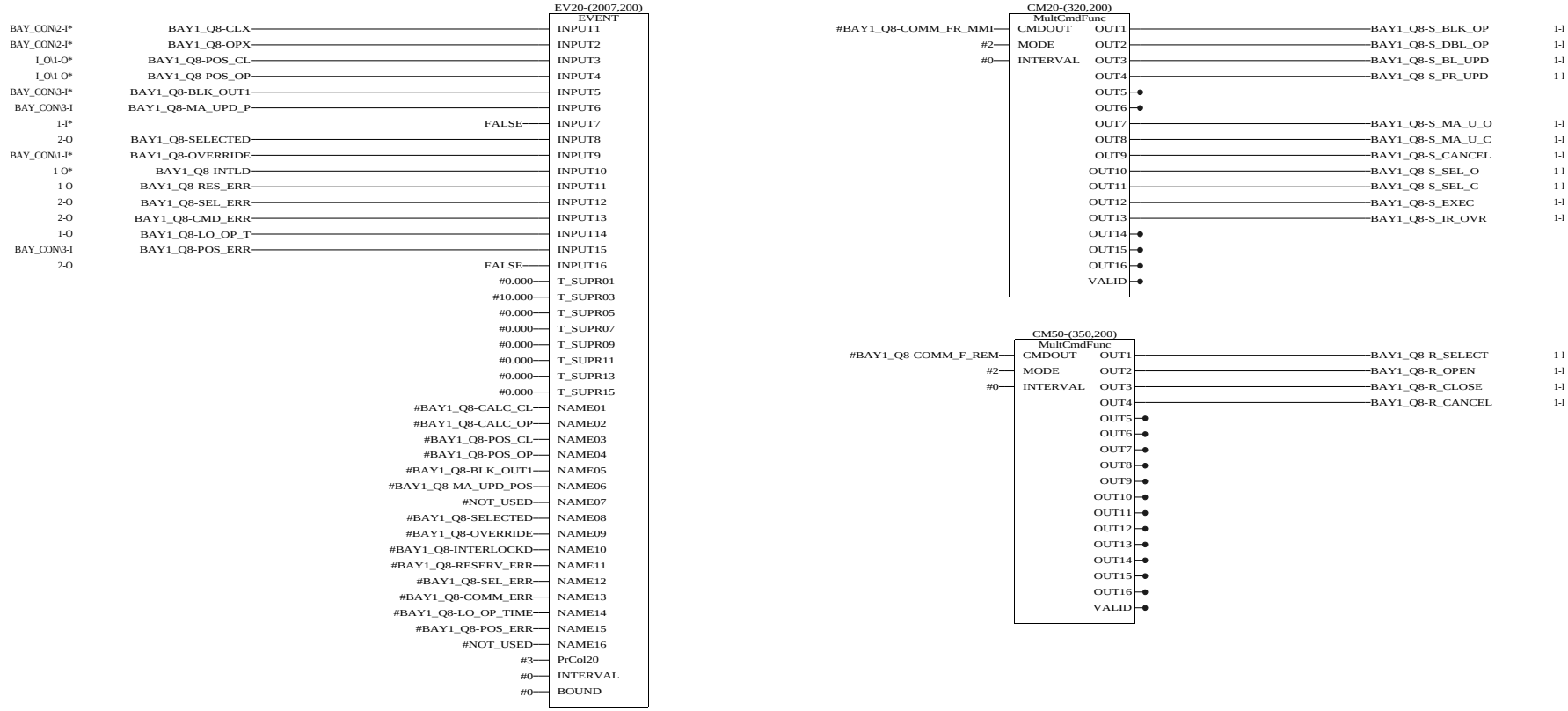

Bay1 events and commands Q8

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
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BAY1_Q8-BLK_OUT1	Q8_CON\1-O
	Q8_CON\2-I
BAY1_Q8-CLX	Q8_CON\2-O
BAY1_Q8-INTLD	Q8_CON\2-I
BAY1_Q8-MA_UPD_P	Q8_CON\2-O
BAY1_Q8-OPX	Q8_CON\2-O
BAY1_Q8-OVERRIDE	BAY_CON\3-I
	Q8_CON\1-O
BAY1_Q8-POS_CL	Q8_CON\2-I
BAY1_Q8-POS_OP	Q8_CON\2-I

		Prepared	M Wallin Andersson	98-06-18	REC 561
		Approved	L-G Malmqvist	98-06-18	Default configuration
Rev Ind		Reg nr			
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