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ABB

SE-721 68 Västerås
Sweden

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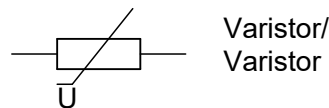
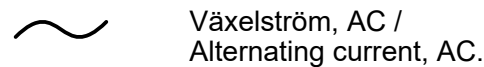
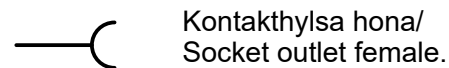
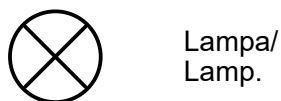
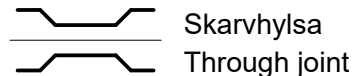
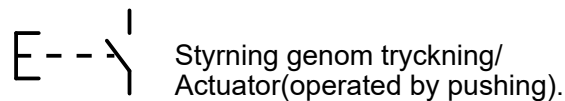
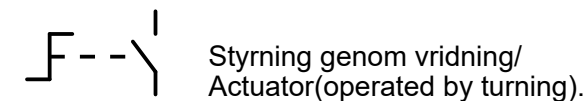
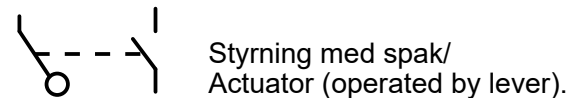
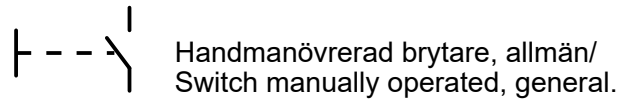
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118	CUSTOMER POWER/SIGNAL DEVICE NET IRB4600	2018-02-22	SETHSTA
119	CUSTOMER POWER/SIGNAL PROFI BUS IRB 4600	2018-02-22	SETHSTA
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123	COOLING AXES 1/2 SINGLE CABINET IRB 6600 - 7600	2018-02-22	SETHSTA
124	CUSTOMER POWER/SIGNAL SINGLE CABINET IRB 6600 - 7600	2018-02-22	SETHSTA
125	DevNet//EtherNet//ProfiNet//PBUS ADDITION TO CP/CS IRB 66xx - 7600	2018-02-22	SETHSTA
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128	CUSTOMER POWER/SIGNAL SINGLE CABINET DEVICE NET IRB 6600 - 7600	2018-02-22	SETHSTA
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128.6	SERVO DRIVE SYSTEM AXES 4-6 IRB 87xx	2018-02-22	SETHSTA
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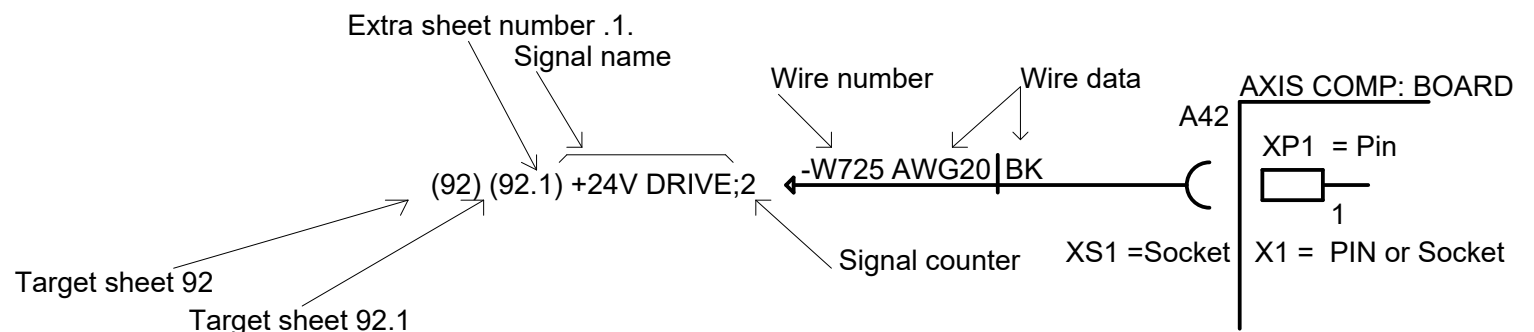


Ethernet signal:

1. Transmit TX+ or TX- and receive RX+ or RX-
2. Unit possible to transmit or receive TX+/RX+ or TX-/RX-
3. Ethernet Gigabit signal, transmit pair one MX1+ , MX1- and receive the MX2+ , MX2-

If Gigabit transmit pair MX3+ , MX3- and receive pair MX4+ , MX4-

Example, showing how to read the information before and after a signal.



Column coordinate number on the drawing

Wire/connector one colour code.
BK = Black, BN = Brown, RD = Red, OG = Orange
YE = Yellow, GN = Green, BU = Blue, VT = Violet
GY = Grey, WH = White, PK = Pink, TQ = Turquoise . . .

Wire/connector two colour code.

Example 1 : WH/RD = White and Red.

Example 2 : GNYE = Green and Yellow.

Example: Cable with four colour coded wire,
square area AWG24 and cable number 709.

709 AWG24	BK
	BN
	RD/OG
	BK/OG

Translation table square area from AWG to mm2.

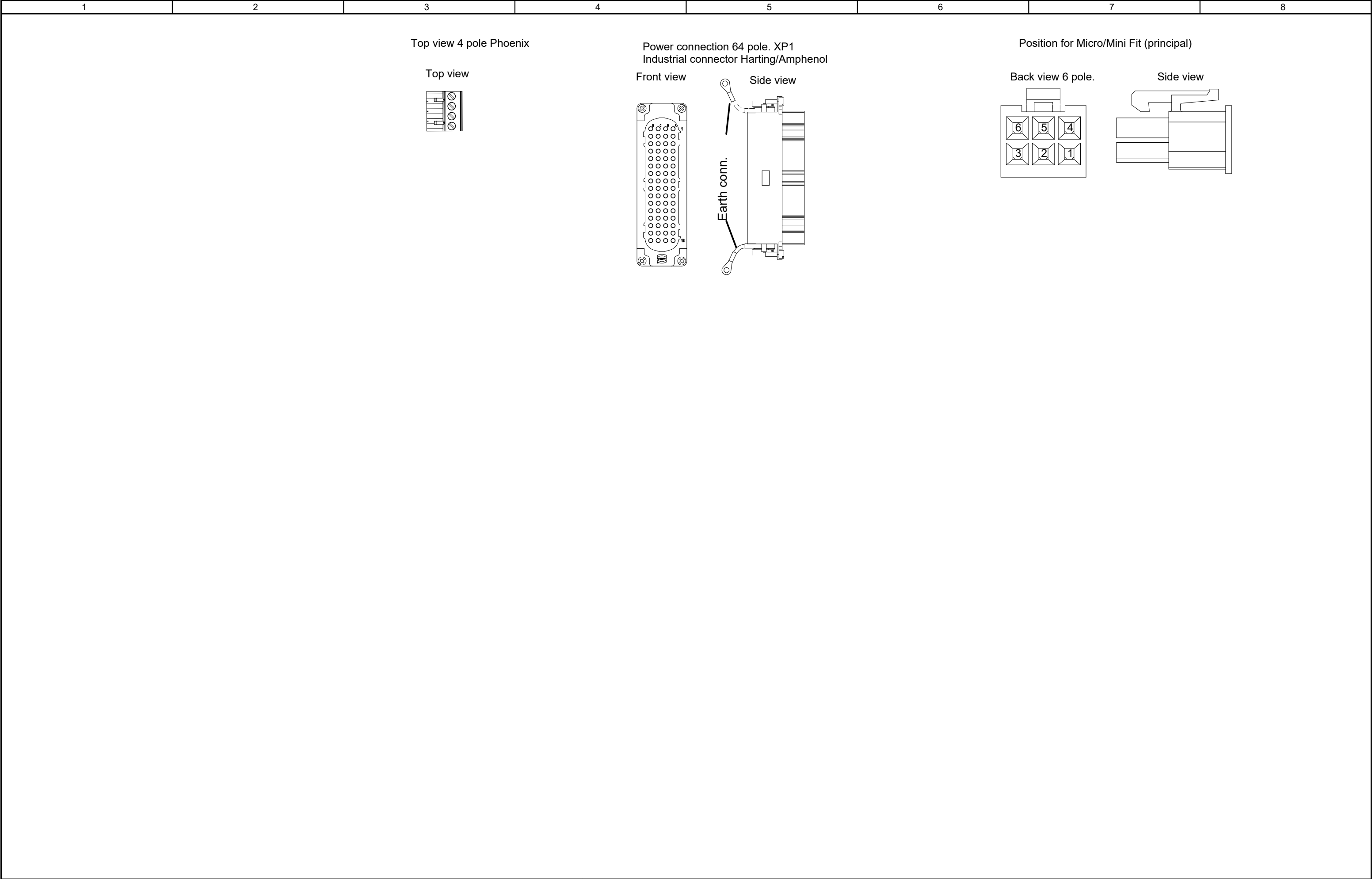
AWG28	0,093			AWG18	0,93
AWG26	0,15			AWG16	1,25
AWG24	0,25			AWG14	2,44
AWG22	0,34			AWG12	3,02
AWG20	0,56			AWG10	4,65

Run chain presentation starts at sheet 26.
The Run chain marked as a wider wire.

Example: Run chain marked with a wider wire.

Example: Not Run chain marked with a thin wire.

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Sh.2 - 6 table of contents updated
Sh.9 - 10 Device list updated
Sh.8.1 Revision information
Sh.16 updated with opt.1541-1, 1542-1, 1543-1, 1544-1
Sh.17 IRB87xx added.
Sh.19 XS9 removed from floor plate//
text "COMMUNICATION DRIVE MODULE AND CONTROL MODULE"
Sh.17 IRB87xx added.
Sh.23 XS9 (TXRX-, RXTX+) and (2.BI_DA- 2.BI_DB+) was switched at Column 1//
XS1/XP1 and xs2/xp2 updated crossref.
Sh.25 all Cross references was updated.//S21.X1 and EXT S21.X1 added.
Sh.26 Column 1 cross reference updated// A21x1.2 and A21x2.2
changed signal direction.
Sh.27 Cross references was updated.//
Sh.28 Cross references was updated.// Connection to A21 X12 was changed.
/ S21.1 was removed
Sh.28.1 Cross section at column 3 updated// Signal direction changed direction
column 3// Text acc. to 1) column 1 was changed//Text added to column 7
/ Signal direction changed at column 7//Signal A21x6:2, :3, :4 and :5
changed Signal direction column 7.
Sh.28.2 New signals to board A23 column 8
Sh.29 A21 changed to S21 column 2//terminal at column 7 changed Device tag.
Sh.30 Coordinate 7 // XP4 was EXT-XP4// ref ((Connected to page)) removed
/ 1) Connect to XS4 new text //
Flexpendat cable presentation changed at column 5-8
Sh.30.2 added.
Sh.31 EXT-A21 change to EXT-S21 column 2
Sh.32 Device tag H1 changed at column 3//Column 5 changed wire information 205 -219
Sh.34 DSQC1024 add. column 4//DSQC1022 add. column 6
Sh.35 DSQC1024 add. column 4//
Sh.36 DSQC1024 add. column 4//
Sh.38.5 Sheet Title name changed.
Sh.40 device net cable was split in two parts.column 3 and 4
Sh.51.2, 51.4, 51.6, 51.8 Local I/O Digital, Analogue, Relay.
Sh.54.1 Cross reference add. column 1 and at column 8
Sh.55 shield Title page was changed
Sh.56 GNYE text add. column 1 and GNYE moved outside the transformer column 6
Sh.59 Note 1) changed.
Sh.61 New signal name column 5
Sh.62 Internal connection XS6:1 to X5:2 removed// Signal at X5 moves out side the A43 column 6
Sh.65 IRB87xx add. column 1
Sh.75.1 ref. to circuit drawings column 1
Sh.79 The motor phases exchange place X12, X16, X13
Sh.82 The motor phases exchange place X12, X13, X16
Sh.106-109 Ref. to manip. circ. drawing added 3HAC029570-007
Sh.110 Ref. to manip. circ. draw. was 3HAC025744-001, 3HAC13347-1.
Sh.111 XS9 and R1.(TXRX-,RXTX+)//Ref. to manip.circ.draw.add. 3HAC029570-007
Sh.128.7 Conductor information at terminal XS1/XP1 column 5 and 6.

Sh. 2-6 Table of contents
Sh. 8.1 Revision information added.
Sh. 9 - 12 Device list
Sh. 28.1 New sheet Panel Board part 4.// Signal A21X6:2-X6:5 new position
Sh. 29 text added at coordinate column 3 and 6.
Sh. 30 EXT-XP4 new coordinate 6.// 1) and 2) added coordinate 5 and 6.
Sh. 33 have been exchanged to 28.1 to gether together all Panel board sheets.
Sh. 34 text DSQC1024 rel 17.1 is removed
Sh. 35 text DSQC1024 rel 17.1 is removed
Sh. 36 text DSQC1024 rel 17.1 is removed
Sh. 38.5 Signalname added coordinate column 3, 5, 6
Sh. 51.2 and 51.4 exchanged places, the base is now 51.2 and the add on is 51.4.// Internal symbols add.
Sh. 51.6and 51.8 internal symbol add.
Sh. 87.1 R1.cs and CP terminal exchange from number to letters.

Sh. 2-6 Table of contents
Sh. 9 - 12 Device list
Sh. 8.1 Revision information added.

Sh. 16 On DSQC1030 was P1 and X3 exchanged coordinate 5
Sh. 20 Conveyor tracking added.

Sh. 24 ref. to XT31:1 the ref. text was written over other text, was hard to read.//XT31:2 and :6 new sheet ref.
Sh. 36 Signal A31.X5.TX3_RX3 added//A32:x3 added // X4 exchanged to sh.35 column 5
//opt:970-1 was opt: 232// X5 and X6 exchanged place on column 4.

Sh.42 Add. Conveyor Tracking Opt.1550-1
Sh.44 Ref:A65.X1.TX3_RX3 column 6 added.//if option 941-1 moved to column 6
Sh. 51.2 XT31:1 and XT31:5 was exchanged //1.TXRX column 3 moved to -I/O.X5 column 3//
Wire 703 was exchanged to 776 in 18.1 and Wire 704 was exchanged to 775 in 18.1

Sh. 51.4 GND DI x2:9 was connected to x2:18
Sh. 53.5 DSQC2000 new sheet.
Sh.60 line removed between G1.X1:3 and G2.x5:1

Sh. 117 Opt.no add. 803-1
Sh. 118 Opt.no add. 803-3
Sh. 119 Opt.no add. 803-4

Sh. 120 Opt.no add. 803-2-3

Sh.1 ABB AB changed to ABB
Sh.7 Symbol Varistor added. coordinate column 4 and 5.
Sh.16 New contact X63 Flow censored//XS11 add. coordinate column 2 and 3.
Sh.20 X3 added to A67 coordinate column 8
Sh.23 New contact X63 Flow censored//Second Power cable XP11 added, coordinate column 3 and 7.
Sh.24 Updated interruption point 0V DC in XT31:5 and :6// updated :1
Sh.30 AWG20 BU removed column coordinate 5
Sh. 51.2 XT31:1 and XT31:5 was exchanged //1.TXRX column 3 moved to -I/O.X5 column 3//
Wire 704 was exchanged to 776 in 18.2 and Wire 703 was exchanged to 775 in 18.2
Sh. 53.5 Terminal 1 was moved x1, x3, x11, x12, x13, x14
Sh. 94 Ref. to 3hac02803-3 was adjusted.
Sh. 100 Ref. to 3hac021351-003 was adjusted.
Sh.128.6 All terminal connection to R1.MP.B was updated.//A41.1. X15 and X16 updated coordinate column 3 and 4

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	A31-E22		CHASSIS BLOWER		35	E1-E41-R1		THERMISTOR		61
	A31.2		DeviceNet M/S DSQC1006		39	E1-E42		FAN UNIT		61
	A31.3		PROFIBUS M		38	E1-E42-R1		Thermistor		61
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	A32.3		PROFINET IO Fieldbus adapter DSQC 688 Slave		37	E3		INTERNAL FAN		61
	A32.4		DEVICENET IO Fieldbus adapter DSQC 1004 Slave		37	E3-M1		INTERNAL FAN		61
	A34		ETHERNET SWITCH A34 opt. MULTI MOVE 604-1/2		40.1	E5		MDU FAN		61
	A41		MAIN SERVO DRIVE UNIT		94	E5-M1		OPTION : INTERNAL FAN		61
	A41.1		MAIN SERVO DRIVE UNIT		100	EXT-A21-S21.2-H1		MOTOR ON (LAMP)		31
	A41.1		MAIN SERVO DRIVE UNIT		66	EXT-ETH_FPU		FLEXPENDANT		30.1
	A41.1		MAIN SERVO DRIVE UNIT		120.1	EXT-ETH_FPU-USB		FLEXPENDANT		30.1
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	A41.4		ADDITIONAL DRIVE UNIT		75	EXT-T10.1		HOLD TO RUN DEVICE		30.1
	A41.4		ADDITIONAL DRIVE UNIT		72	F1		AUTOMATIC FUSE		63
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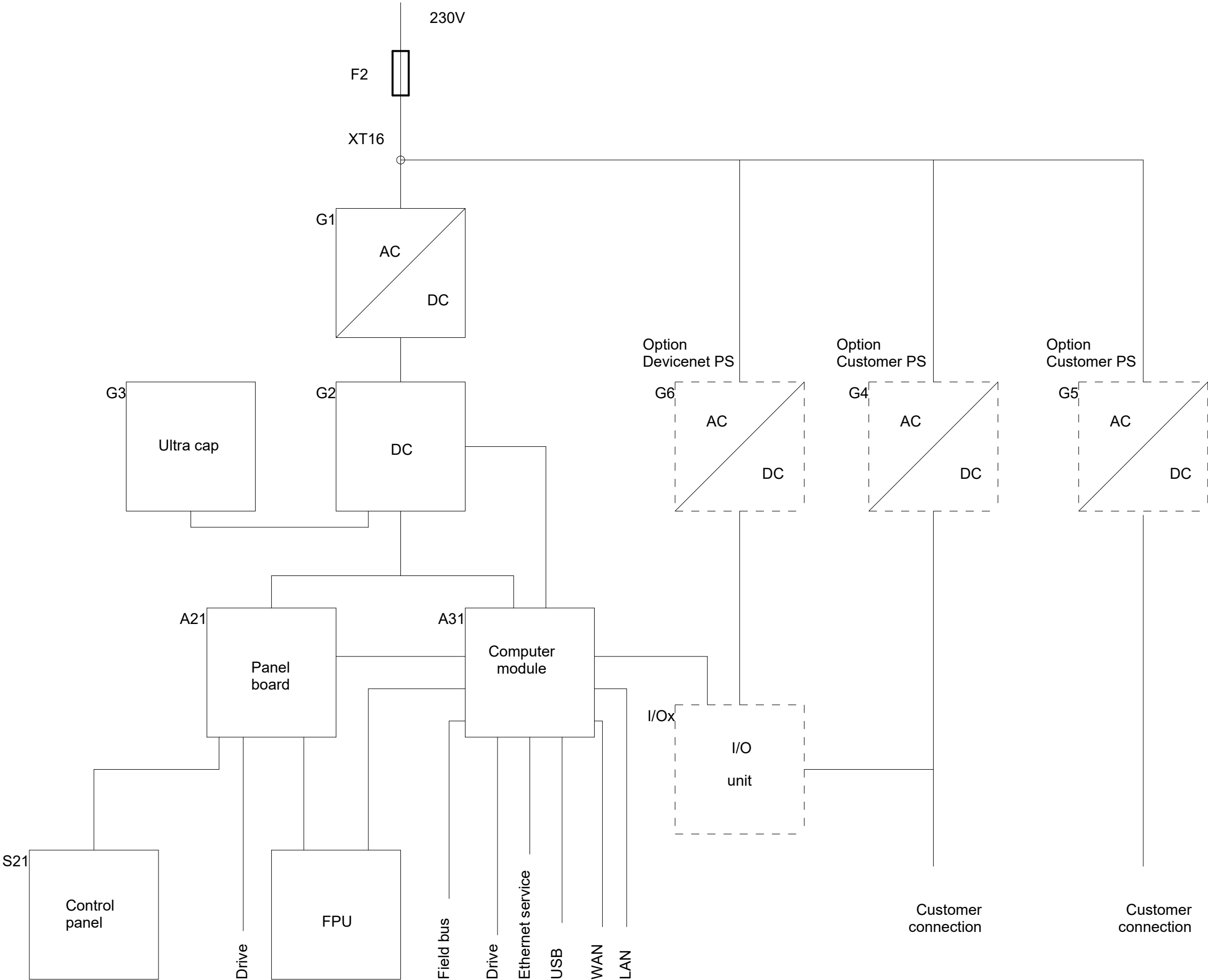
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S21.2		MOTOR ON PB		29					
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S21.3		EMERGENCY PB		29					
S22		Option with HOT PLUG		30					
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	EXT-S21.1		3-MODE SELECTOR		31	A32.1		ETHERNET/IP Fieldbus adapter DSQC 669 Slave		37
	G9		POWER SUPPLY Note 1)		59	E2		EXT. COMPUTER FAN opt.708-2		61
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	A41.4		ADDITIONAL DRIVE UNIT		72	A32		Expansion board serie DSQC1003		36
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	R1.1		BLEEDER		72	X63		Flow sensor		23
	K44		BRAKE CONTACTOR		63	EXT-T10.1		HOLD TO RUN DEVICE		30.1
	C1		CAPACITOR		93	E3		INTERNAL FAN		61
	A31-E22		CHASSIS BLOWER		35	E3-M1		INTERNAL FAN		61
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	A43		CONTACTOR BOARD		62	A41		MAIN SERVO DRIVE UNIT		94
	A43		CONTACTOR UNIT		75.1	A41.1		MAIN SERVO DRIVE UNIT		66
	S21		CONTROL PANEL		29	A41.1-6		MAIN SERVO DRIVE UNIT		103
	C2		Capacitor 0,47uF		74	M140-A41.1		MAIN SERVO DRIVE UNIT		79
	G6		DEVICENET POWER SUPPLY		24	M260-A41.1		MAIN SERVO DRIVE UNIT		82
	A32.4		DEVICENET IO Fieldbus adapter DSQC 1004 Slave		37	M360-A41.1		MAIN SERVO DRIVE UNIT		85
	O716-I/Ox		DIG. PART OF COMBI I/O AND DIG. I/O UNIT		46	A41.1		MAIN SERVO DRIVE UNIT		120.1
	OP718_818-I/O.X		DIG. PART OF RELAY I/O UNIT		49	A41.1		MAIN SERVO DRIVE UNIT		121
	OP716_816-I/O.X		DIGITAL I/O UNIT		47	A41.1		MAIN SERVO DRIVE UNIT		76
	O738-EXT-FMB-A1		DSQC686 VOLTAGE MEASURE BOARD		68	A41.1		MAIN SERVO DRIVE UNIT		128.6
	A67-CTM		DSQC2000 Conveyor Tracking		53.5	Q1		MAINS SWITCH		55
	A32		DSQC 1003		37	E5		MDU FAN		61
	A31.2		DeviceNet M/S DSQC1006		39	EXT-A21-S21.2-H1		MOTOR ON (LAMP)		31
	I/Ox		Digital I/O Add on module		51.4	S21.2-H1		MOTOR ON (LAMP)		29
	I/Ox		Digital I/O Base module		51.2	EXT-S21.2		MOTOR ON PB		31
	F4		EARTH FAULT BREAKER		58	S21.2		MOTOR ON PB		29
	EXT-S21.3		EMERGENCY PB		31	K42		MOTORS ON CONTACTOR 1		63
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	A23		OPTION:STATUS LED ON FRONT		28.2					
	S22		Option with HOT PLUG		30					
	F6		Option: CIRCUIT BRAKER		55					
	A61		Option: REMOTE SERVICE BOX DSQC680		54					
	O738-EXT-FMB		Option: 738-1		68					
	A44		EPS		67					
	A21		PANEL BOARD		26					
	G2		POWER DISTRIBUTION BOARD DSQC662		60					
	G1		POWER SUPPLY DSQC661		60					
	A32.2		PROFIBUS Fieldbus adapter DSQC 667 Slave		37					
	A31.3		PROFIBUS M		38					
	A32.3		PROFINET IO Fieldbus adapter DSQC 688 Slave		37					
	A57		Process Interface Board (PIB)		45					
	A32		Profi/Ethernet		111					
	OP1-Z2		REAKTOR UNIT		56					
	Z2		REAKTOR UNIT		56					
	O818-RELAY I/O		RELAY I/O UNIT		50					
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	O721-I/O.X		REMOTE I/O UNIT		52					
	I/Ox		Relay I/O Add on module		51.8					
	EXT-S22-H1		SIGNAL LAMP		32					
	S22-H1		SIGNAL LAMP		30					
	H1		STATUS DIOD DRIVE MODULE		63					
	S1		SWITCH		61					
	A31.4		Safety Board DSQC1015		38.5					
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	E1-E41-R1		THERMISTOR		61					
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	T1.2		TRANSFORMER UNIT		57					
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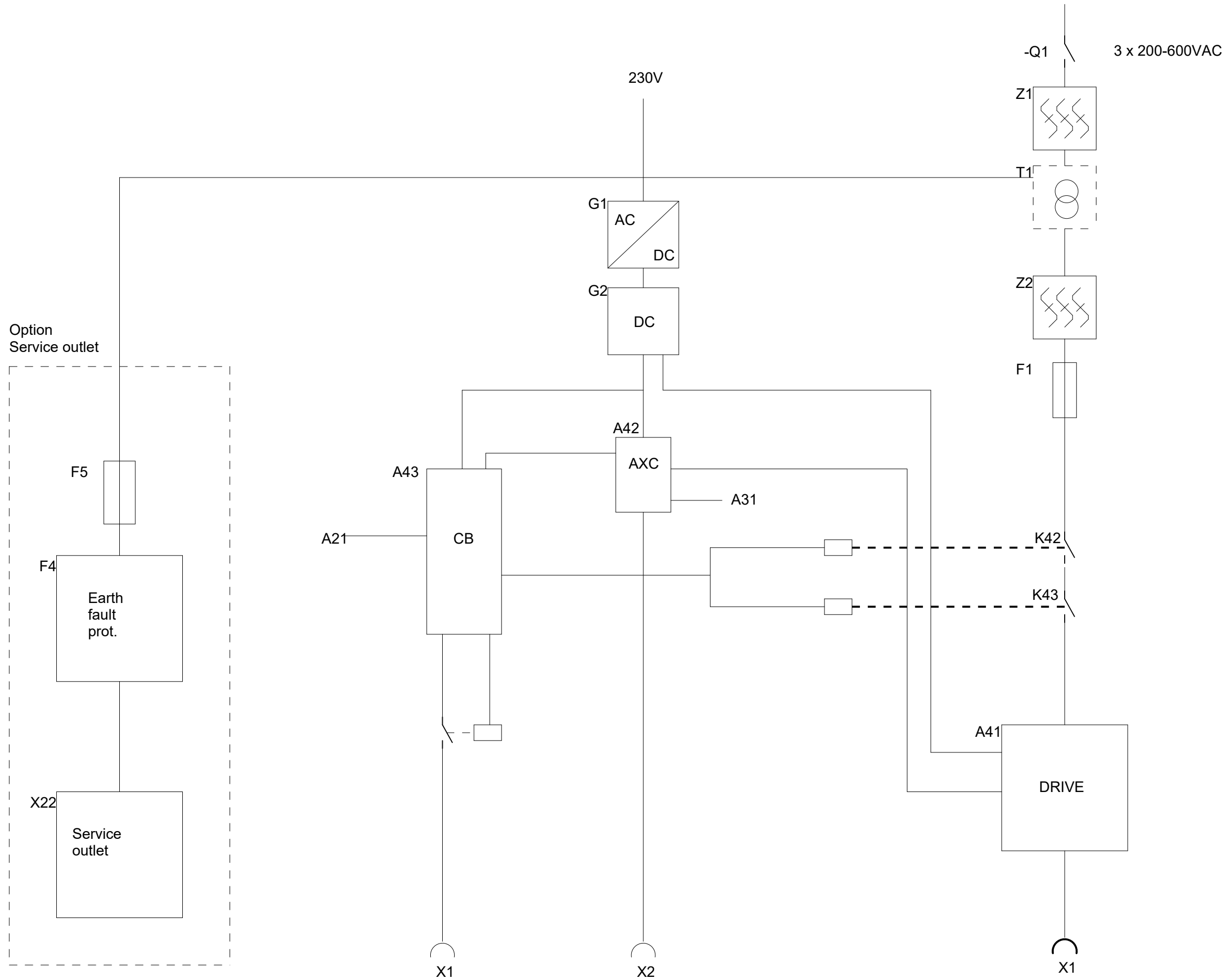
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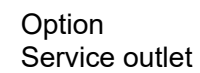
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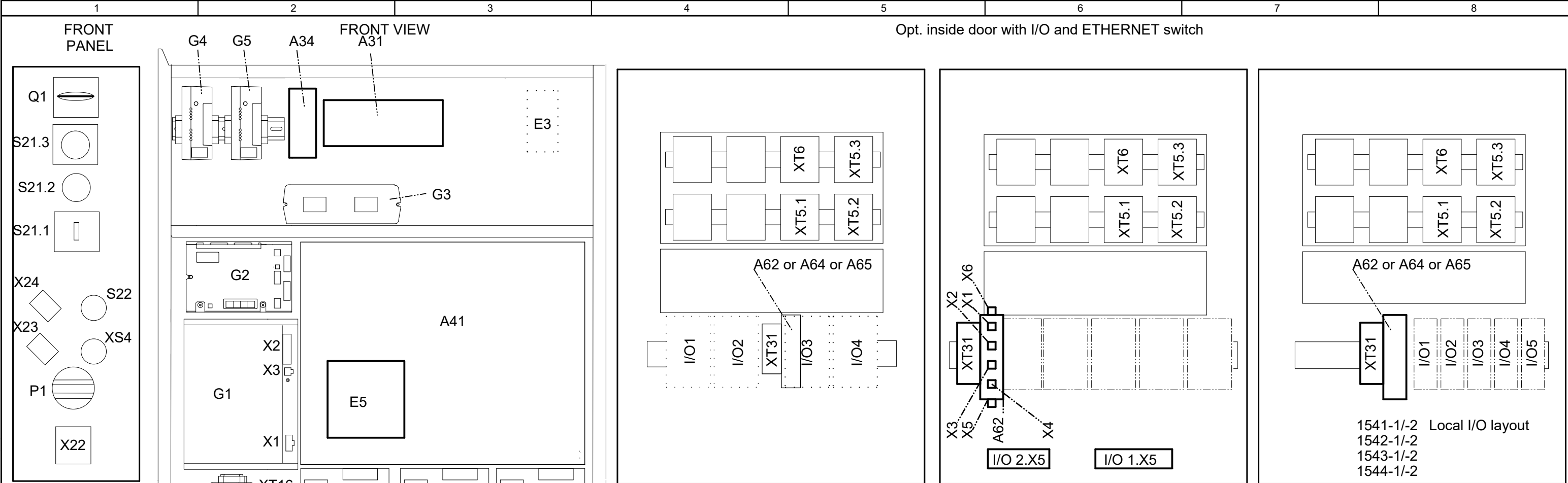
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Denomination	Unit	Pos. No	Opt. No
Digital 24 VDC		I/O 1-4	716-1
AD Combi I/O		I/O 1-4	717-1
Digital with relay		I/O 1-4	718-1
Analog 4 in/4 out		I/O 1-4	719-1
Profibus DP Slave		I/O 1-4	720-1
Interbus-S Slave		I/O 1-4	722-1
CC-link slave		I/O 1-4	723-1
ENC unit		I/O 1-4	726-1
Digital Base 16in/16out		I/O 1	1541-1/-2
Digital Add on 16in/16out		I/O 2-5	1542-1/-2
Analogue Add on 4in/4out		I/O 2-5	1543-1/-2
Relay Add on 8RO/8DI		I/O 2-5	1544-1/-2
Ethernet switch	A34		604-1/-2
Ethernet switch	A62		901-1
Ethernet switch	A64		1341-1
Ethernet switch	A65		941-1

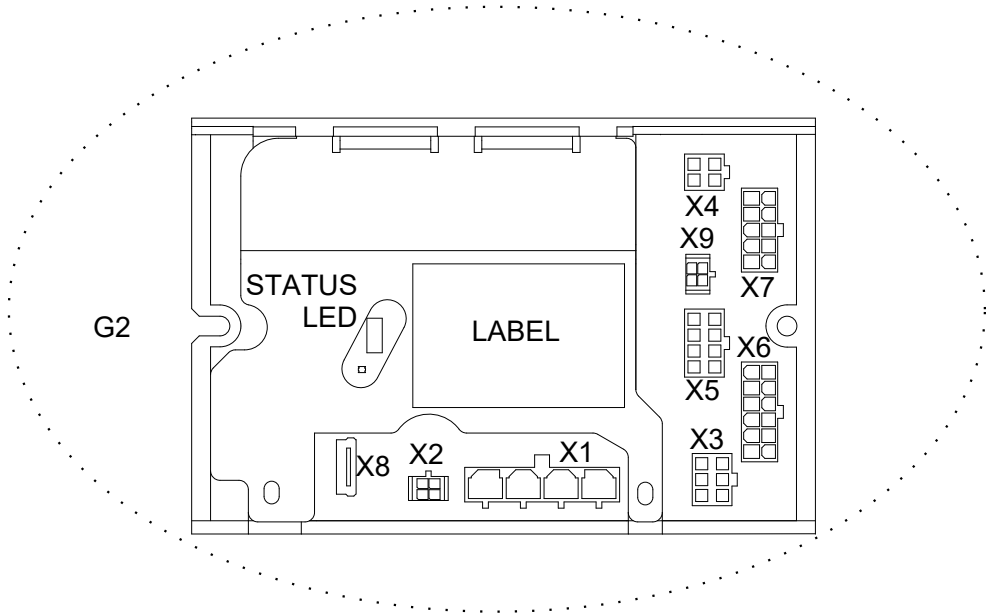
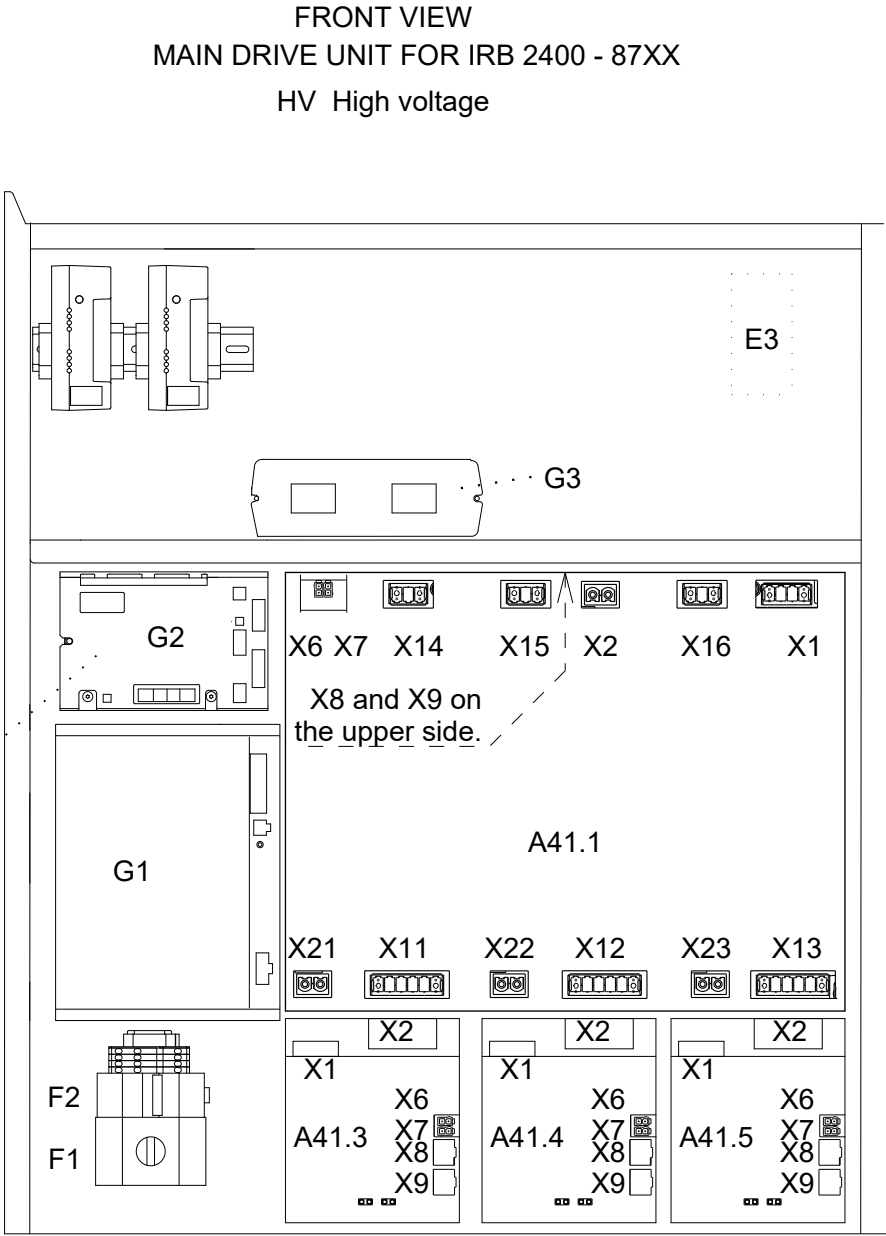
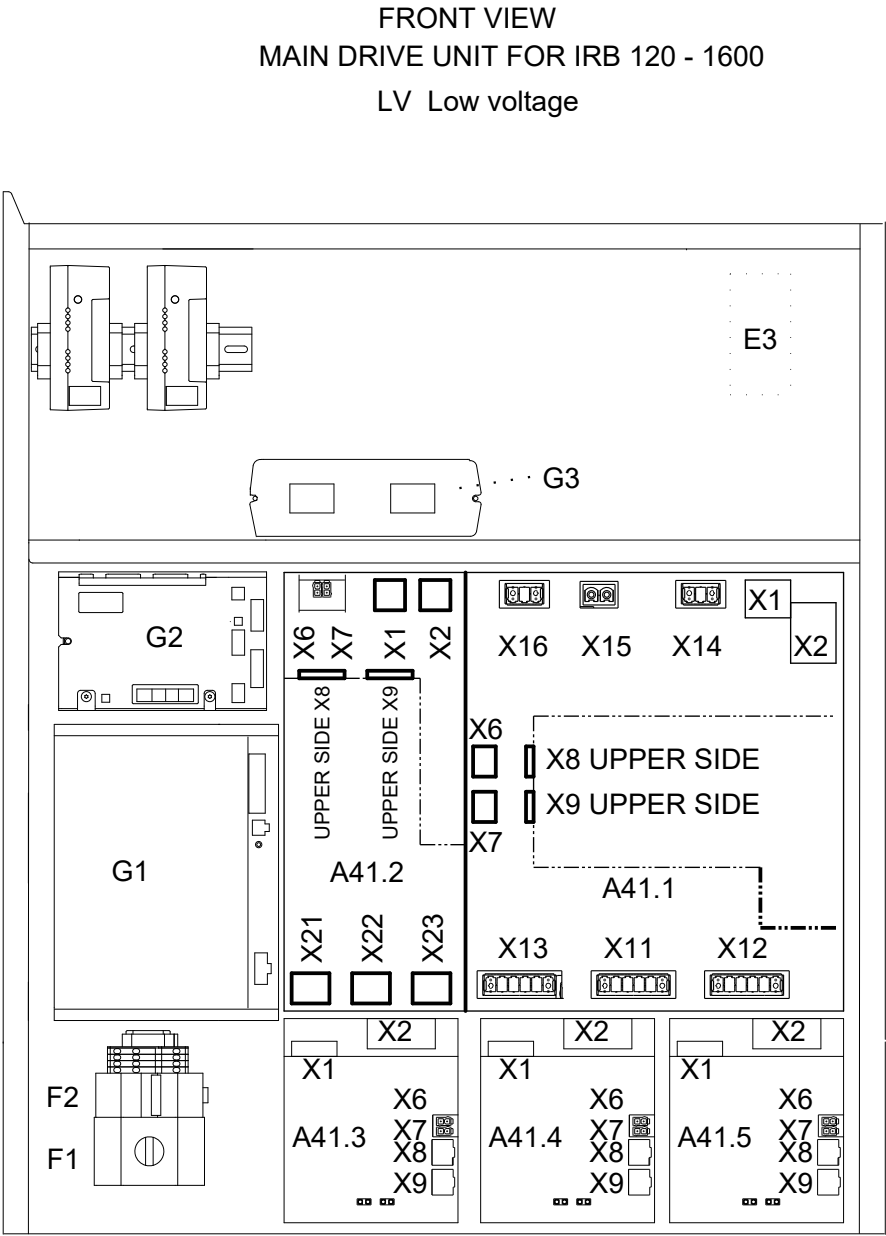
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FRONT VIEW OF SINGLE CABINET MDU HV	

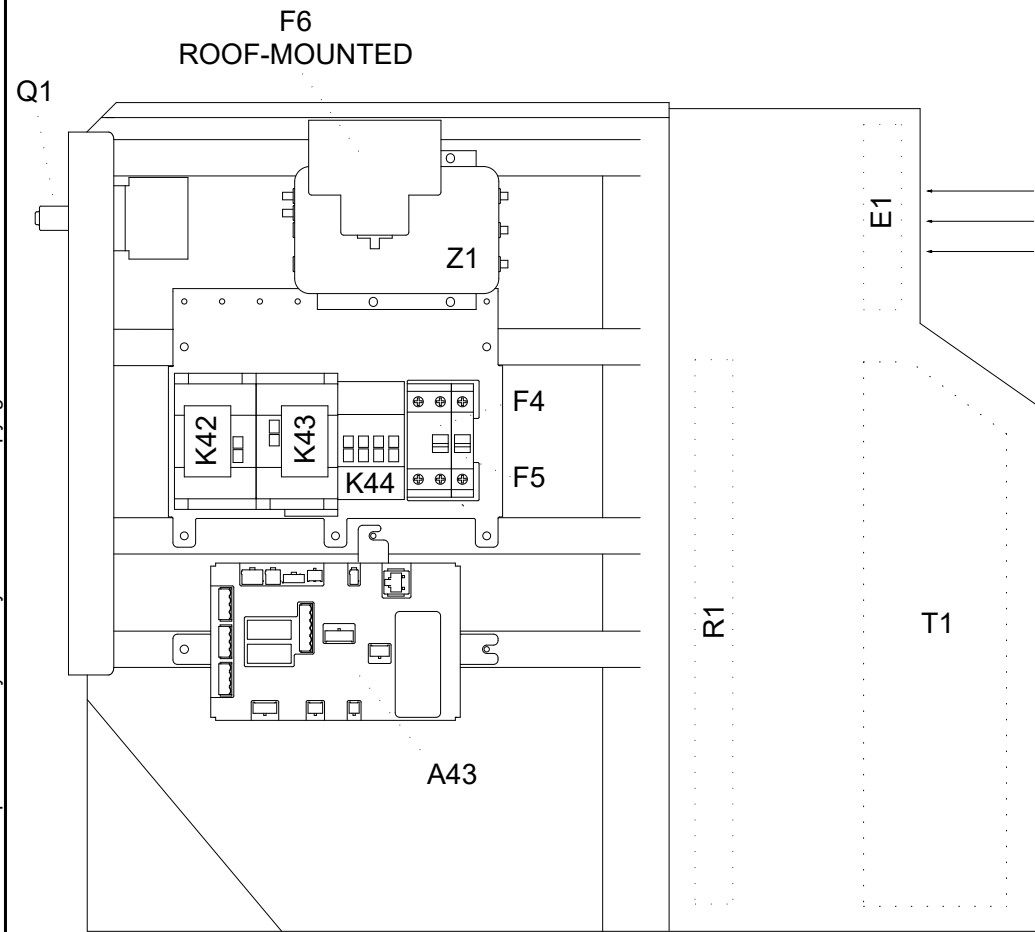
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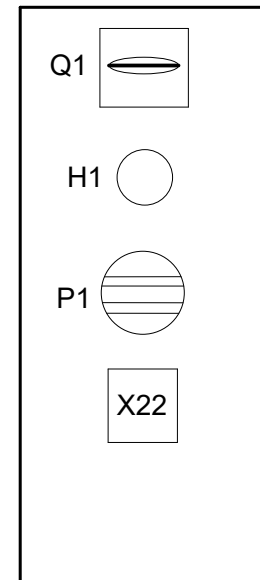


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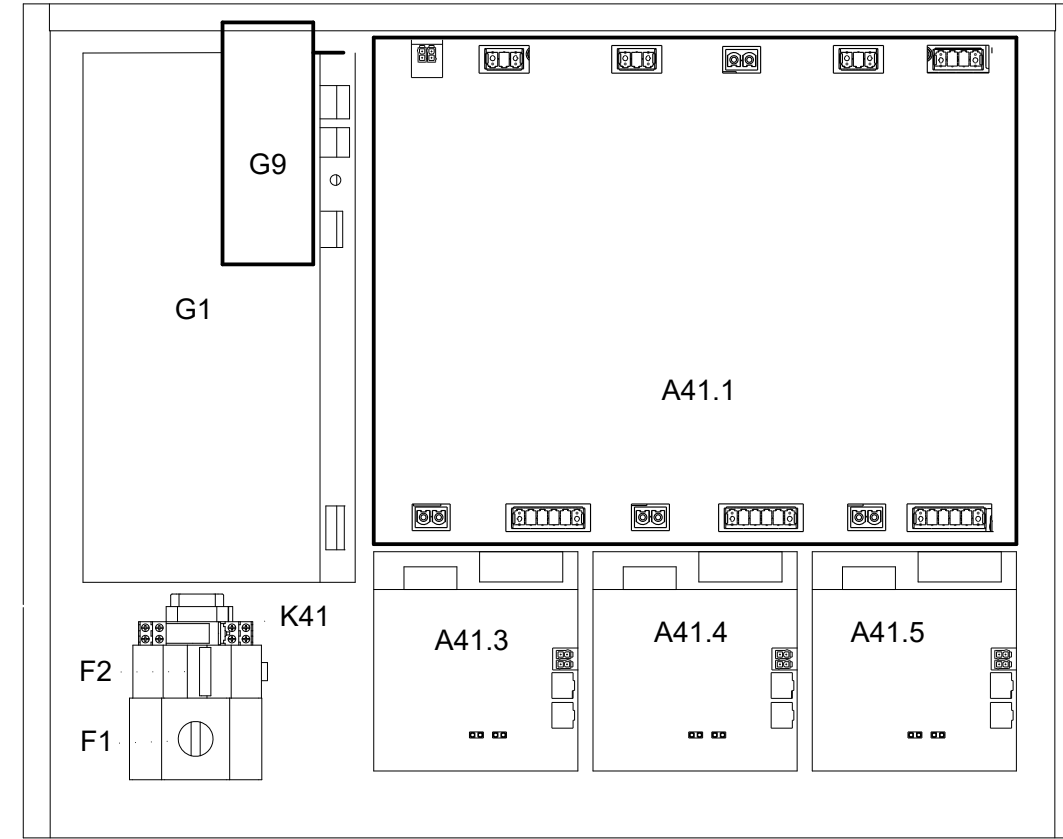
LEFT
VIEW



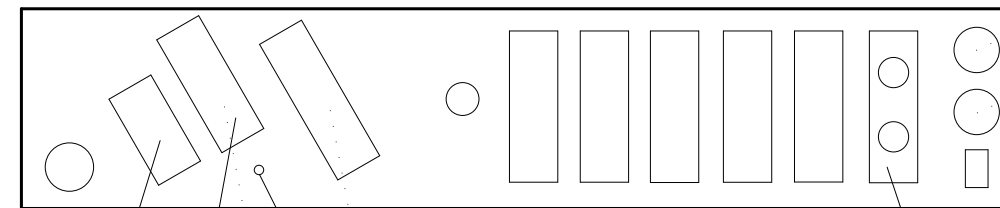
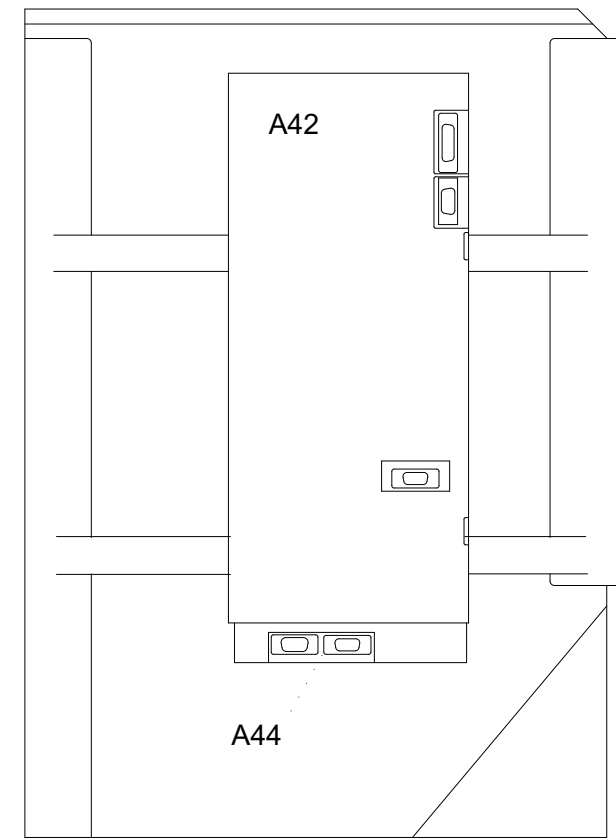
FRONT
PANEL



FRONT
VIEW



RIGHT
VIEW



COMMUNICATION DRIVE MODULE
AND CONTROL MODULE

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VIEW OF DRIVE MODULE CABINET

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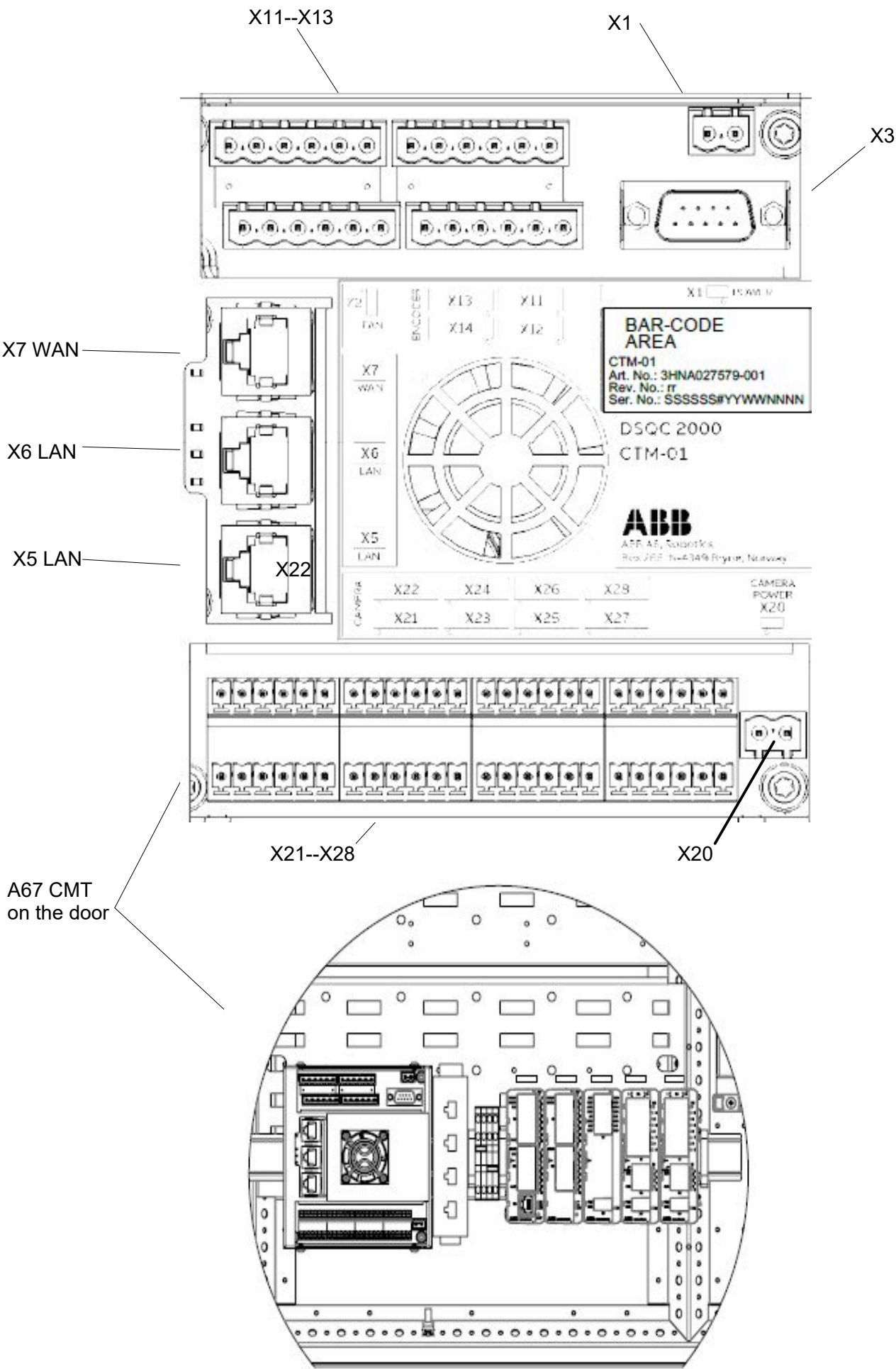
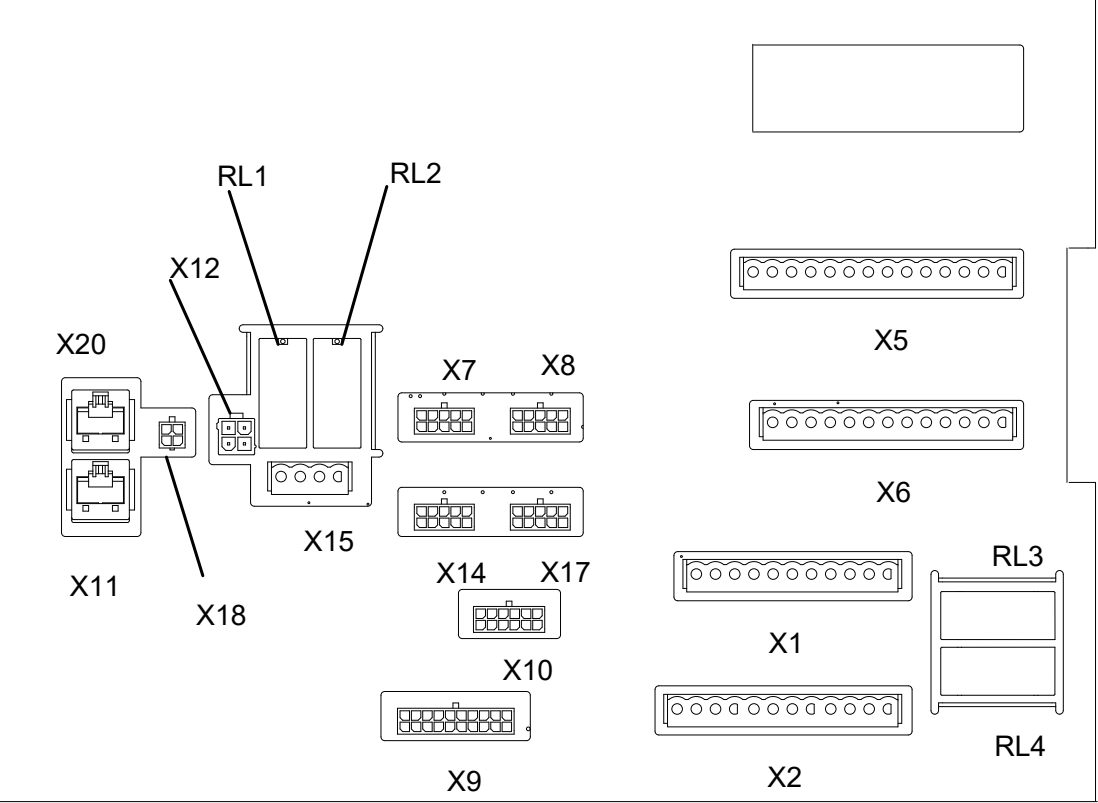
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PANEL
BOARD
A21



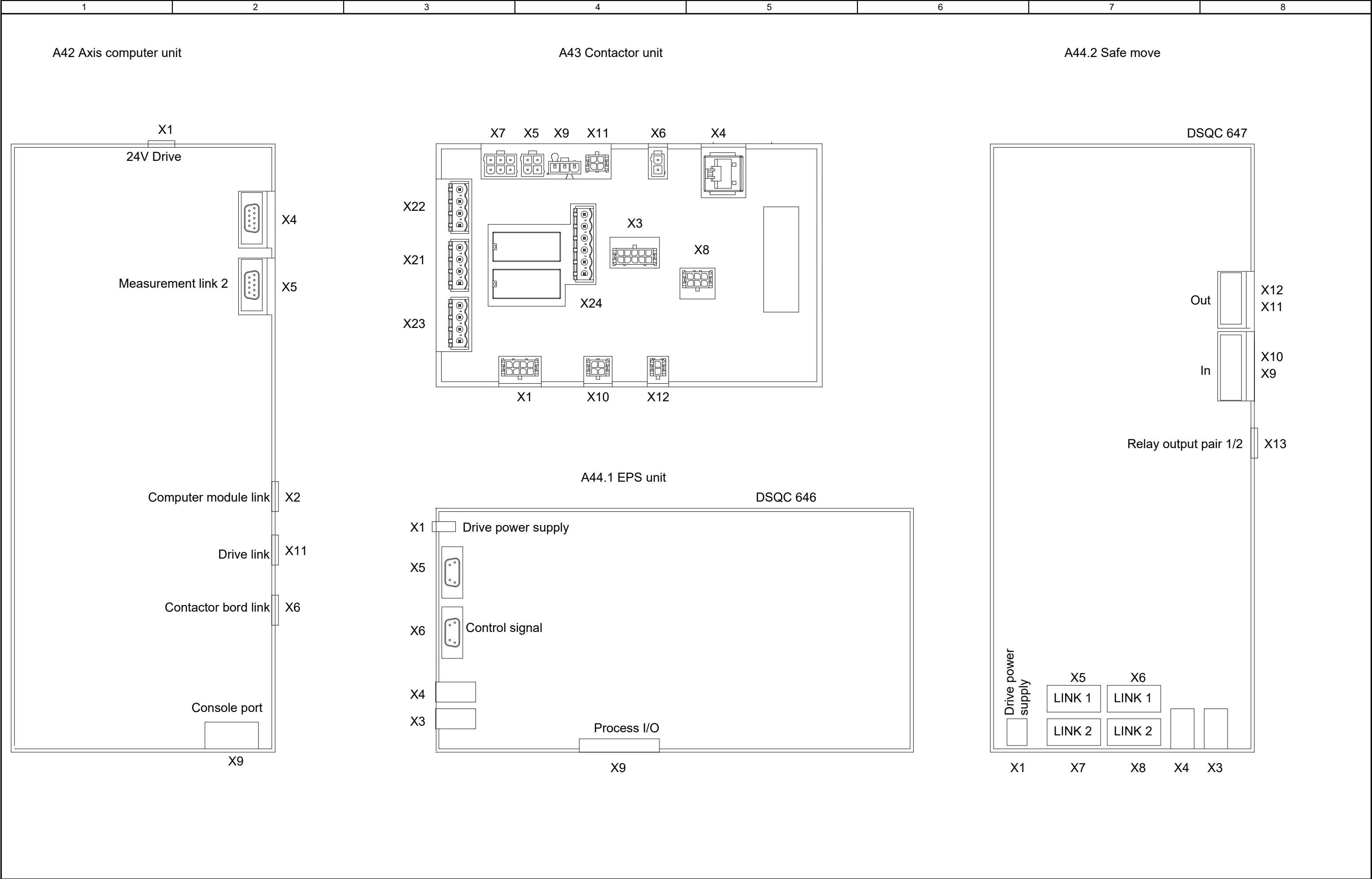
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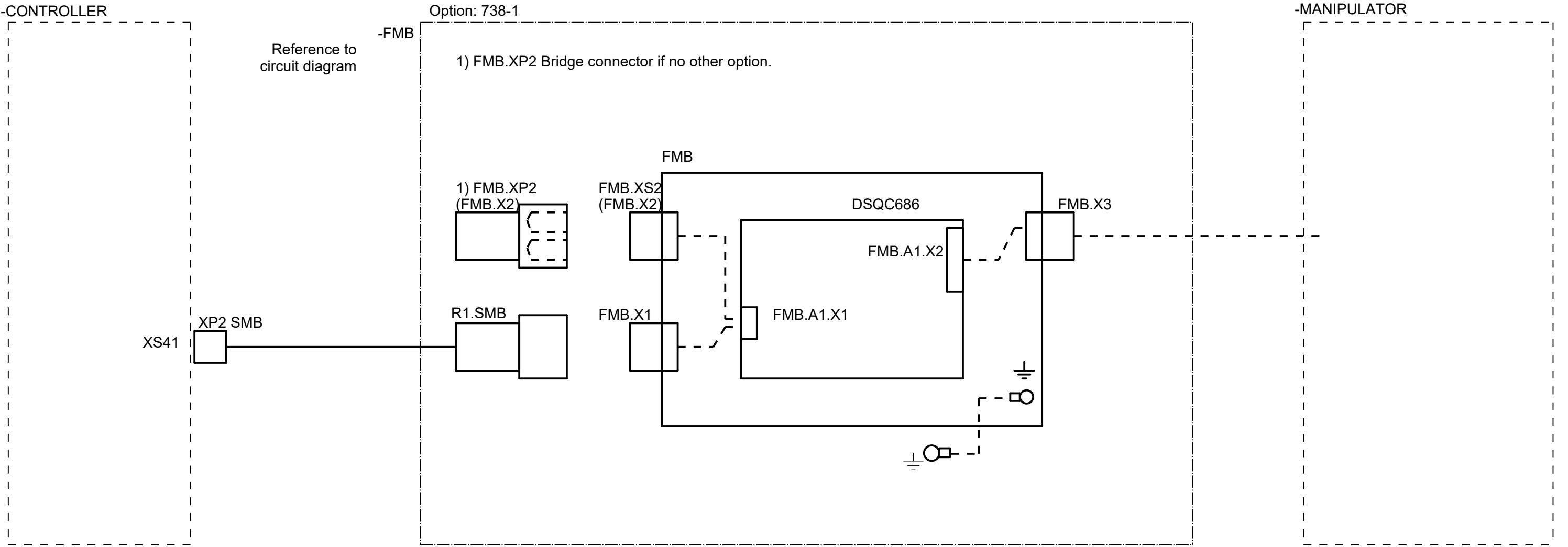
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VIEW OF PANEL BOARD	
CONVEYOR TRACKING	

Status: Approved	Plant: Location: Sublocation:+	= +
Document no. 3HAC024480-011	Rev. Ind 11	Page20 Next 21 Total 157

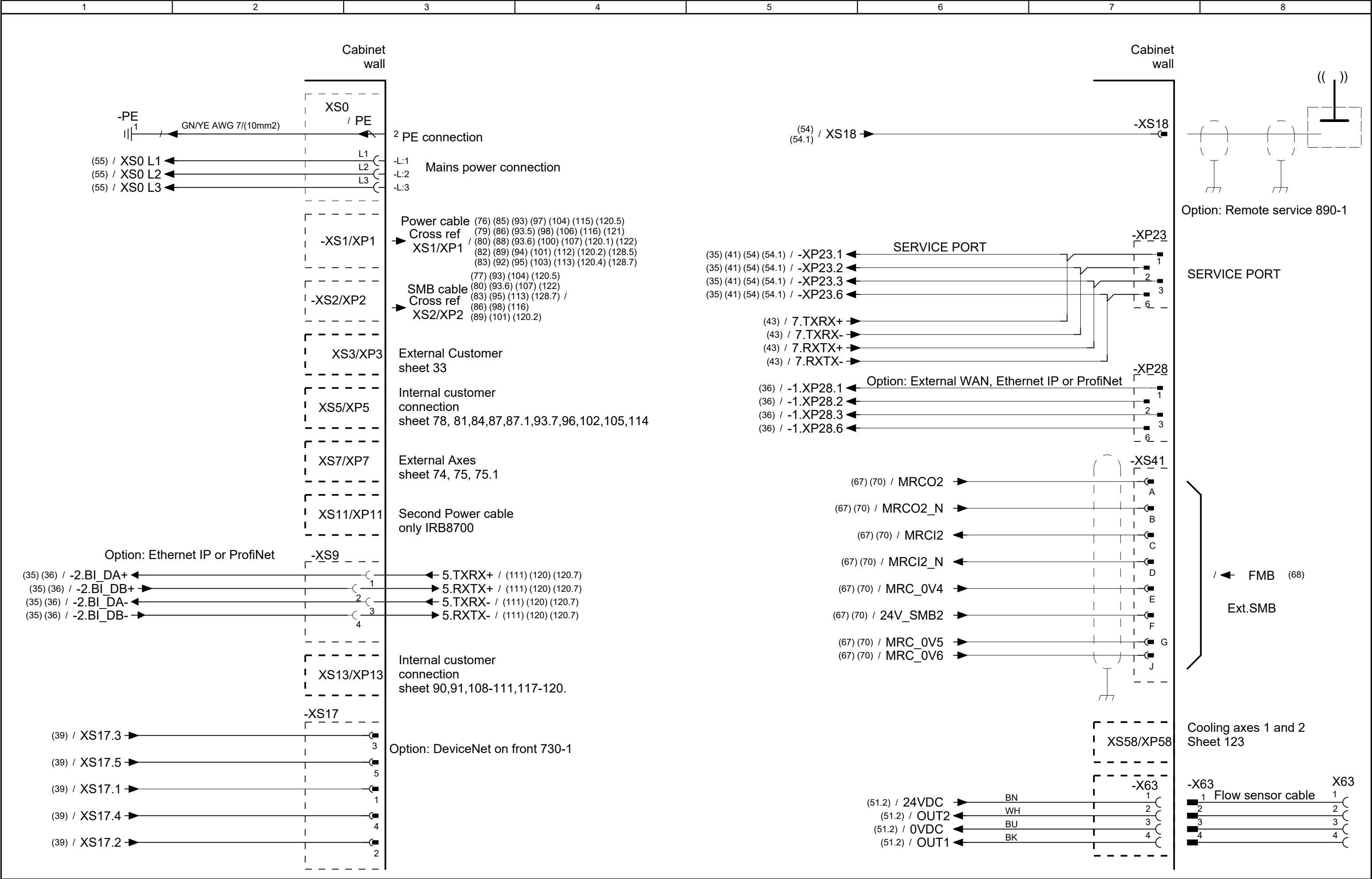
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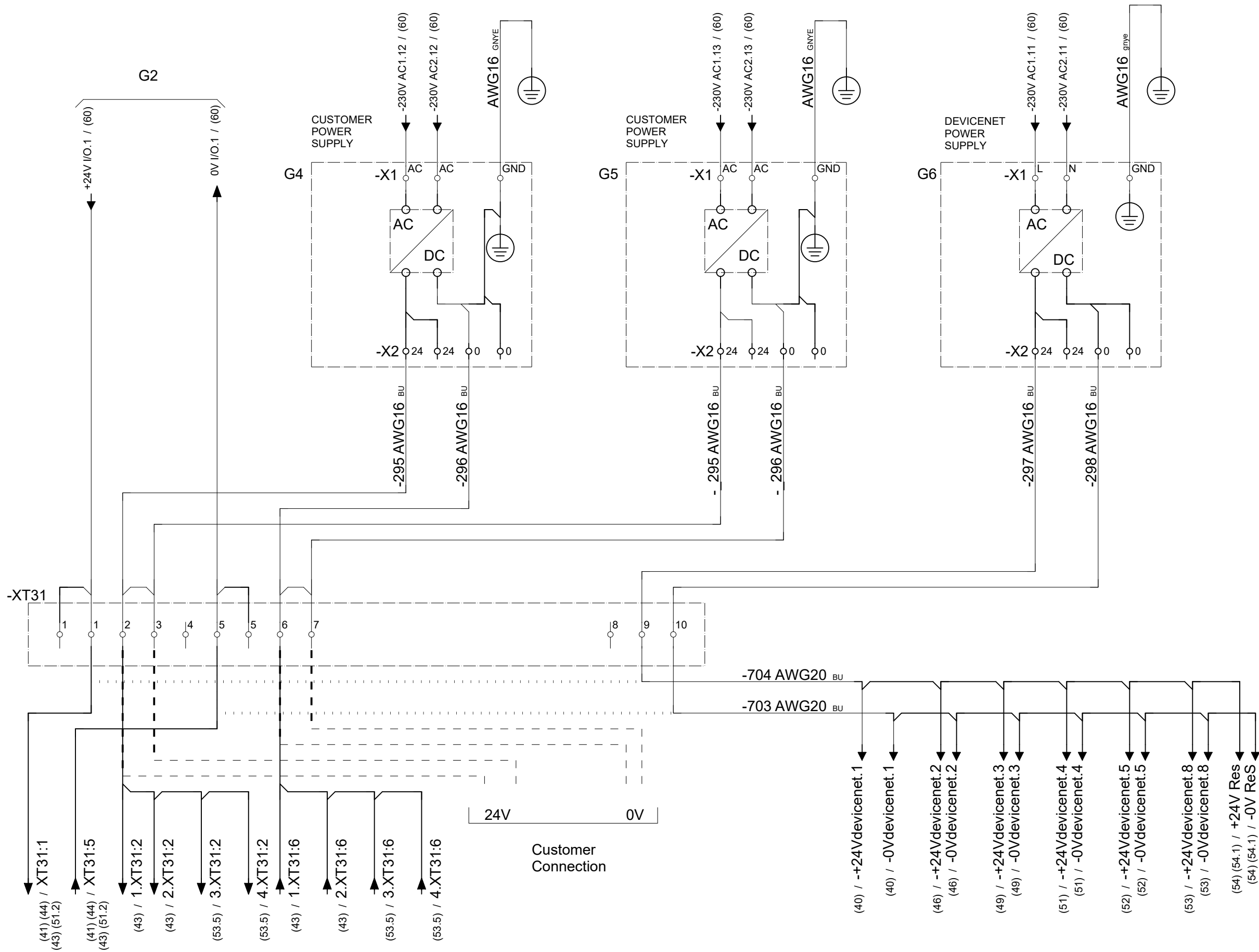


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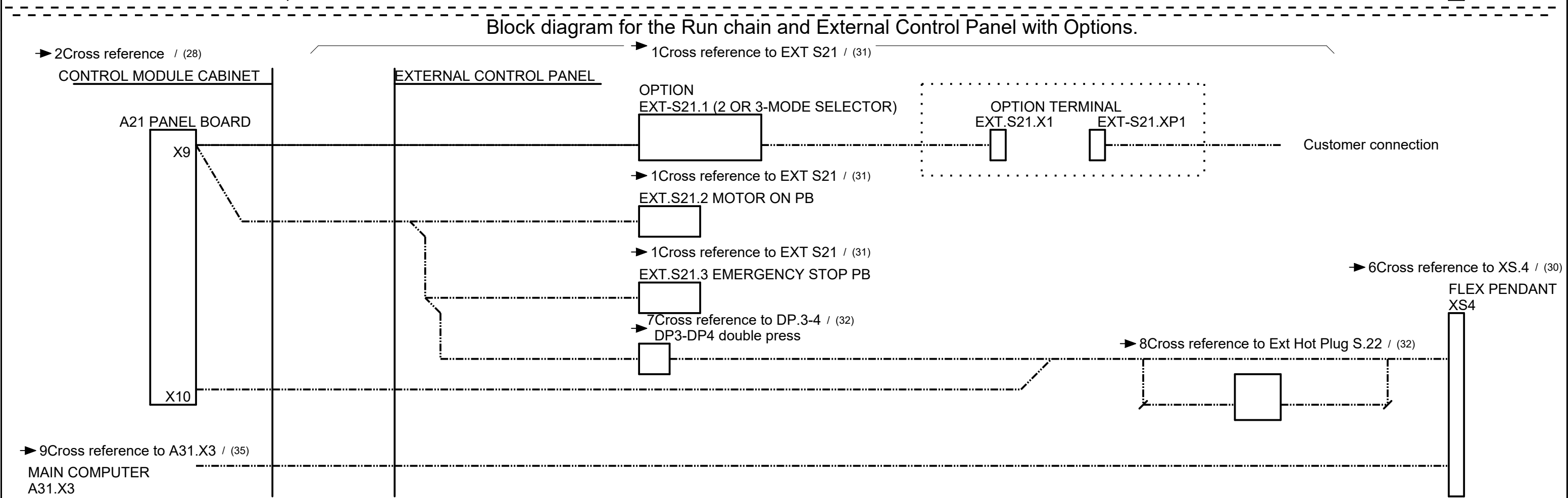
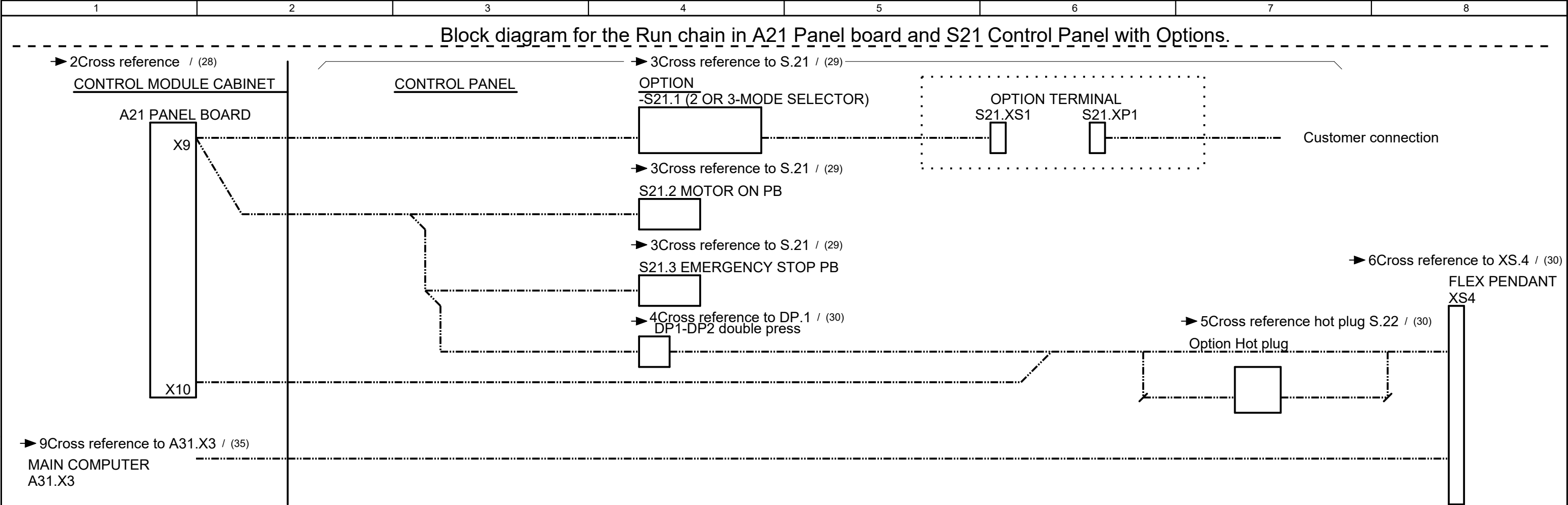
Latest revision:		
Prepared by, date:T Stålnacke 201810	Approved by, date:S Ögren	2018-10-08

	Lab/Office: RMRO SE/RDE2

IRC5 DESIGN 14 Rel: 18.2 OPT:POWER SUPPLY DSQC609 XT31, G4, G5, G6

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						Document no. 3HAC024480-011	Rev. Ind 11	Page25 Next 26 Total 157
Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08						

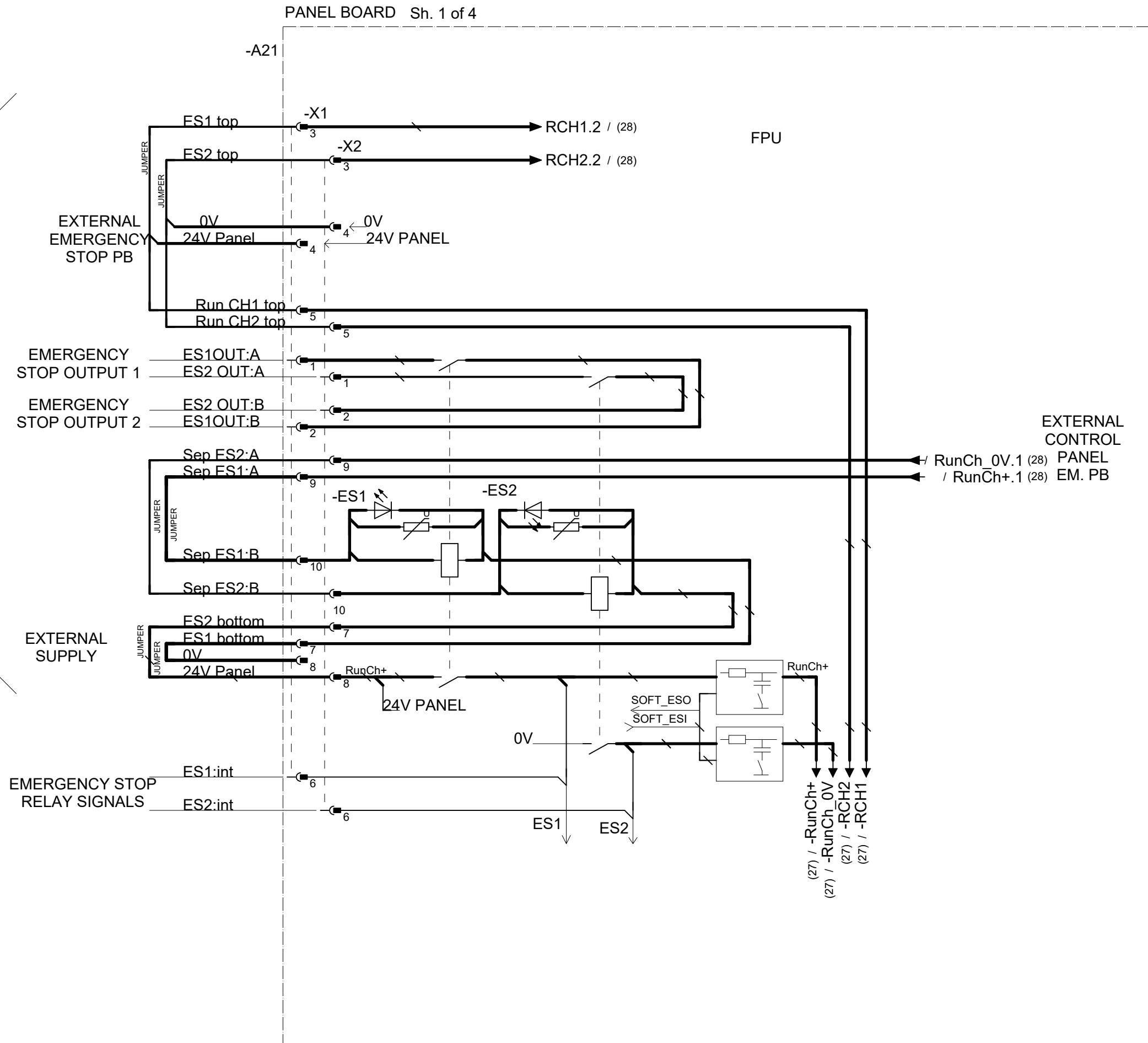
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→ 2. See pages(28.1)

OPTION: EXTERNAL CONNECTIONS

Software based
Mode Selector
internal safety

(38.5)/ A21X1.1 →
(38.5)/ A21X2.1 →
(38.5) / A21X2.2 ←
(38.5) / A21X1.2 ←



Latest revision:

Prepared by, date:T Stålnacke 201810

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IRC5 DESIGN 14 Rel: 18.2
RUN CHAIN and PANEL BOARD A21 Sh. 1 of 4

Status:
Approved

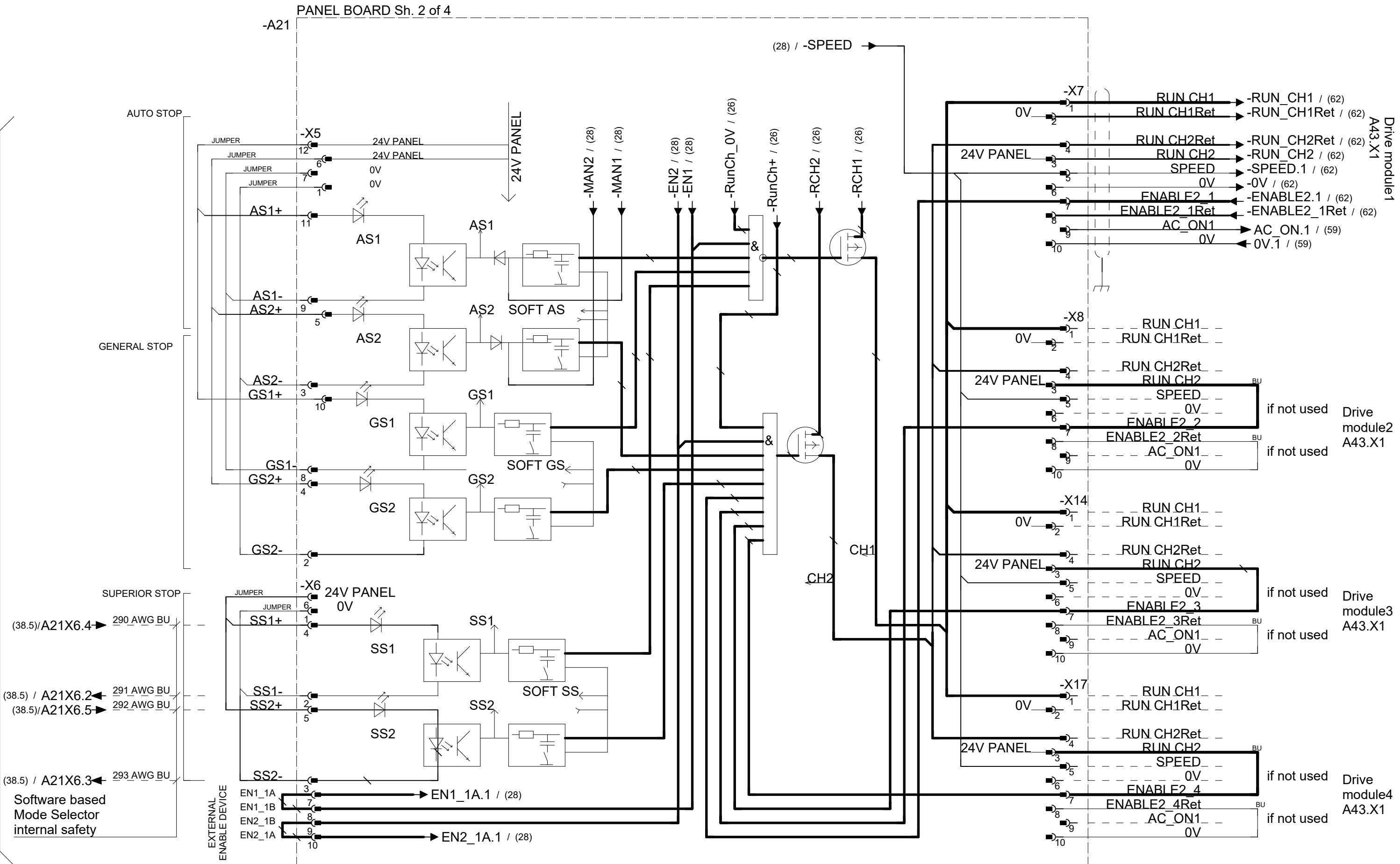
Plant: =
Location: +
Sublocation: +

Document no.
3HAC024480-011

Rev. Ind
11
Page26
Next 27
Total 157

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Option: External Enable Device → 1. See pages (28.1)



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IRC5 DESIGN 14 Rel: 18.2
RUN CHAIN and PANEL BOARD A21 Sh. 2 of 4

Status: Approved	Plant: Location: Sublocation:+	= +
Document no. 3HAC024480-011	Rev. Ind 11	Page27 Next 28 Total 157

$$\begin{pmatrix} (25) \\ (25) \end{pmatrix}$$


IRC5 DESIGN 14 Rel: 18.2
RUN CHAIN and PANEL BOARD A21 Sh. 3 of 4

Plant:	=
Location:	+
Sublocation:	+

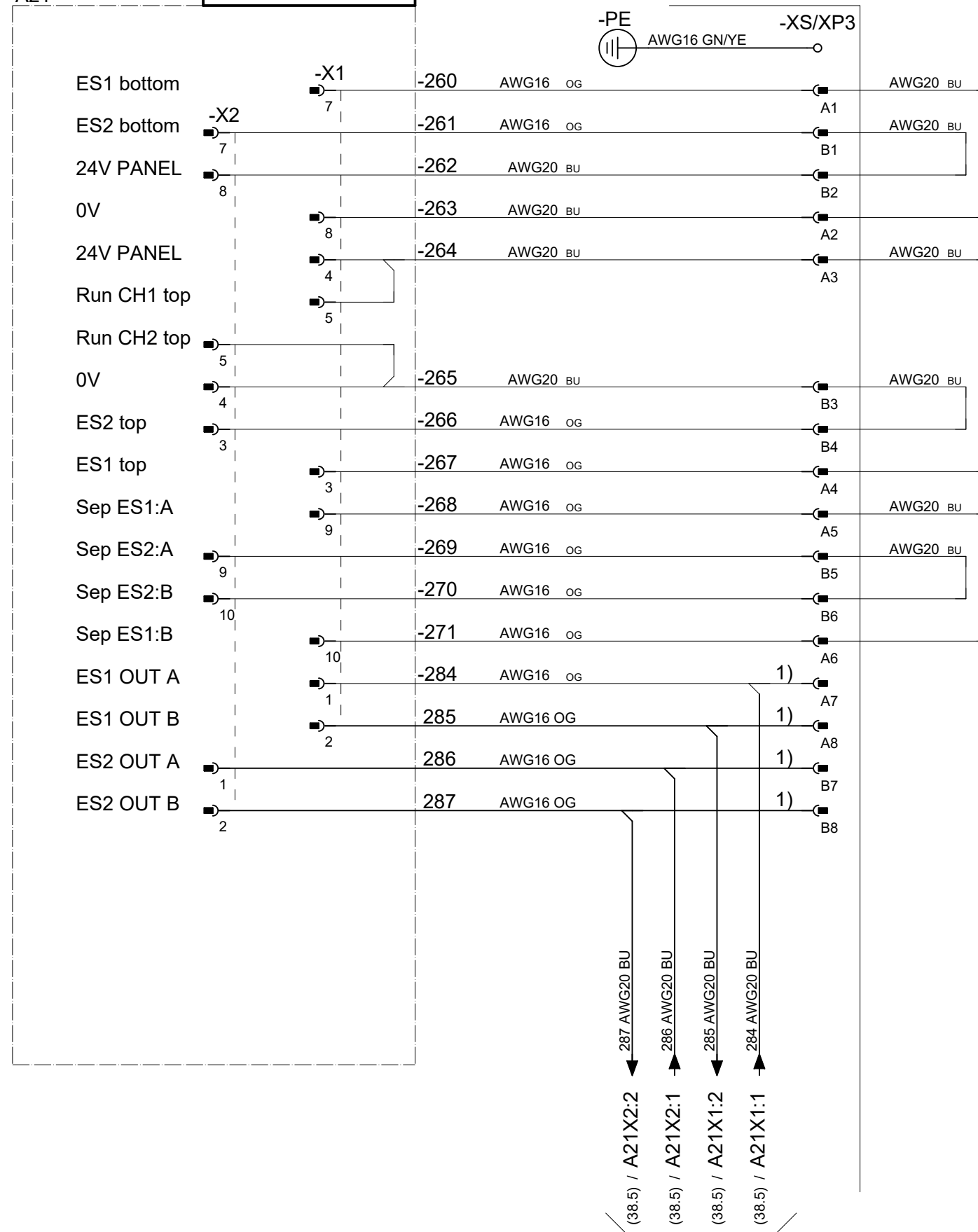
Rev. Ind	Page 28
11	Next 28.1
	Total 157

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PANEL BOARD Sh. 4 of 4

PANEL BOARD
-A21

➔ 2. See pages / (26)

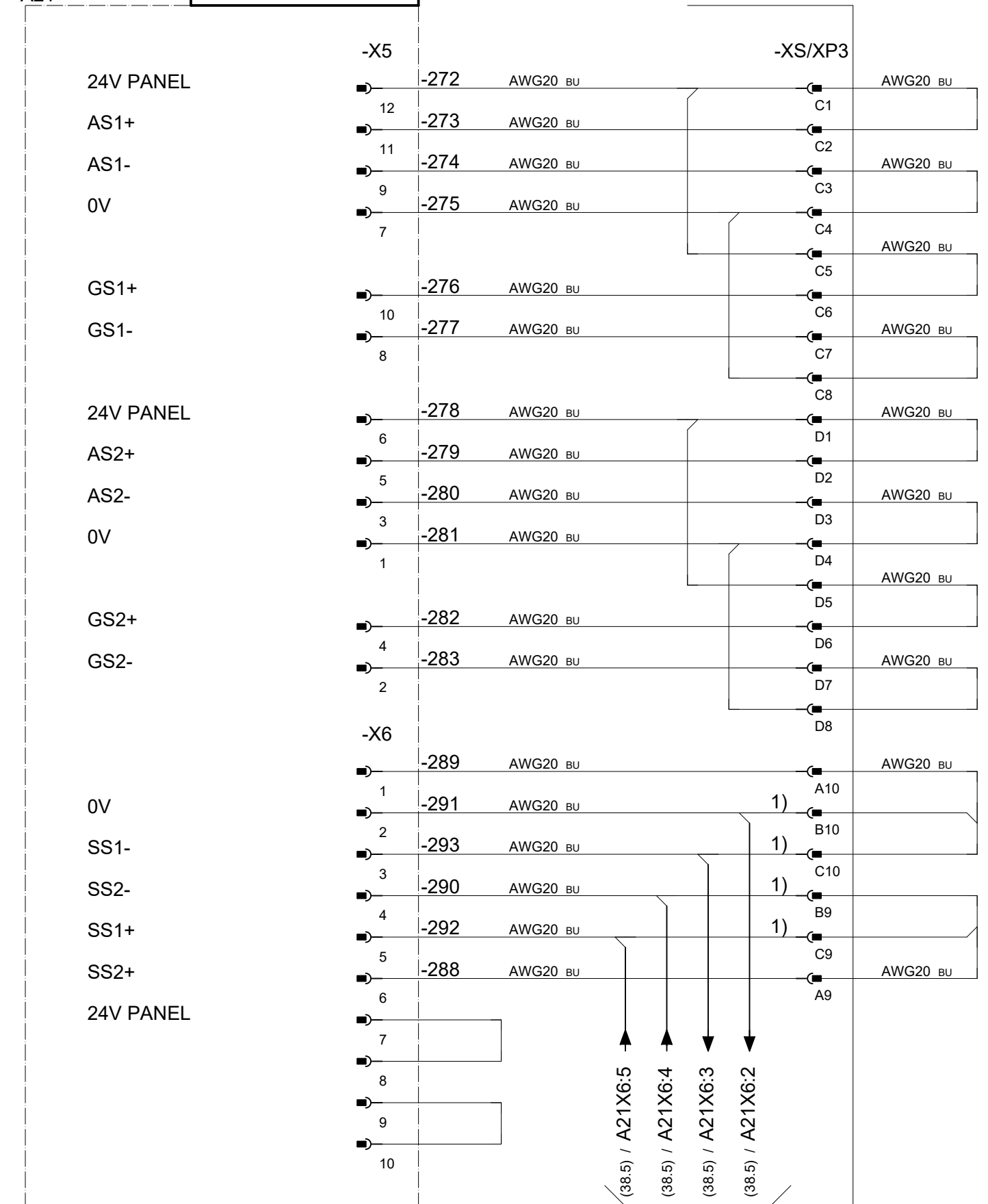


1) NO CONNECTION IF SAFETY BOARD DSQC 1015 (A31.4)

Option: External
Software based Mode switch

PANEL BOARD
-A21

➔ 1. See pages / (27)



Option: External
Software based Mode switch

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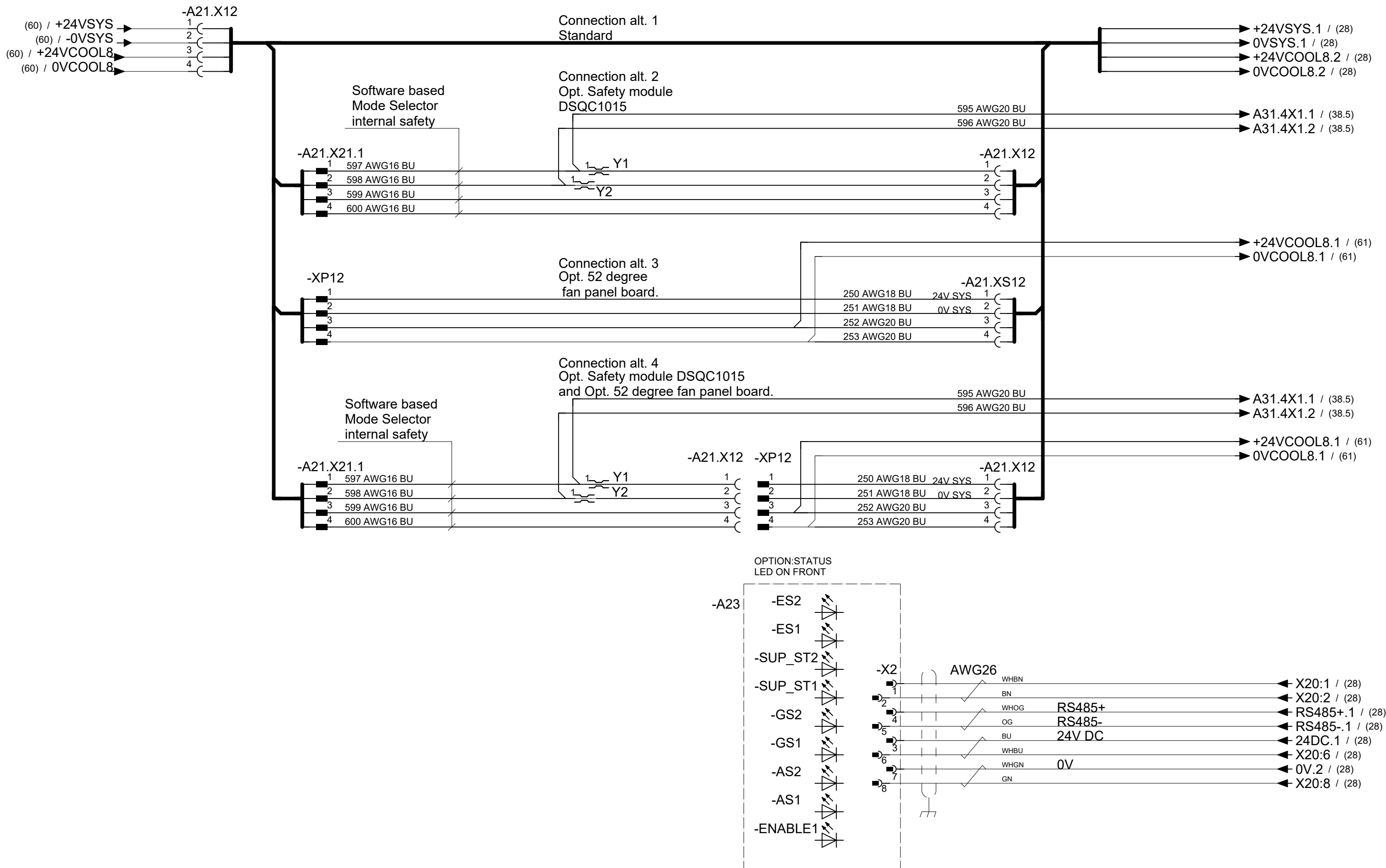


Lab/Office:
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IRC5 DESIGN 14 Rel: 18.2
PANEL BOARD A21 Sh. 4 of 4
Opt:EXT.CUSTOMER. CONNECT. SYSTEM SIGNALS

Status: Approved	Plant: Location: Sublocation:+	Page28.1 Next 28.2 Total 157
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Option with HOT PLUG

PANEL BOARD A21-X10

MAIN COMPUTER A31-X3

CONTROLLER

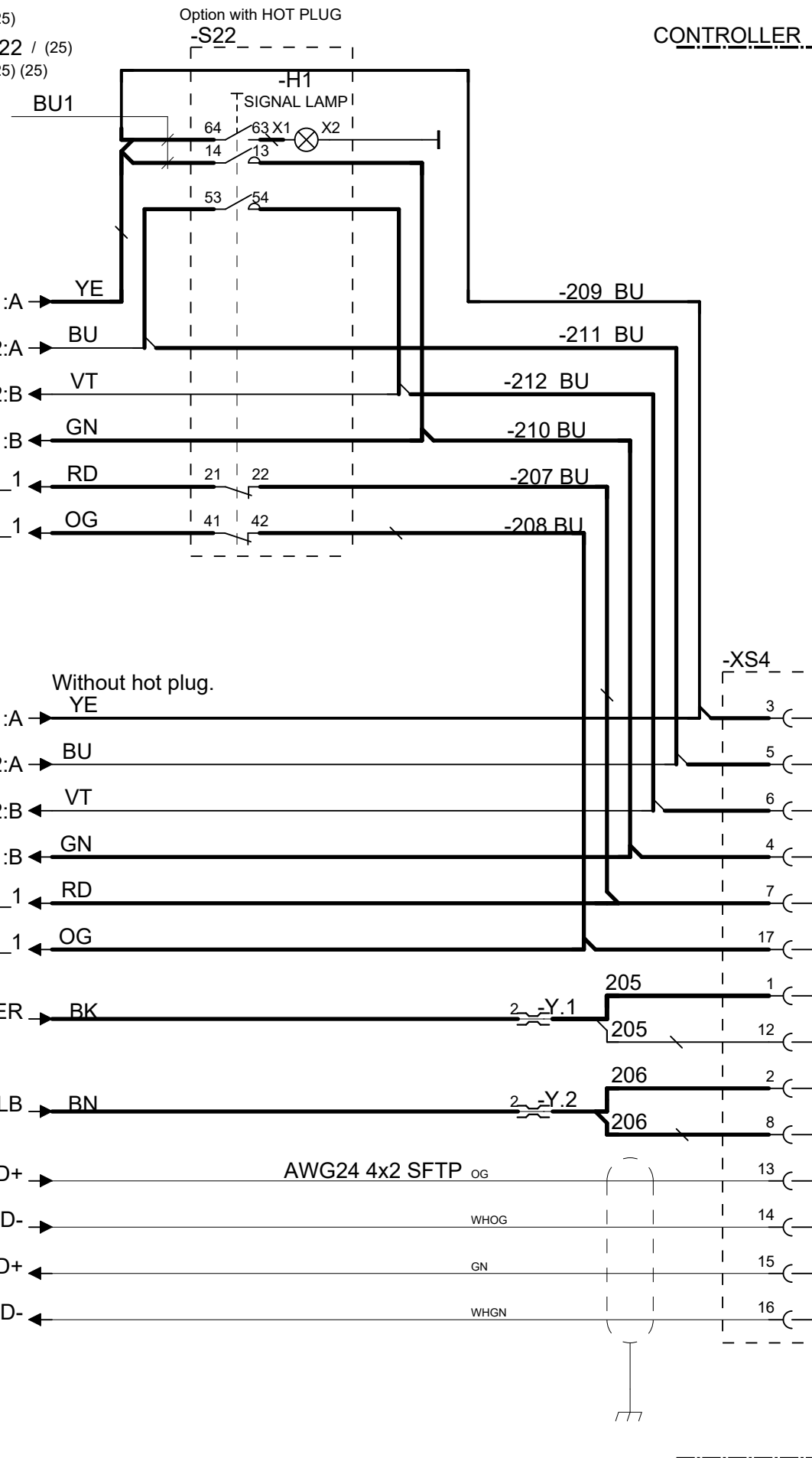
SIGNAL LAMP

Legend:

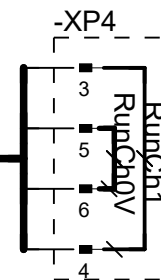
- 4 Cross reference to DP.1 / (25)
- 5 Cross reference hot plug S.22 / (25)
- 6 Cross reference to XS.4 / (25) (25)

Wiring Diagram Details:

- Power Lines:**
 - (28) / -24VFPUPOWER → BK
 - (28) / -0VPANELB → BN
- Data Lines:**
 - (35) / -TD+ → AWG24 4x2 SFTP OG
 - (35) / -TD- → WHOG
 - (35) / -RD+ → GN
 - (35) / -RD- → WHGN
- Control Lines:**
 - (28) / 1.-ESFPU1:A → YE
 - (28) / 1.-ESFPU2:A → BU
 - (28) / 1.-ESFPU2:B → VT
 - (28) / 1.-ESFPU1:B → GN
 - (28) / -EN1_1 → RD
 - (28) / -EN2_1 → OG
- Connections to CONTROLLER:**
 - YE → 64
 - BU → 14
 - VT → 53
 - GN → 54
 - RD → 21
 - OG → 41
 - BK → 205
 - BN → 206
- Connections to SIGNAL LAMP:**
 - YE → 63 X1
 - BU → 13
 - VT → 53
 - GN → 54
 - RD → 22
 - OG → 42



1) Connect to XS4 when option
External Control Panel.
Or cold plug(included in the delivery)

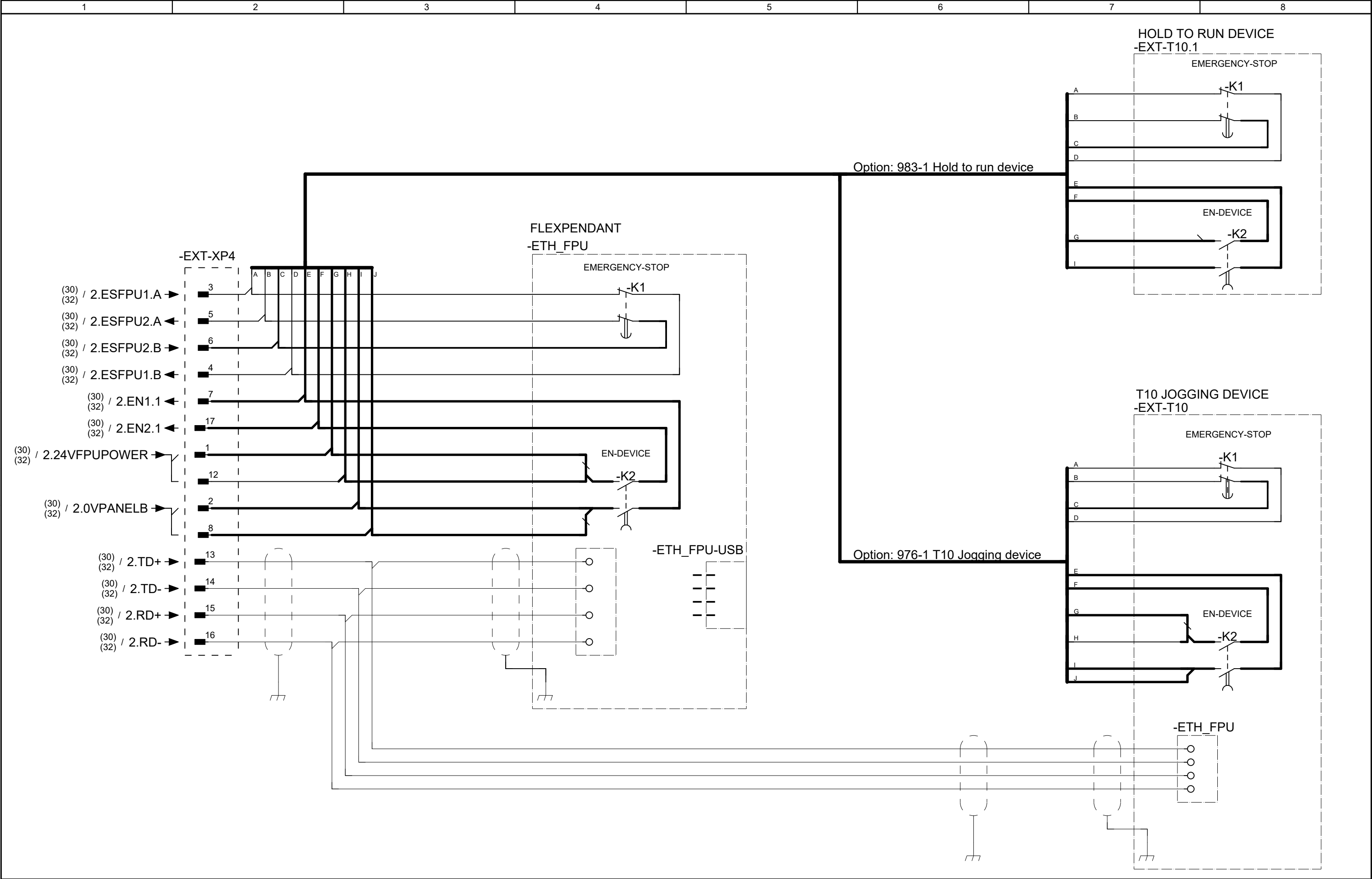


2) If option With Standard flexpendant cable

```

graph TD
    A[2.ESFPU1.A / (30.1)] --> B[2.ESFPU2.A / (30.1)]
    A --> C[2.ESFPU2.B / (30.1)]
    B --> D[2.EN1.1 / (30.1)]
    B --> E[2.EN2.1 / (30.1)]
    C --> F[2.24VFPUPOWER / (30.1)]
    C --> G[2.0VPANELB / (30.1)]
    G --> H[2.TD+ / (30.1)]
    G --> I[2.TD- / (30.1)]
    F --> J[2.RD+ / (30.1)]
    F --> K[2.RD- / (30.1)]
  
```

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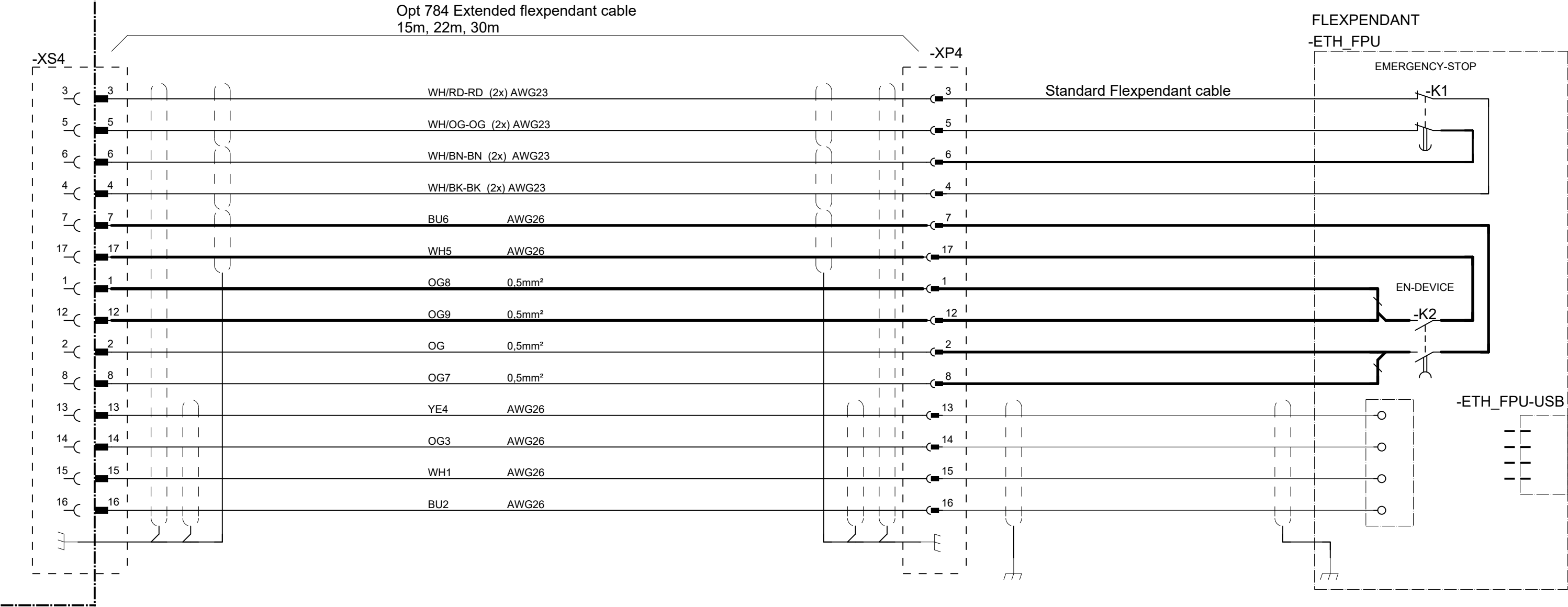


Latest revision:				Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 FPU, FLEXPENDANT and Opt. HOLD TO RUN DEVICE T10 JOGGING DEVICE	Status: Approved	Plant: = Location: + Sublocation: +		
							Document no.	Rev. Ind	Page
Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08				3HAC024480-011	11	30.1	
								Next 30.2 Total 157	

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Harness: 3HAC055665-002,-003,-004

CONTROLLER



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	Lab/Office: RMRO SE/RDE2

IRC5 DESIGN 14 Rel: 18.2
FPU, Extended FLEXPENDANT cable 15 - 30 m

Status: Approved	Plant: Location: Sublocation:+	= +
Document no. 3HAC024480-011	Rev. Ind 11	Page30.2 Next 31 Total 157

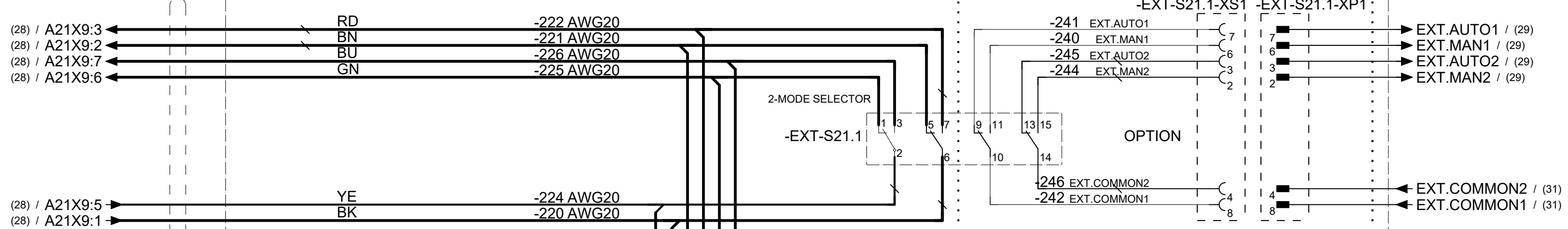
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➔ 1Cross reference to EXT S21 / (25) (25) (25)

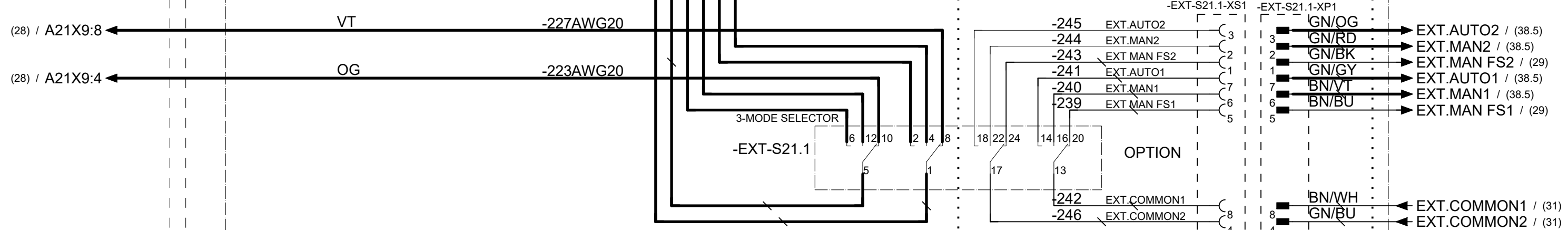
EXT.CONTROL PANEL Sh.1 of 2

-EXT-S21

Option:Run chain Ext Operating, 2 Mode Selector

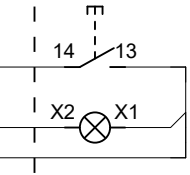


Option:Run chain Ext Operating, 3 Mode Selector



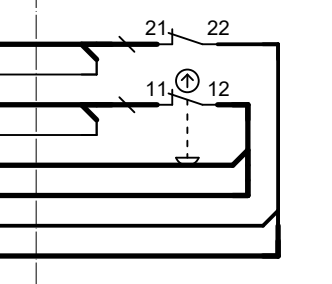
MOTOR ON PB

-EXT-S21.2



EMERGENCY PB

-EXT-S21.3



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➔ 8Cross reference to Ext Hot Plug S.22 / (25)
Option:Hot plug from Rel.11.1
➔ 7Cross reference to DP.3-4 / (25)

EXT.CONTROL PANEL Sh.2 of 2
-EXT-S21

Option HOT PLUG
-EXT-S22

SIGNAL LAMP
-H1

W529

64 14

W525/BU

53

W527/BU

22

W521

42

W523

21

W522

41

W524

63

W526

54

W528

213

W522

4

W524

2

W522

8

W524

6

W522

4

W524

2

W522

8

W524

6

W522

4

W524

2

W522

8

W524

6

W522

4

W524

2

W522

8

W524

6

W522

4

W524

2

W522

8

W524

6

W522

4

W524

2

521 AWG20 BU

523 AWG20 BU

Without hot plug

-XP100

AWG20

AWG20

(28) / 24VFPUPOWER BN/BK

(28) / 0VPANELB BN/RD

(28) / EN1_1 BN/OG

(28) / EN2_1 BN/YE

(28) / A21X9:17 WH/VT

(28) / A21X9:18 WH/GY

(28) / A21X9:13 WH/OG

(28) / A21X9:14 WH/YE

-DP1

24V FPU POWER

205 BU

-DP2

24V FPU POWER

205 BU

-DP4

0VPANELB

206 BU

-DP3

0VPANELB

206 BU

EN 1 1

-214

EN 2 1

-215

ES FPU 1:A

-216

ES FPU 1:B

-217 BU

ES FPU 2:A

-218

ES FPU 2:B

-219 BU

(31) / DP6

(31) / DP5

-XS4

1

12

2

8

17

3

4

5

6

2.24VFPUPOWER / (30.1)

2.0VPANELB / (30.1)

2.EN1.1 / (30.1)

2.EN2.1 / (30.1)

2.ESFPU1.A / (30.1)

2.ESFPU1.B / (30.1)

2.ESFPU2.A / (30.1)

2.ESFPU2.B / (30.1)

2.TD+ / (30.1)

2.TD- / (30.1)

2.RD+ / (30.1)

2.RD- / (30.1)

A21 PANEL BOARD

MAIN COMPUTER
A31.X3

AWG24 4x2 SFTP

(35) / TD+ BN

(35) / TD- WHOG

(35) / RD+ GN

(35) / RD- BNWH

TD+

TD-

RD+

RD-

13

14

15

16

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2018-10-08



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IRC5 DESIGN 14 Rel: 18.2

RUN CHAIN EXT A21 OPERATING WITH
OPT: HOT PLUG rel 11.1

Status:

Approved

Plant:

Location:

Sublocation:+

Document no.

3HAC024480-011

Rev. Ind

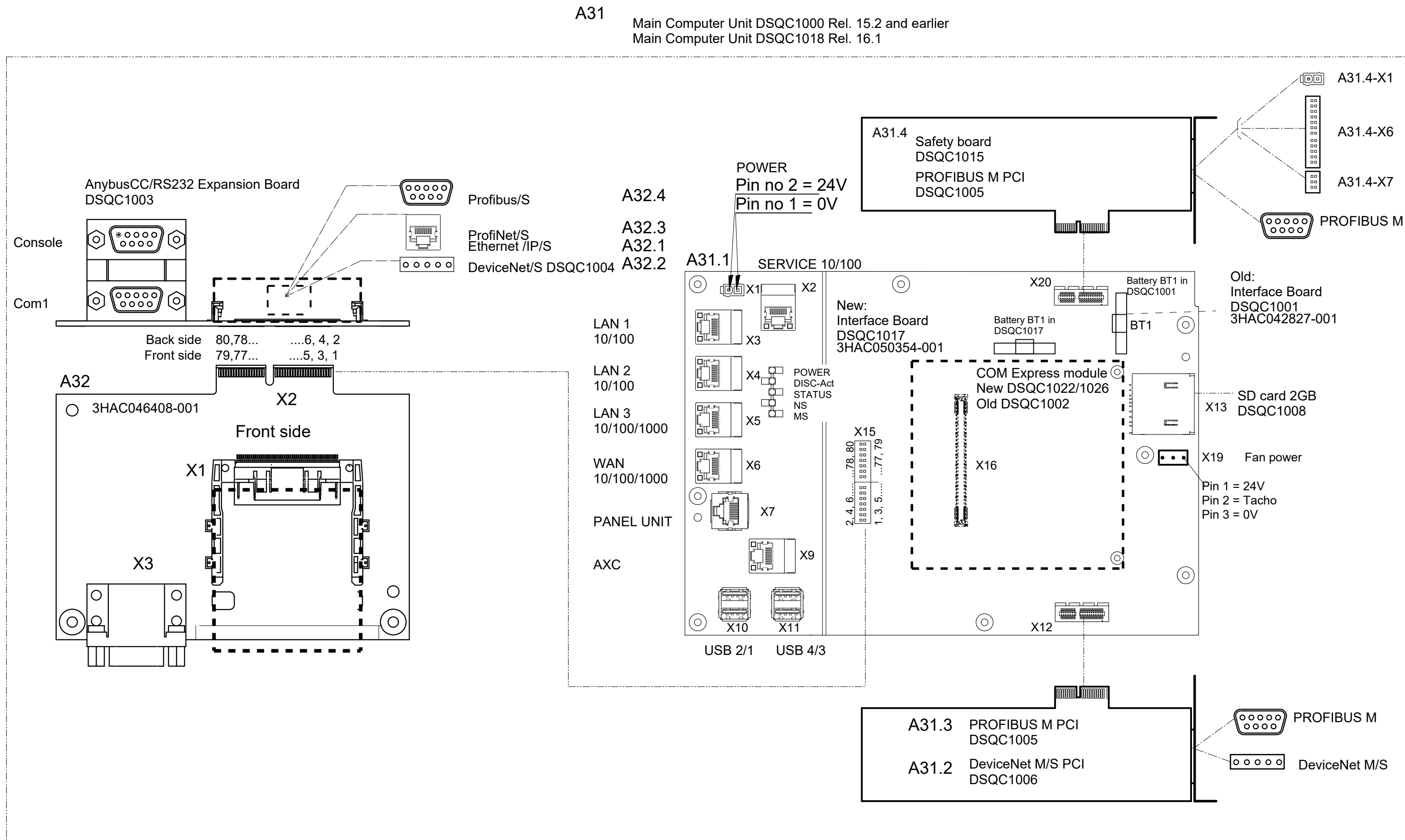
11

Page32

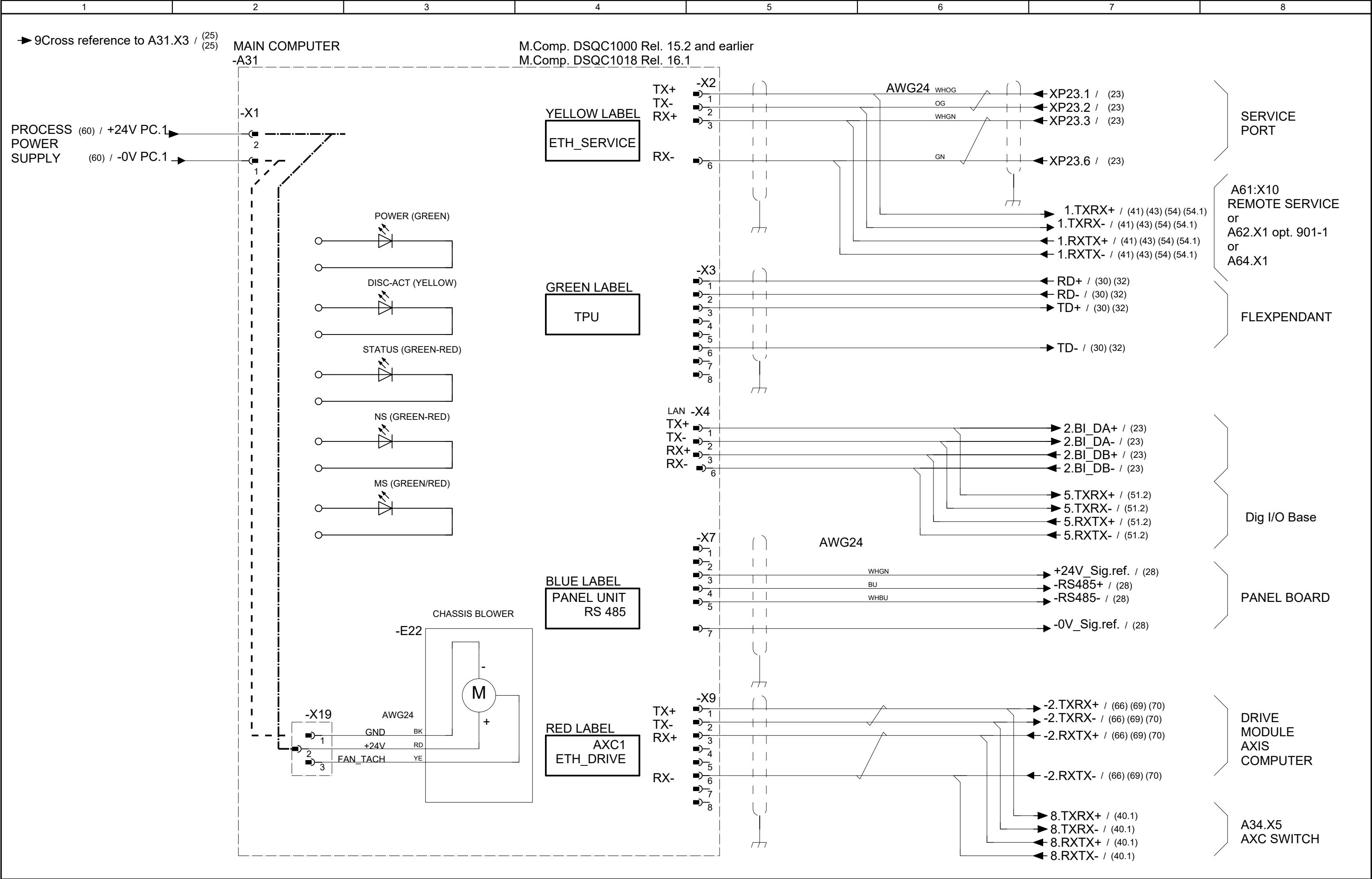
Next 34

Total 157

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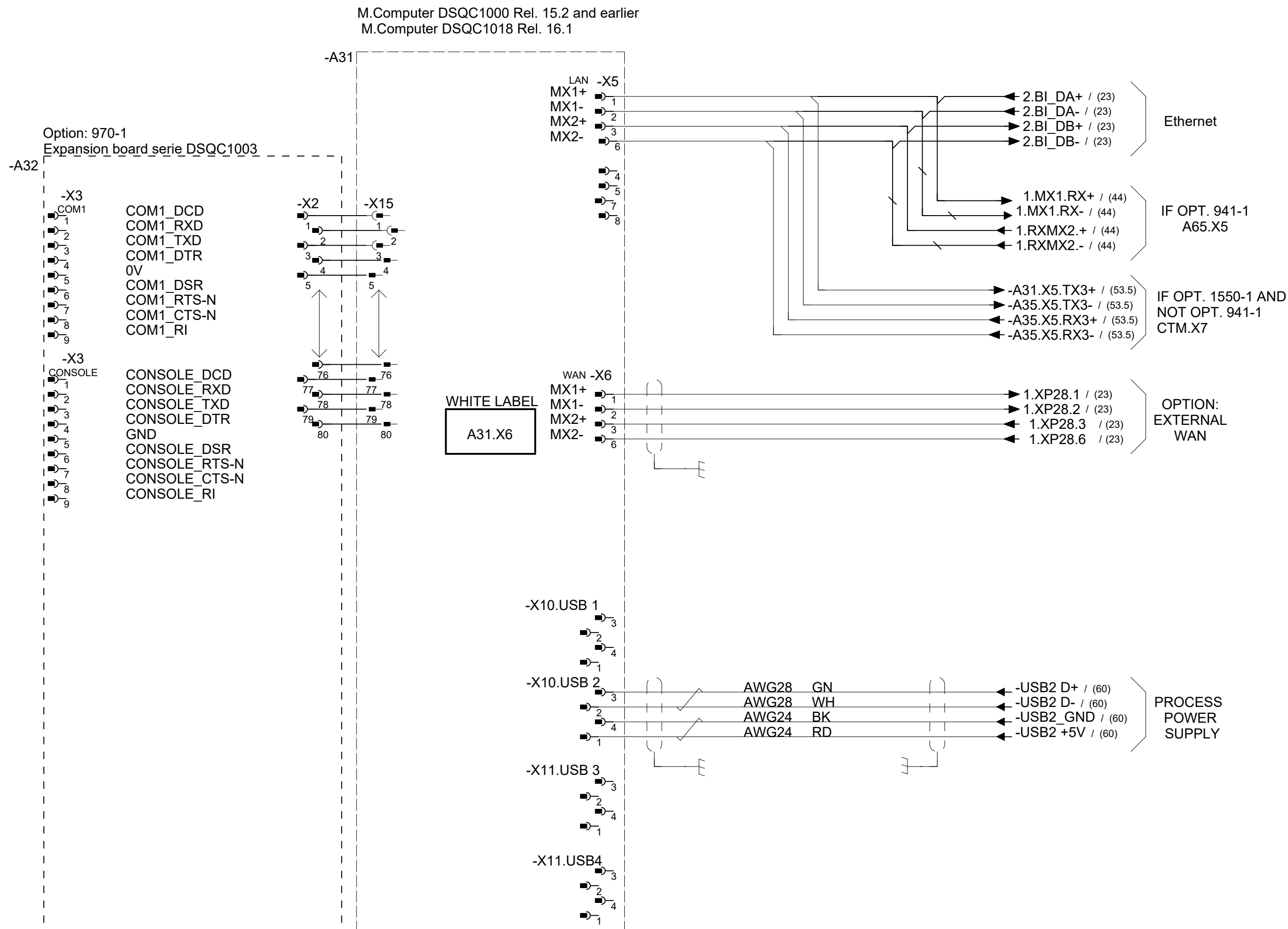


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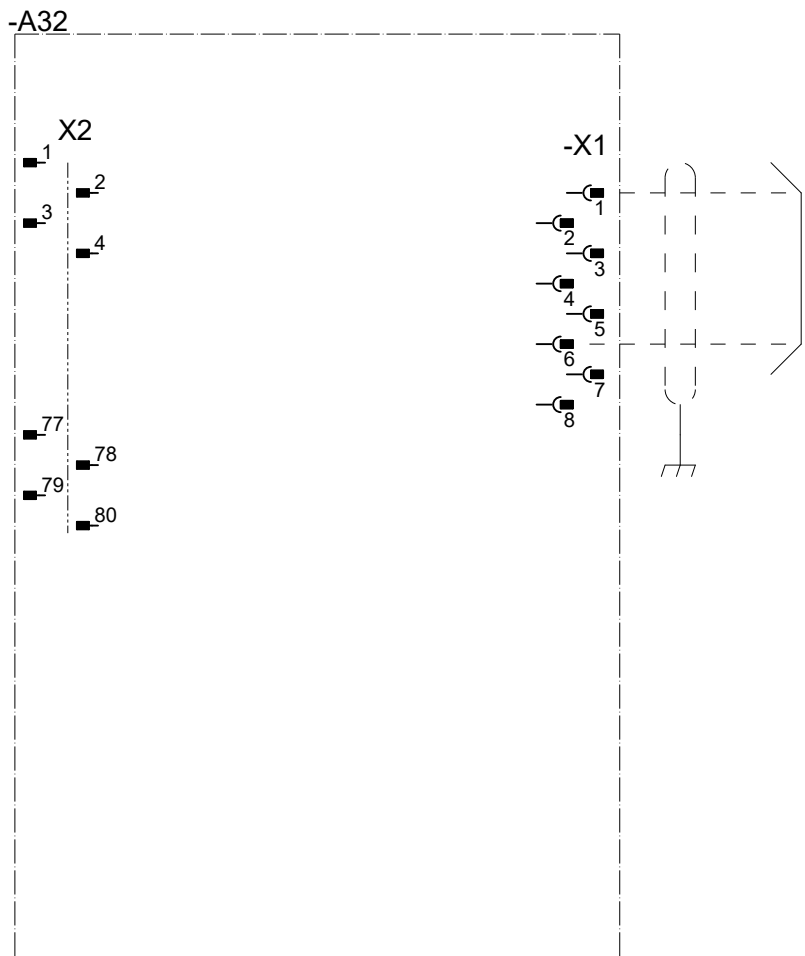
Latest revision:			Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 MAIN COMPUTER A31 DSQC1000/1018	Status: Approved	Plant: =			
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Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08				Document no. 3HAC024480-011		Rev. Ind 11	Page35 Next 36 Total 157

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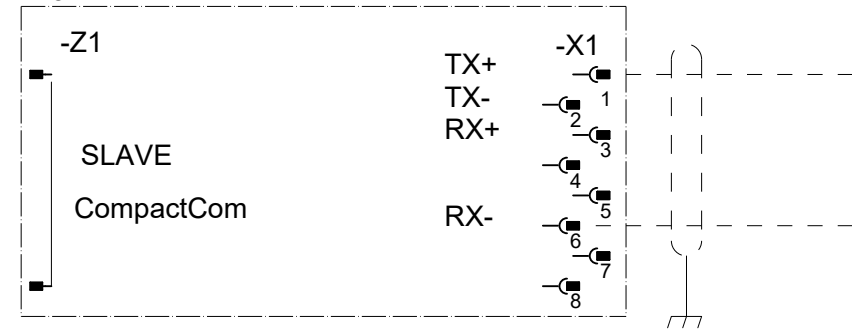


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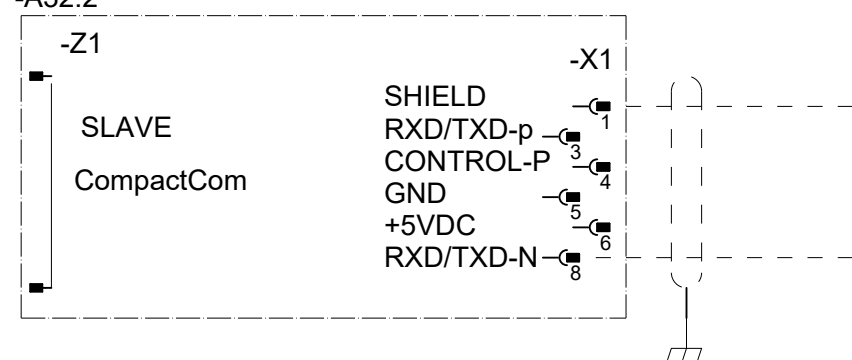
Expansion Board
DSQC 1003



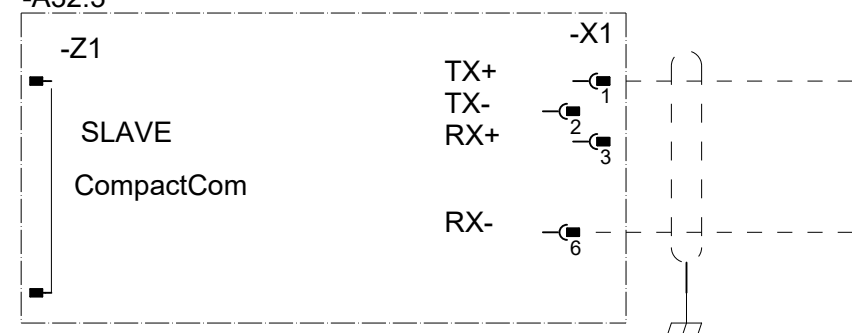
ETHERNET/IP Fieldbus adapter DSQC 669
-A32.1 Slave



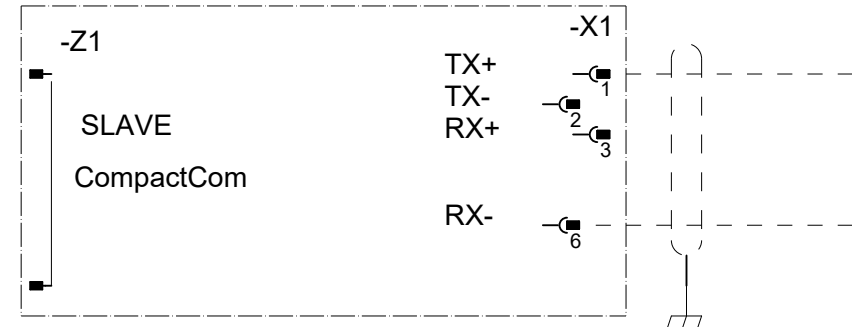
PROFIBUS Fieldbus adapter DSQC 667
-A32.2 Slave



PROFINET IO Fieldbus adapter DSQC 688
-A32.3 Slave



DEVICENET IO Fieldbus adapter DSQC 1004
-A32.4 Slave



OPTION & HARNESS TO CUSTOMER I/O

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IRC5 DESIGN 14 Rel: 18.2
FIELDBUS ADAPTER A32:
ETHERNET/IP, PROFIBUS and
PROFINET IO

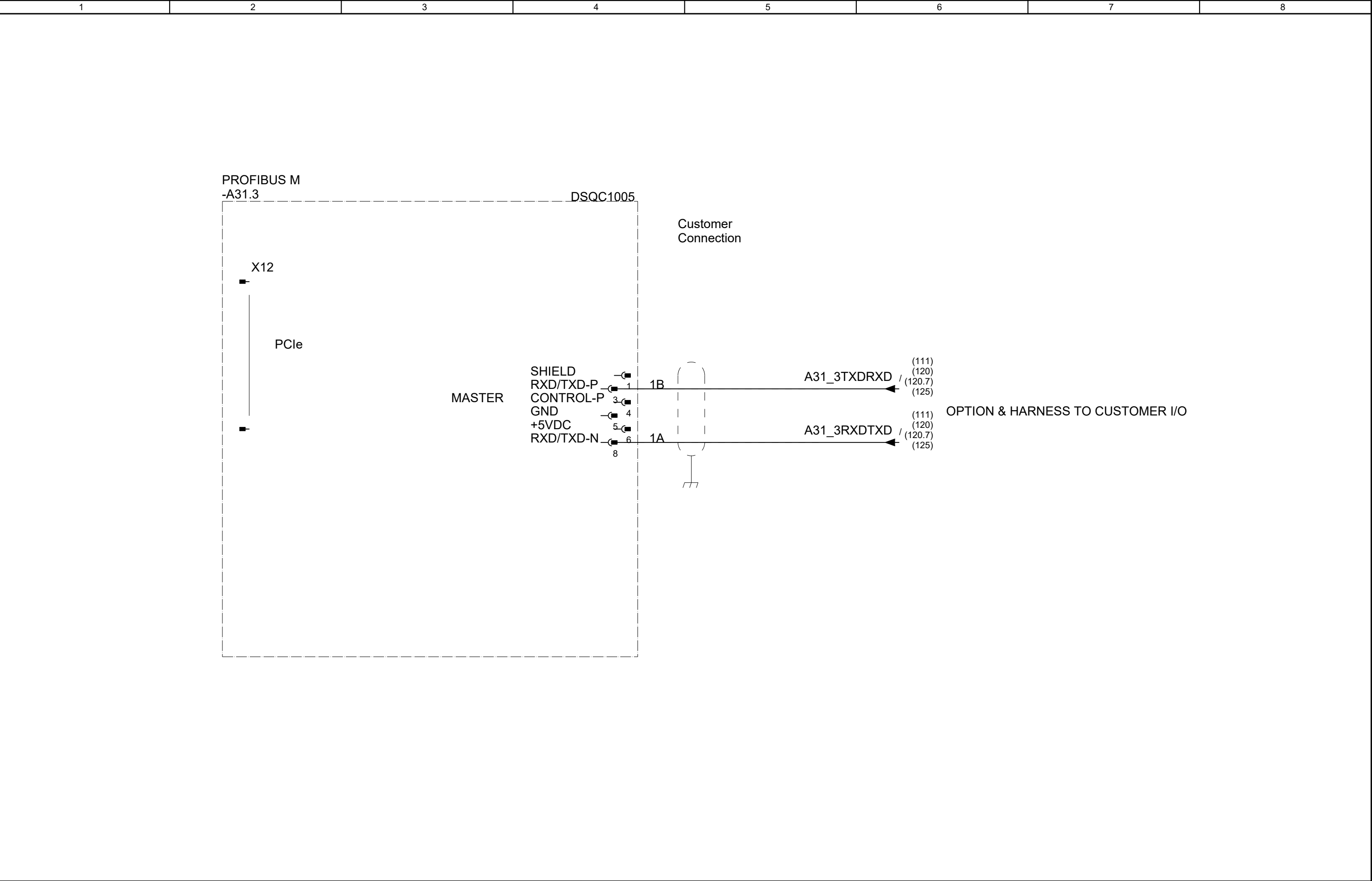
Status:
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Location: +
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3HAC024480-011

Rev. Ind	Page37
11	Next 38
	Total 157

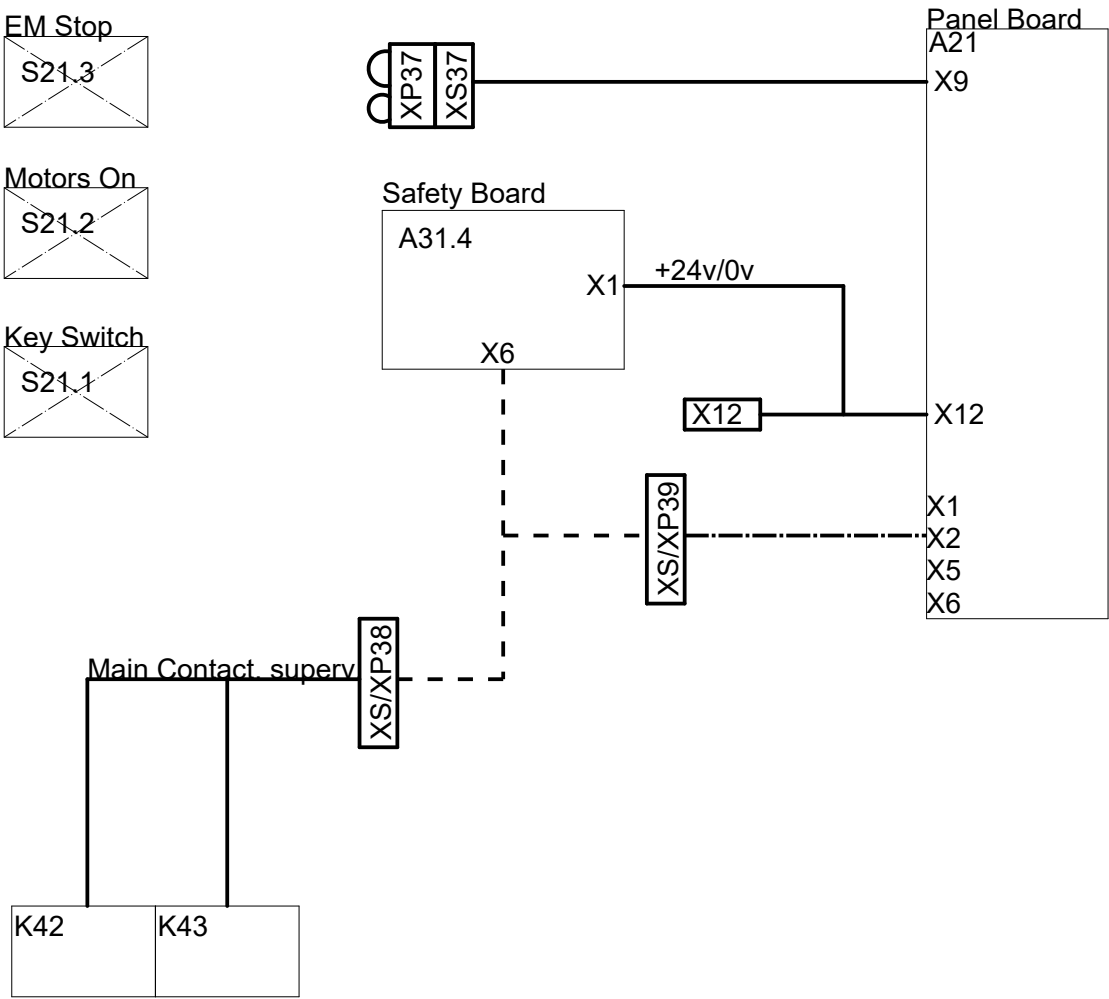
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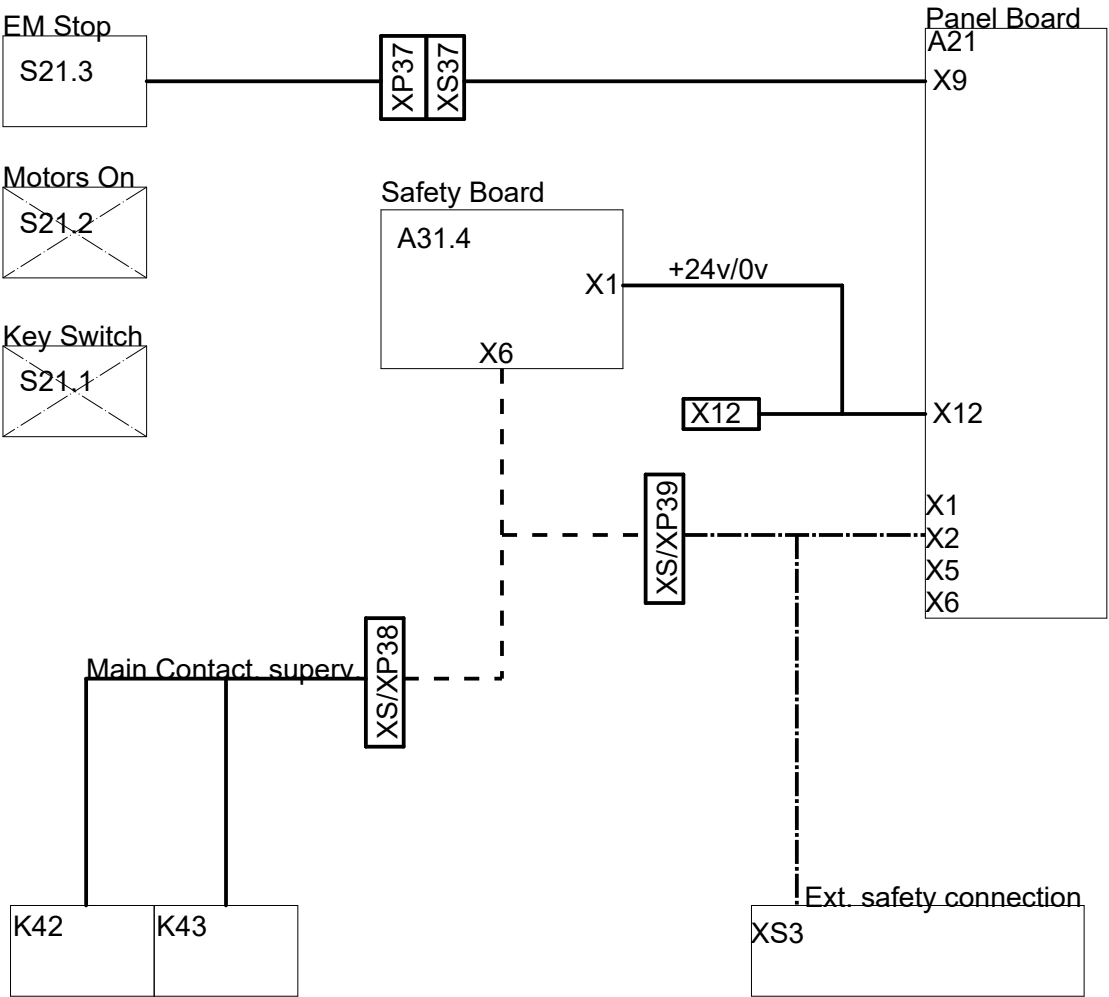
Latest revision:			Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 PROFIBUS DP M/S A31.3	Status: Approved	Plant: =	
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Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08			Document no. 3HAC024480-011	Rev. Ind 11	Page38 Next 38.4 Total 157

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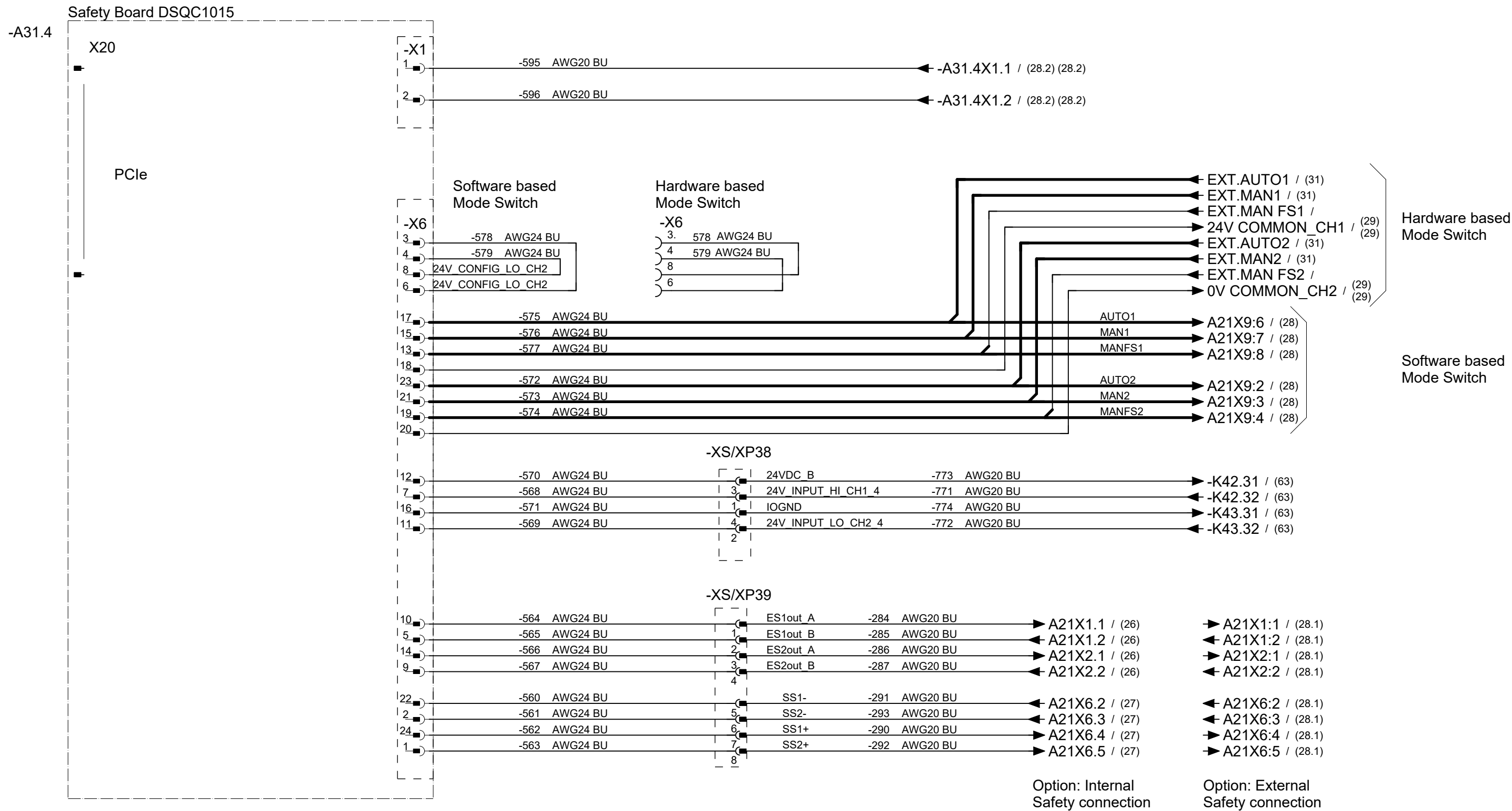
Options: With harness connection
996-1 Safety Module
and
735-7 Keyless Mode Selector
and
731-1 Safety internal connection.



Options: With harness connection
996-1 Safety Module
and
735-7 Keyless Mode Selector
and
731-2 Safety external connection.



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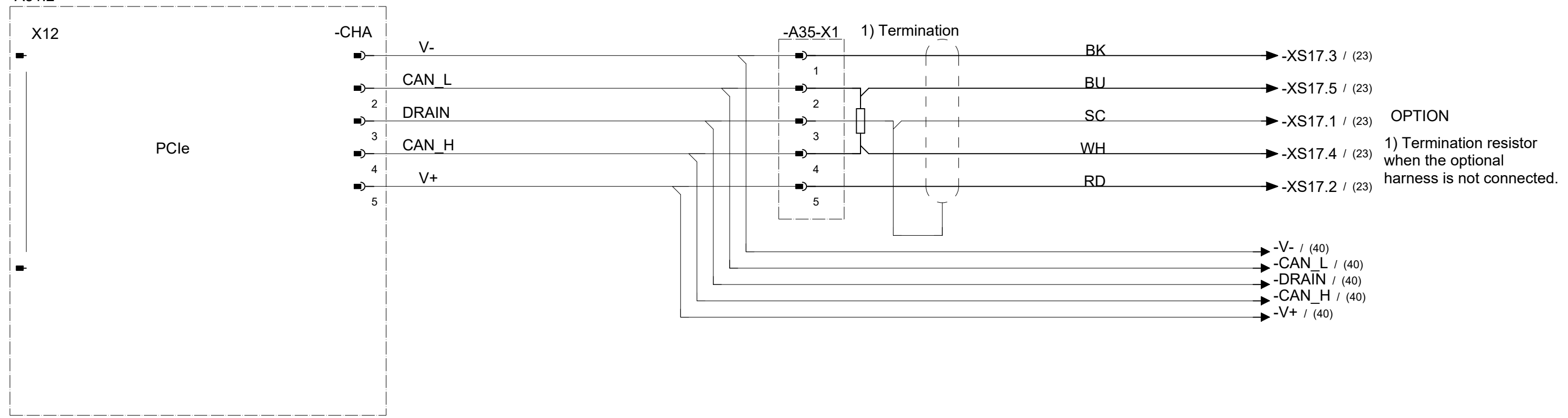
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IRC5 DESIGN 14 Rel: 18.2
SAFETY BOARD A31.4 DSQC1015
Hardware and
Software based Mode Switch

Status: Approved	Plant: Location: Sublocation:+	= +
Document no. 3HAC024480-011	Rev. Ind 11	Page38.5 Next 39 Total 157

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DeviceNet M/S DSQC1006
-A31.2



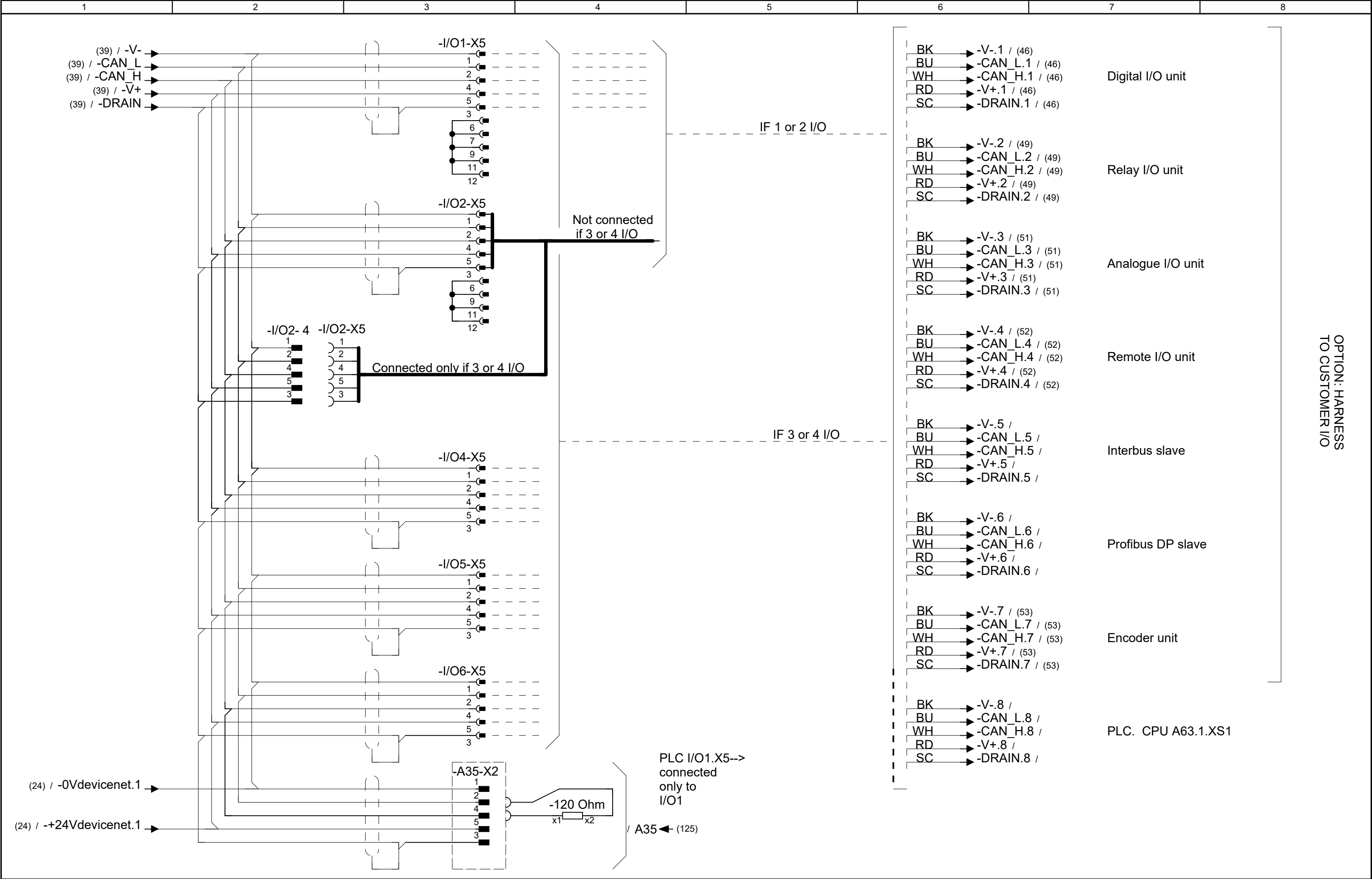
Latest revision:		
Prepared by, date:T Stålnacke 201810	Approved by, date:S Ögren	2018-10-08

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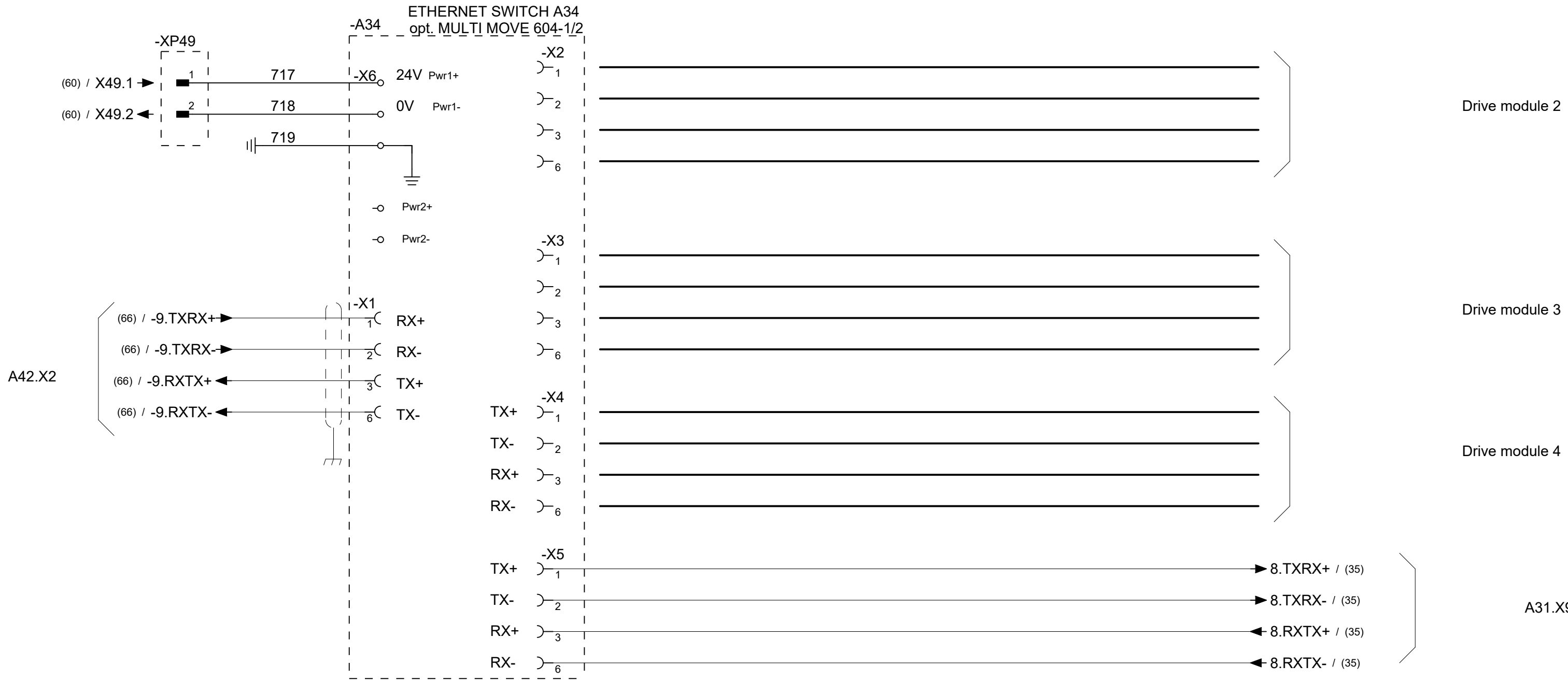
IRC5 DESIGN 14 Rel: 18.2 DEVICENET A31.2 m/s DSQC1006	

Status: Approved	Plant: = Location: + Sublocation: +	
Document no. 3HAC024480-011	Rev. Ind 11	Page39 Next 40 Total 157

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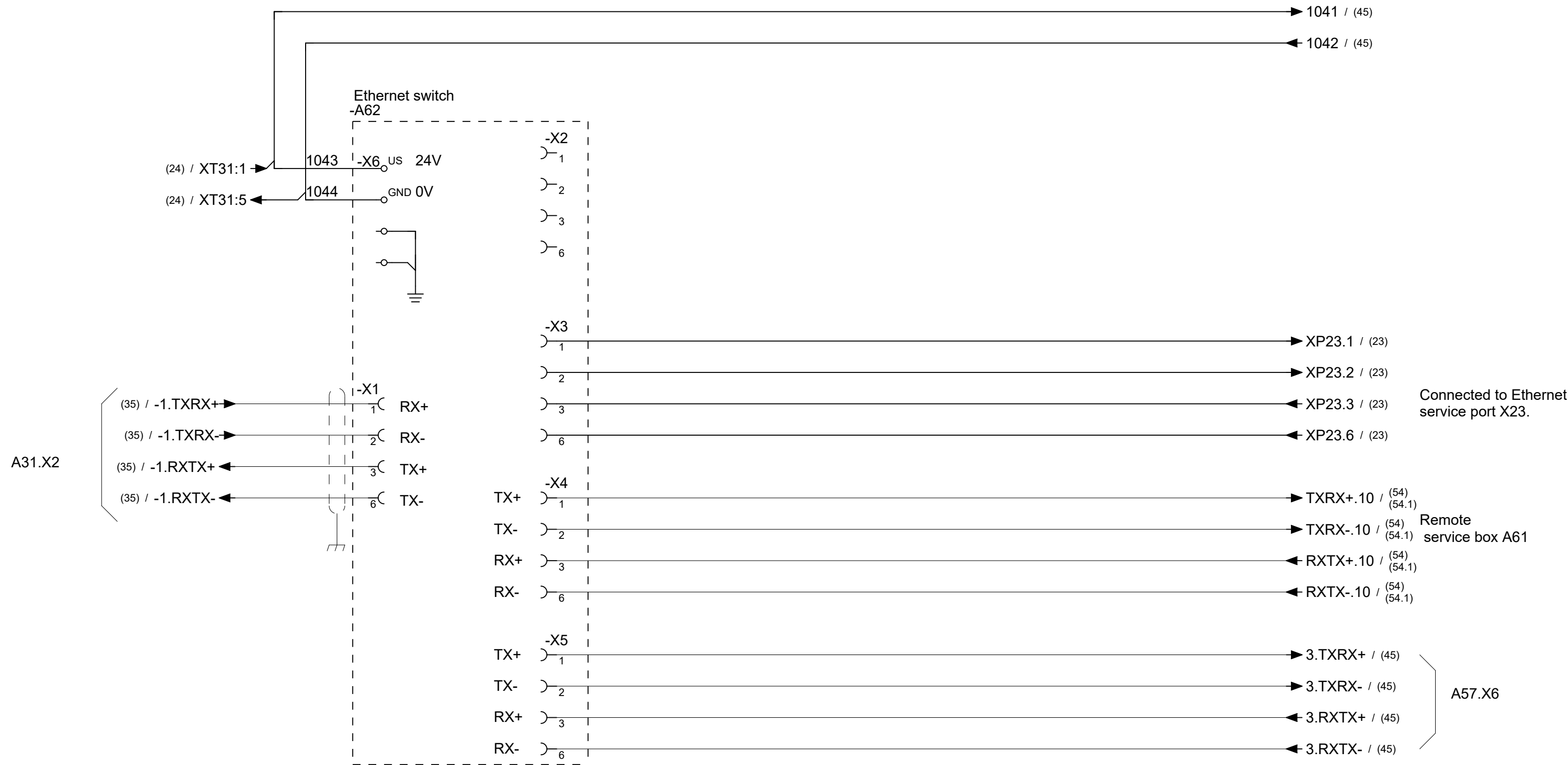
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IRC5 DESIGN 14 Rel: 18.2 ETHERNET SWITCH A34, option MULTI MOVE 604-1/2

Status: Approved	Plant: Location: Sublocation:+	= +
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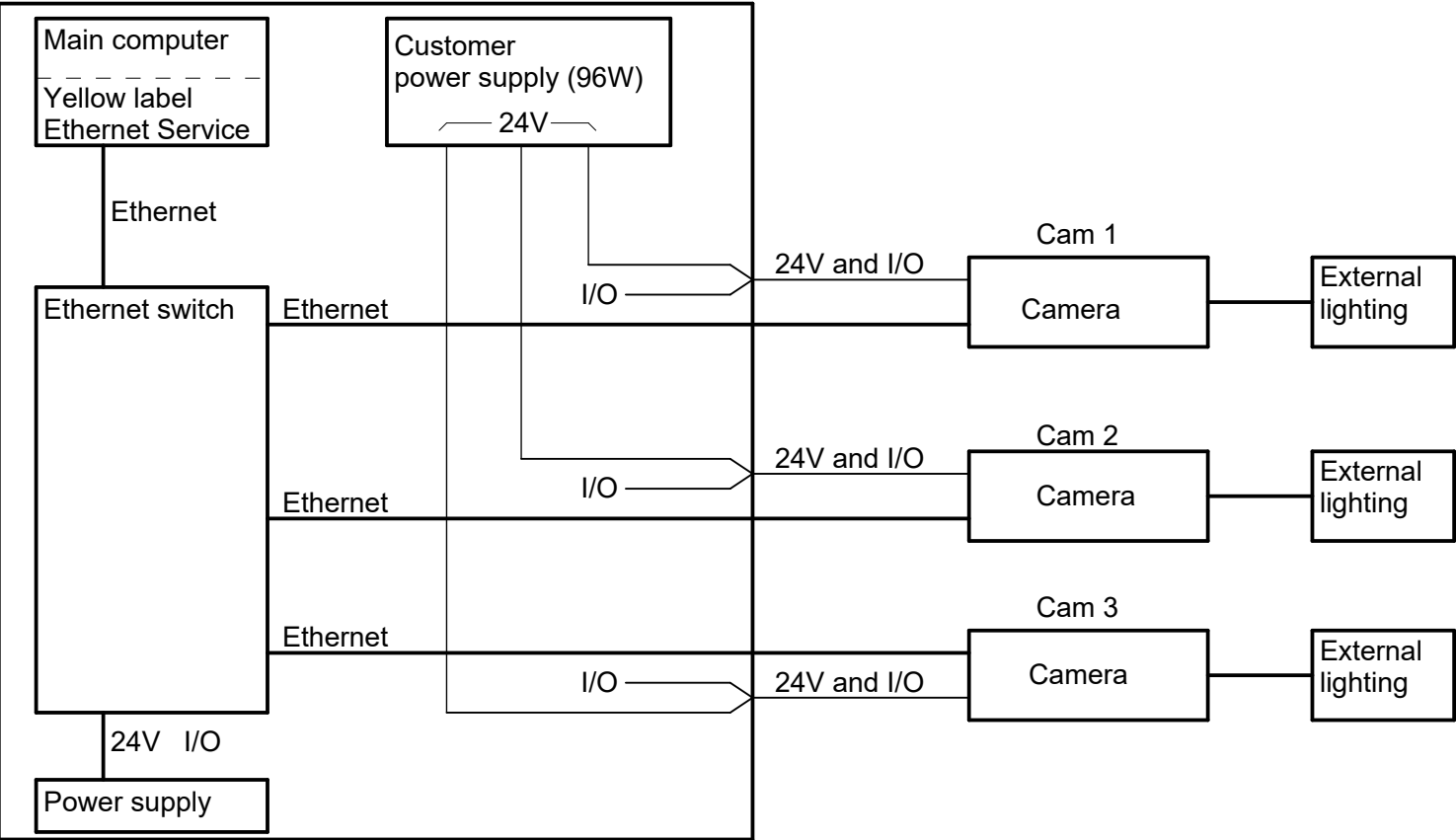
if opt. 901-1



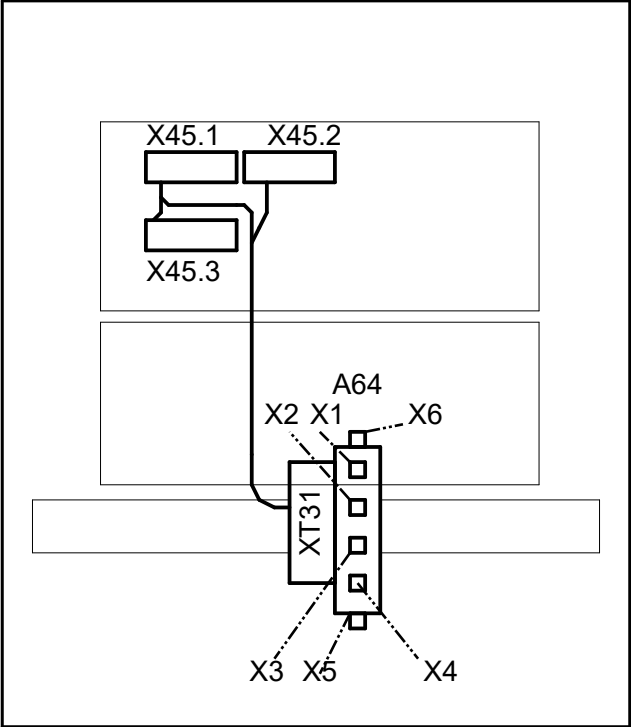
Latest revision:			Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 ETHERNET SWITCH A62	Status: Approved	Plant: =	
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Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08			Document no. 3HAC024480-011	Rev. Ind 11	Page41 Next 42 Total 157

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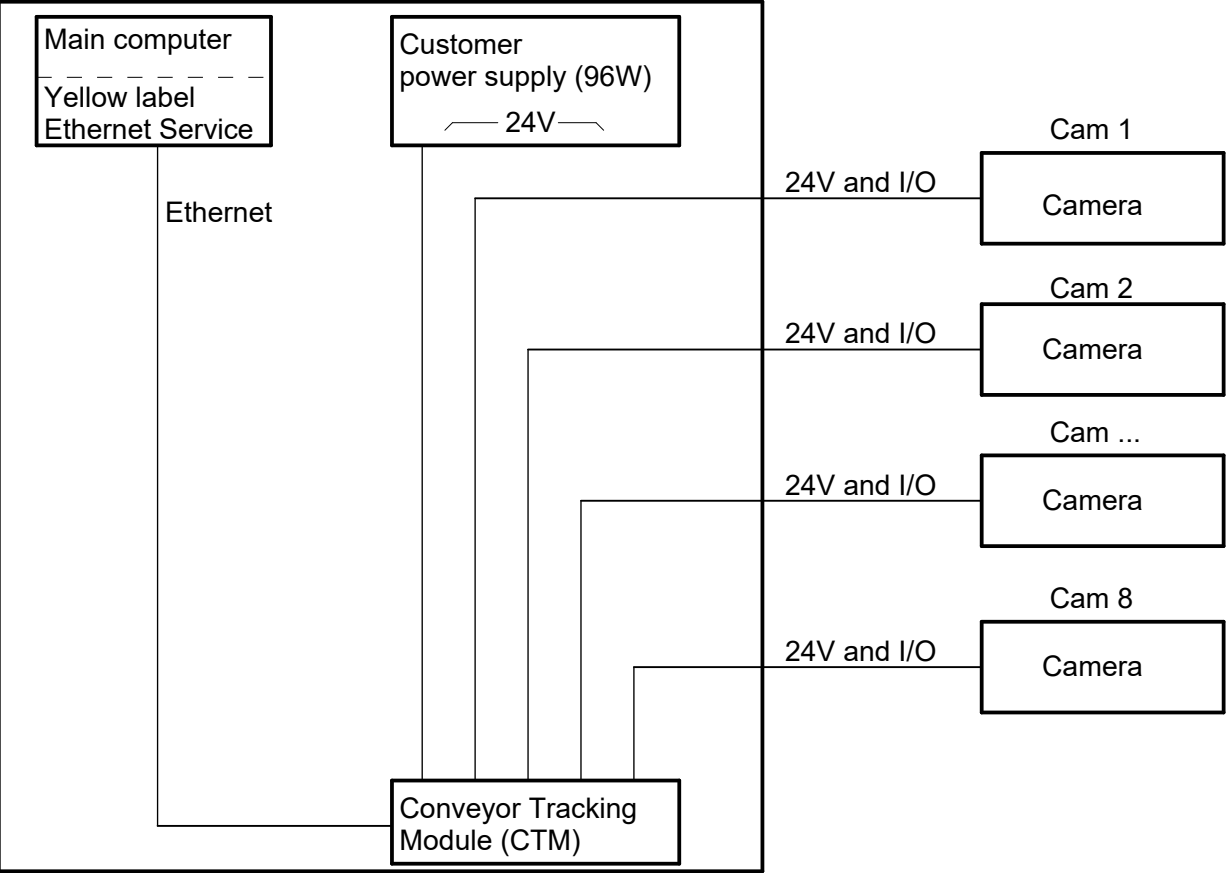
Robot controller



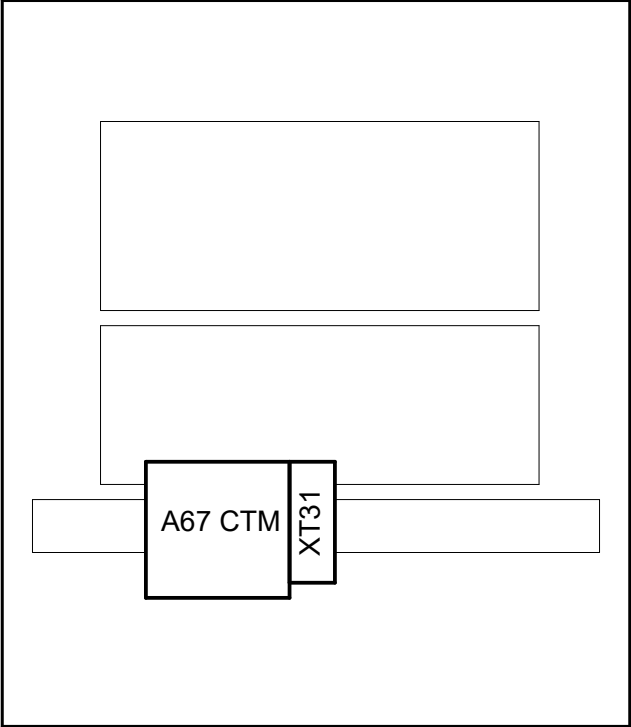
Opt. INSIDE DOOR WITH ETHERNET for CAMERAS



Opt.1550-1
Robot controller with Conveyor Tracking.



Opt. INSIDE DOOR WITH CTM



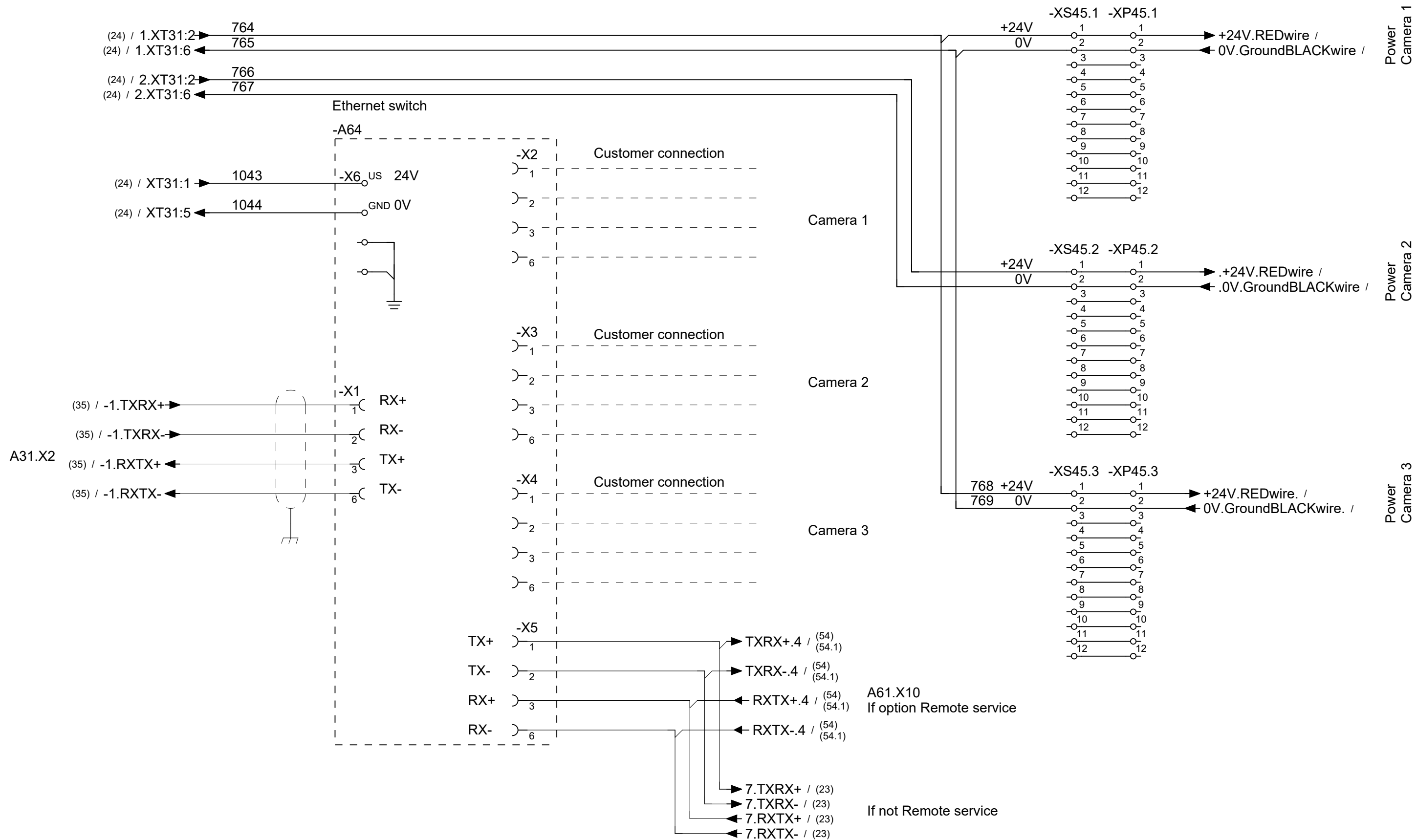
Latest revision:		
Prepared by, date:T Stålnacke 201810	Approved by, date:S Ögren 2018-10-08	

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IRC5 DESIGN 14 Rel: 18.2 VISION, INTEGRATED CAMERAS and CONVEYOR TRACKING Opt.1550-1
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Status: Approved	Plant: Location: Sublocation:+	
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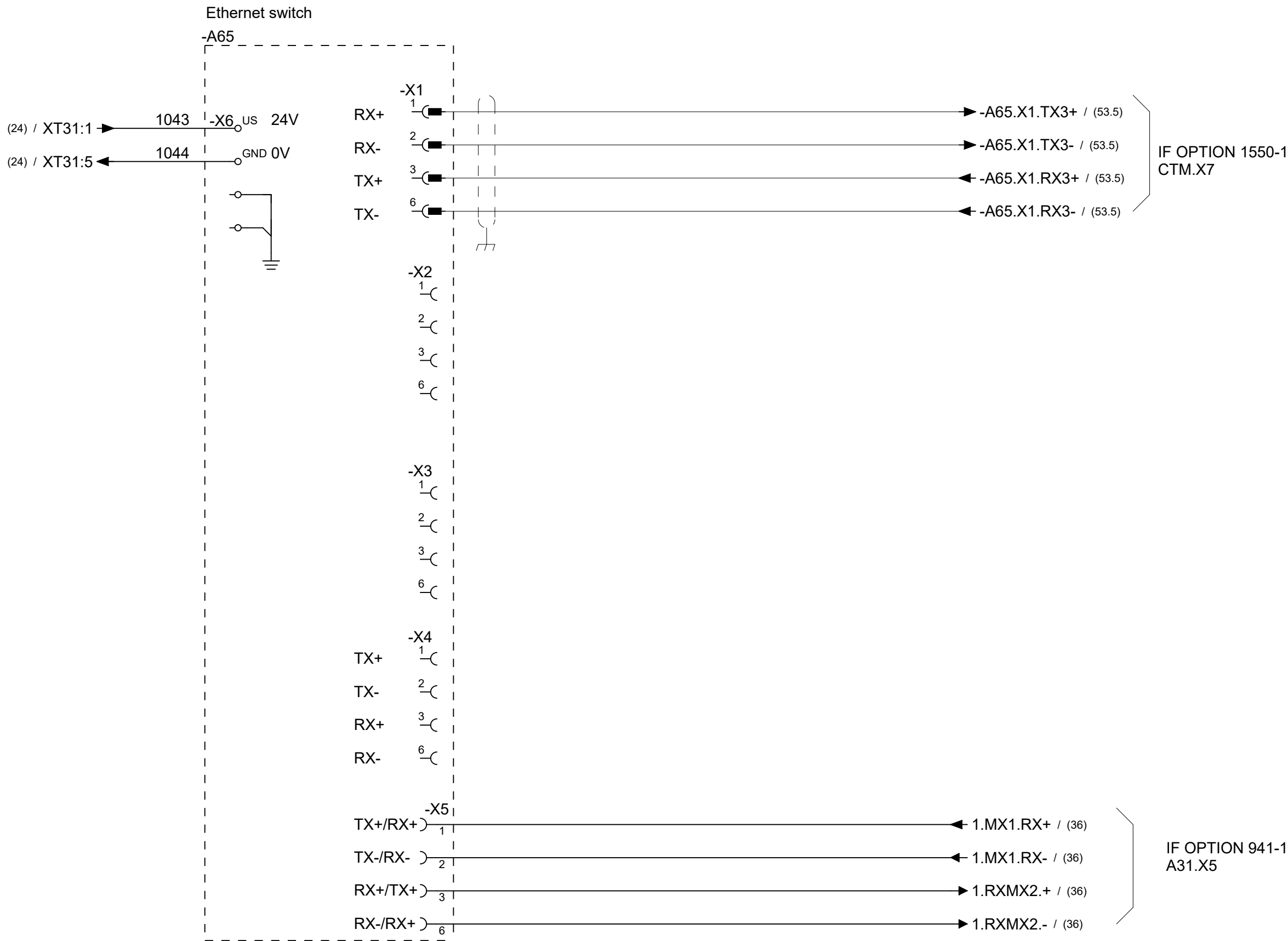
Lab/Office:
RMRO
SE/RDE2

IRC5 DESIGN 14 Rel: 18.2
ETHERNET SWITCH A64/CAMERA

Status:
Approved

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Location: +
Sublocation: +

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Lab/Office:
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IRC5 DESIGN 14 Rel: 18.2
ETHERNET SWITCH A65

Status:
Approved

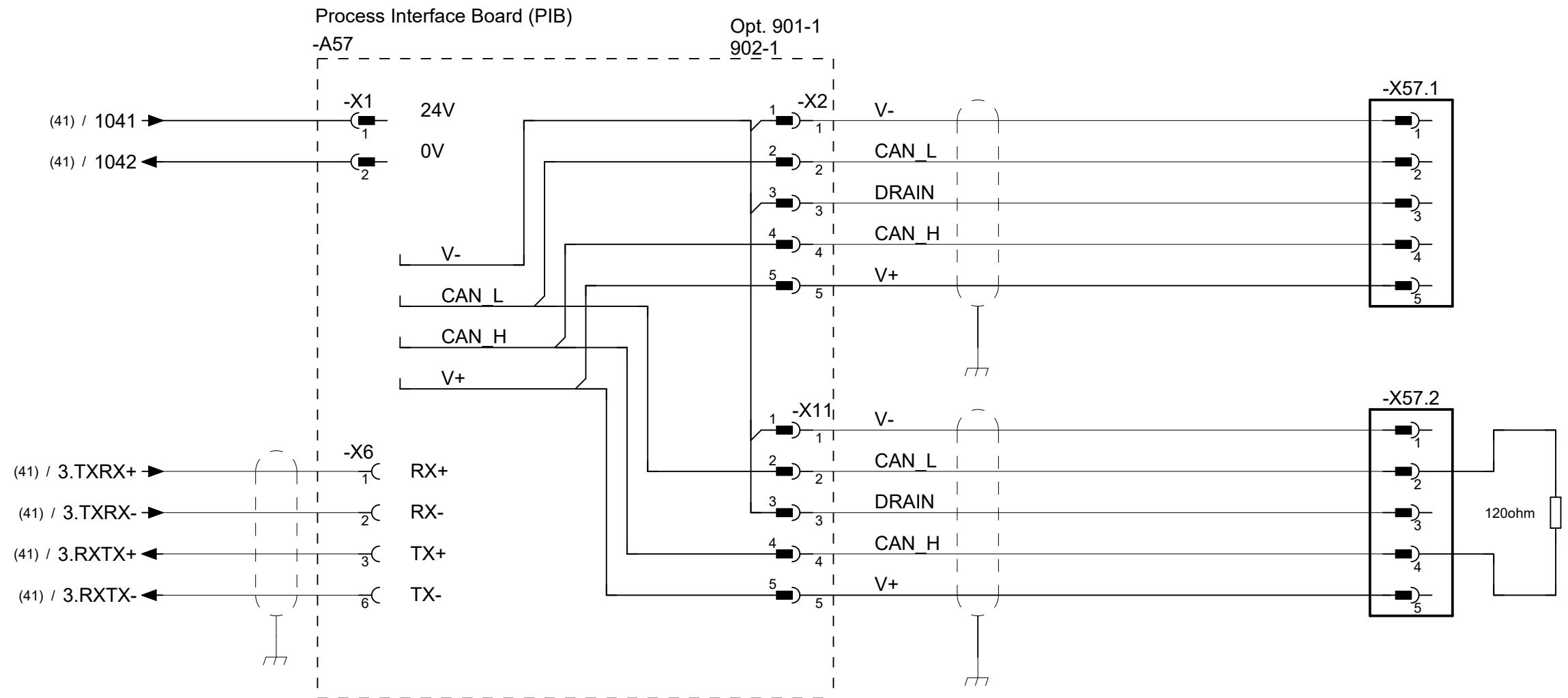
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IRC5 DESIGN 14 Rel: 18.2
DISPENCE PAC SUPPORT A57

Status:
Approved

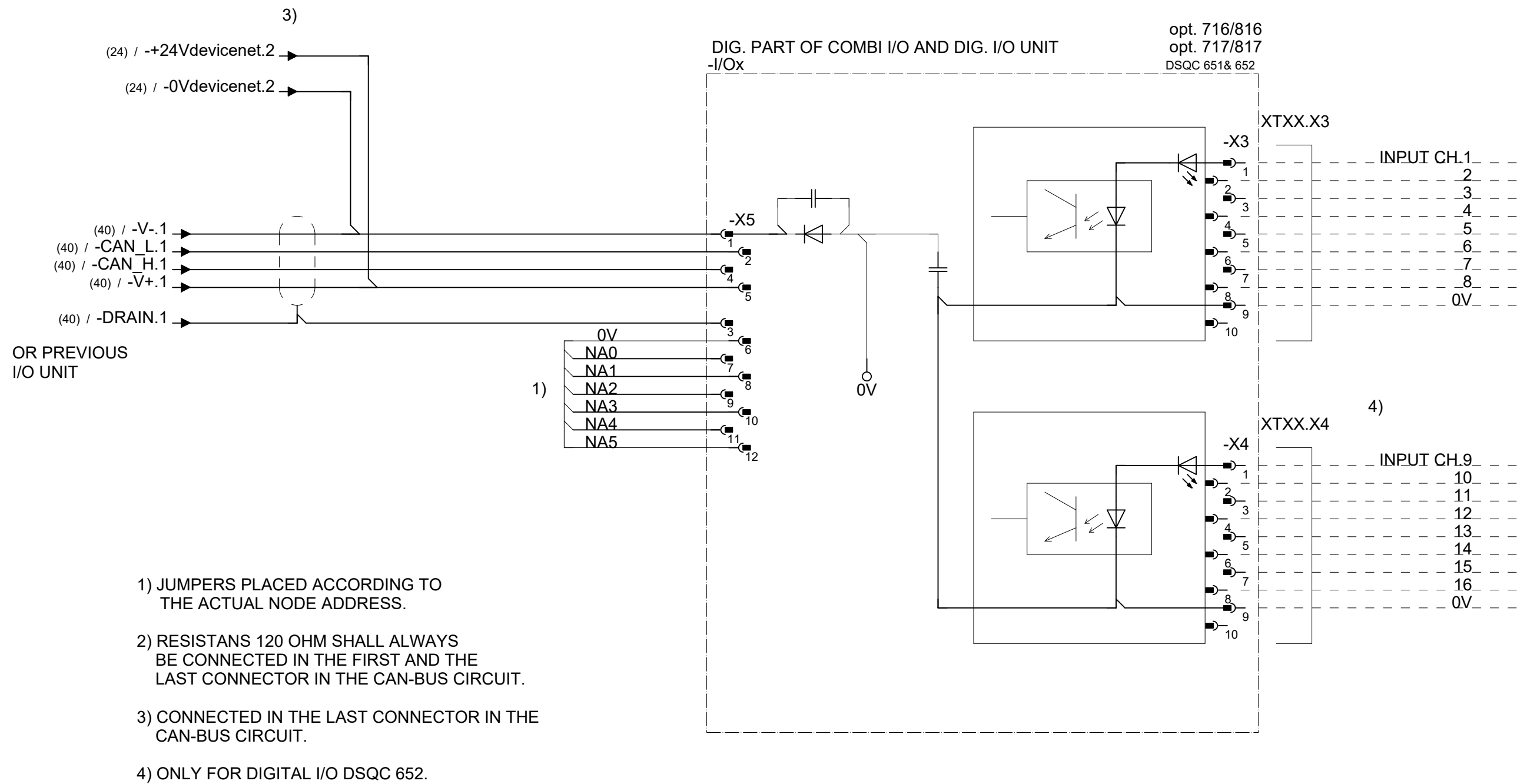
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3HAC024480-011

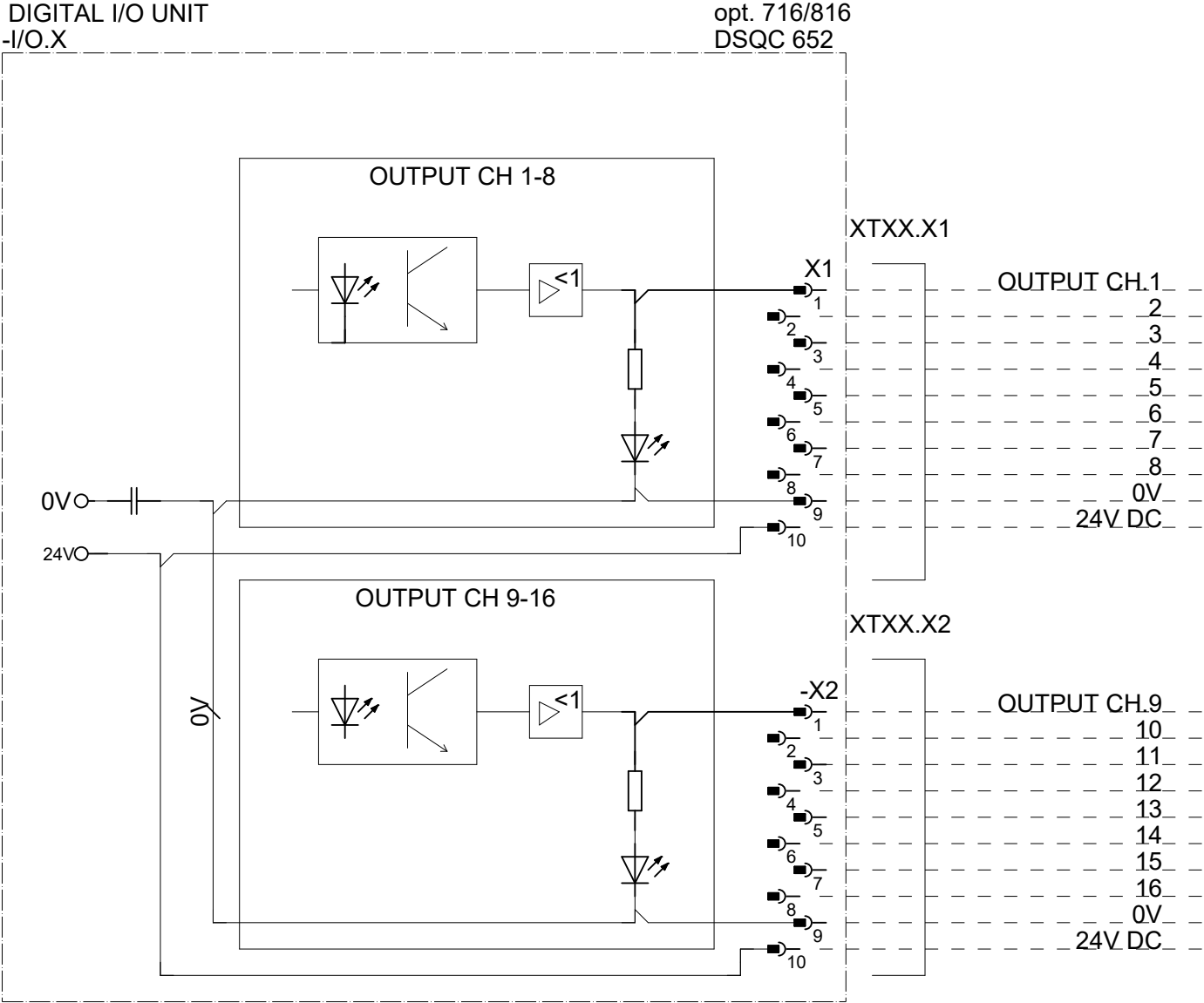
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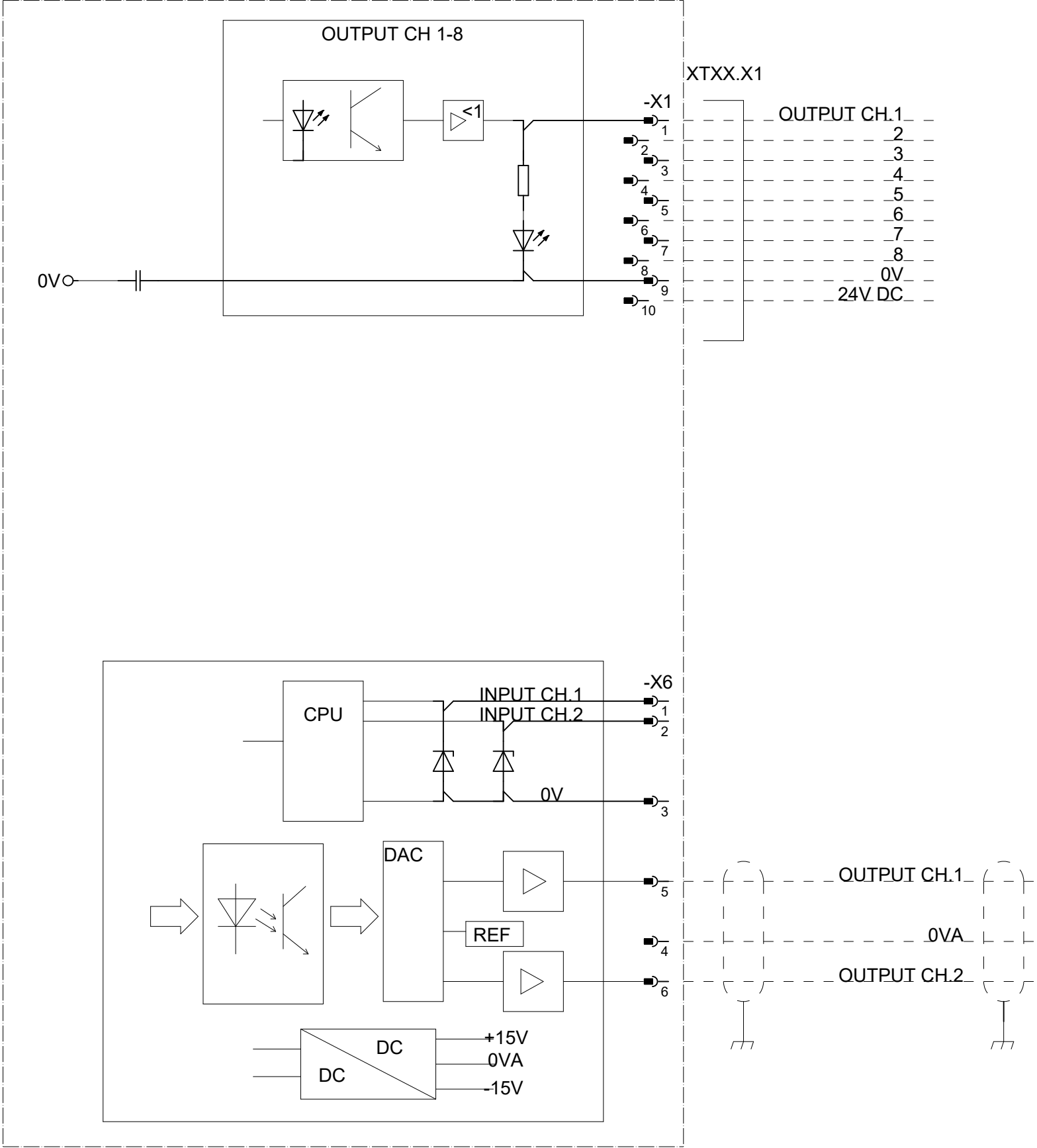


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COMBI I/O UNIT

-I/O.X

opt. 717/817
DSQC 651



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IRC5 DESIGN 14 Rel: 18.2
COMBI I/O UNIT DSQC651

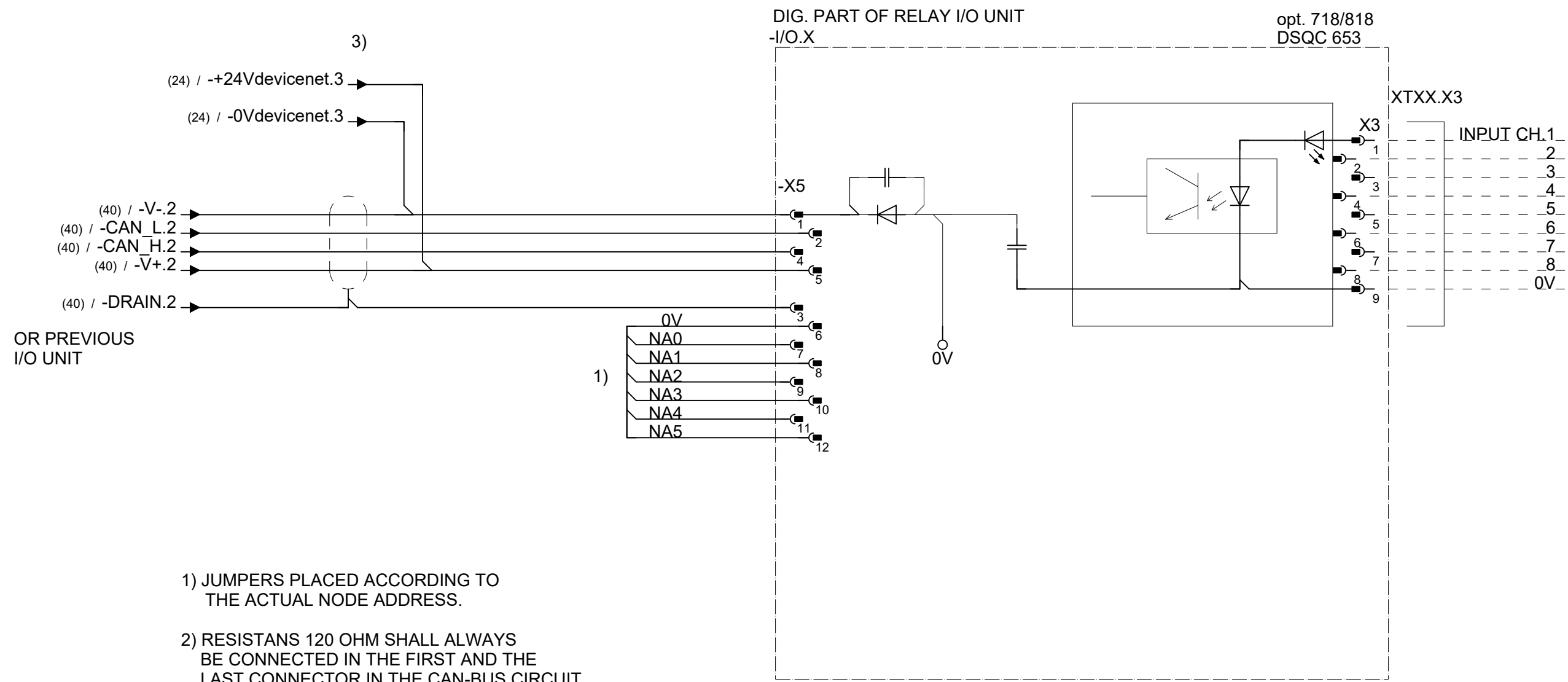
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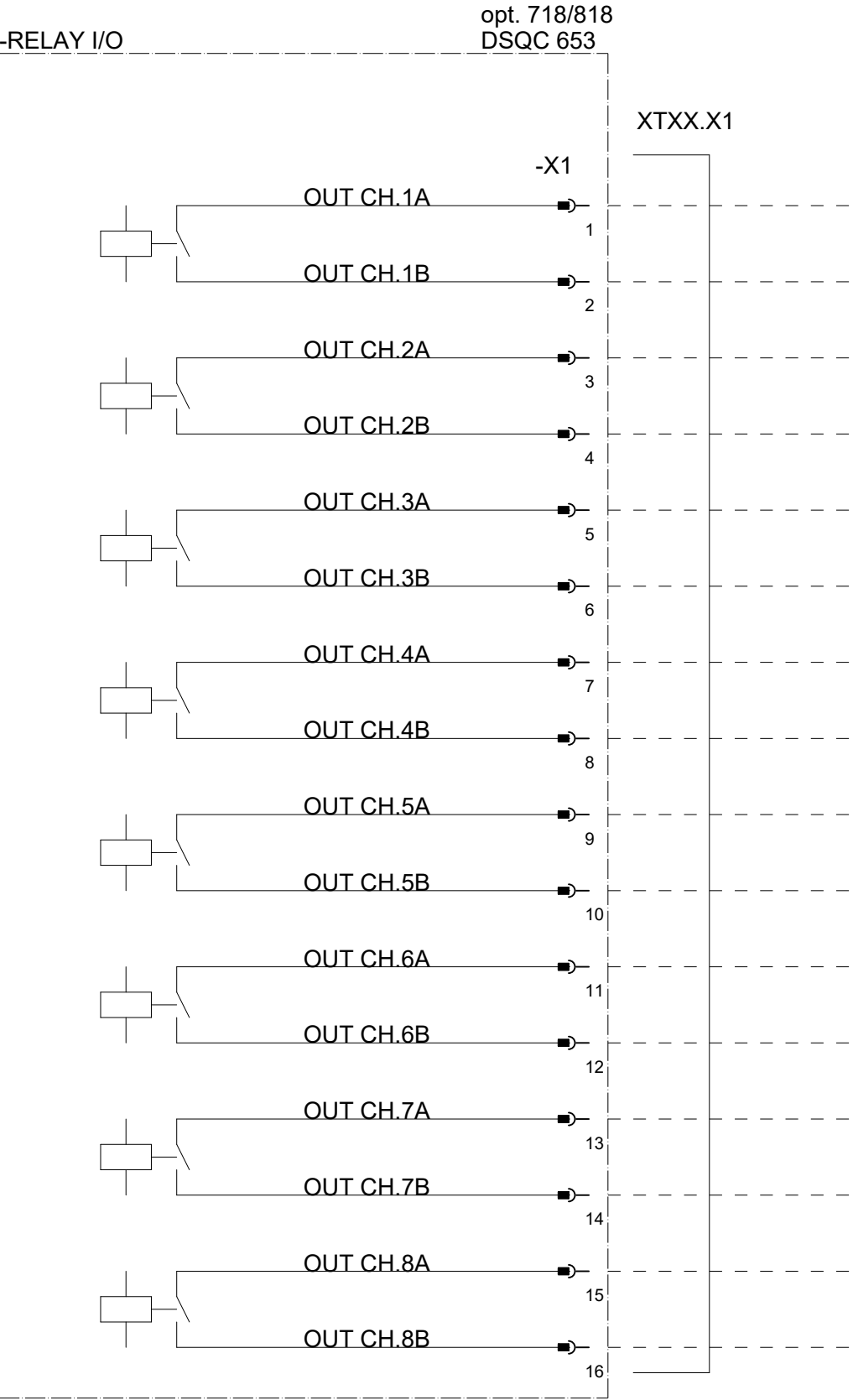
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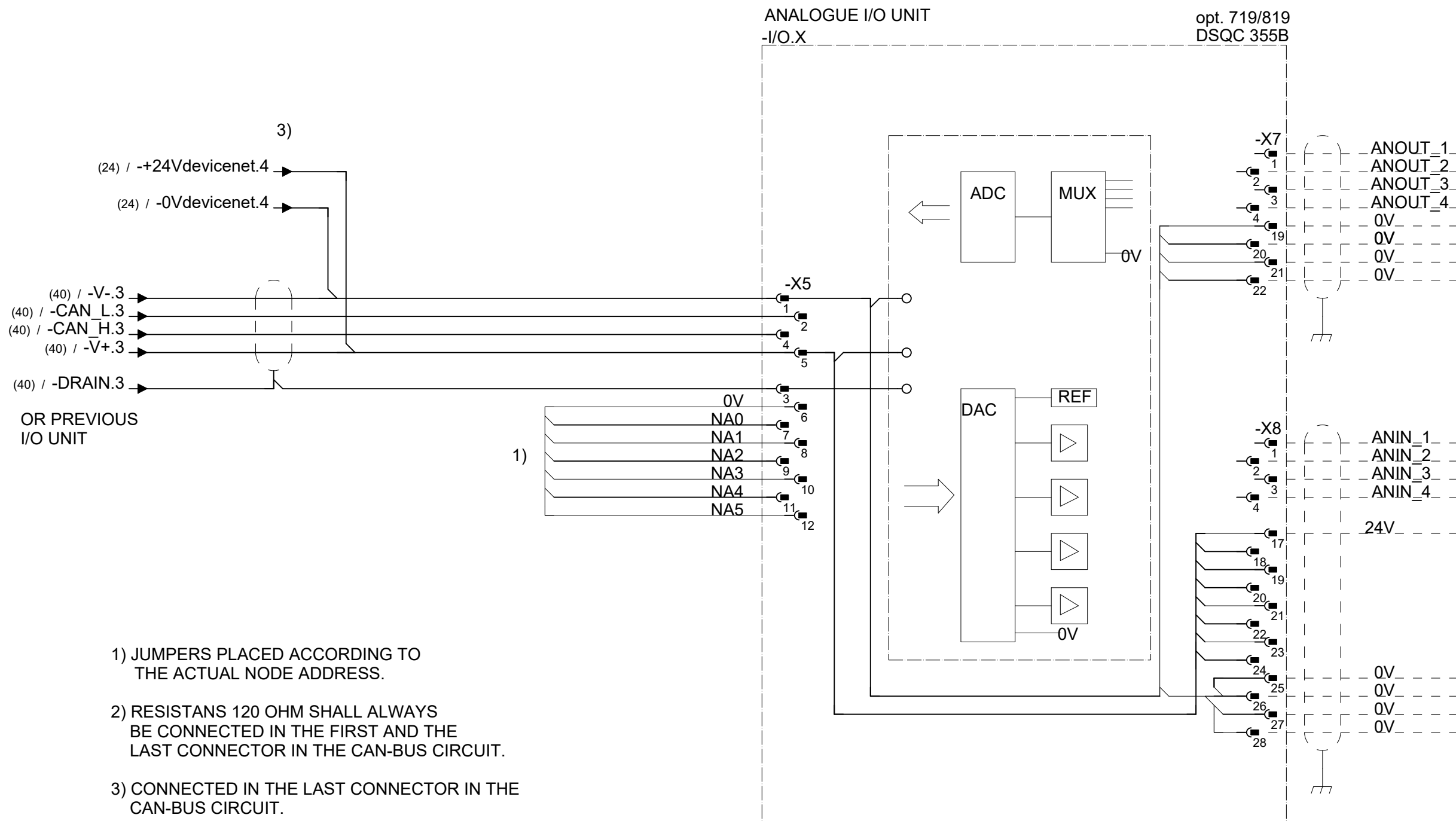
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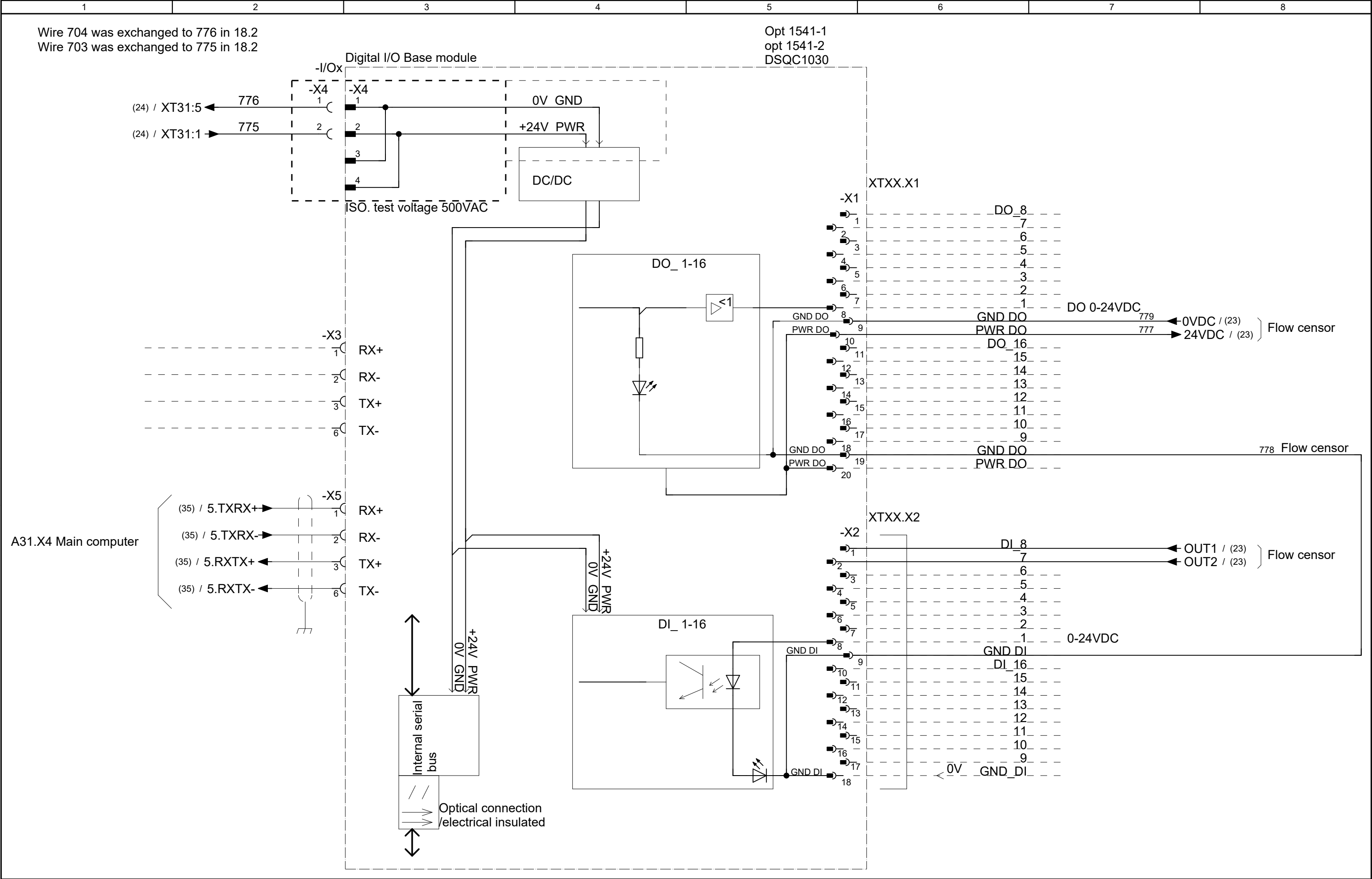
IRC5 DESIGN 14 Rel: 18.2 RELAY I/O UNIT DSQC653	

Status:	Plant:	=
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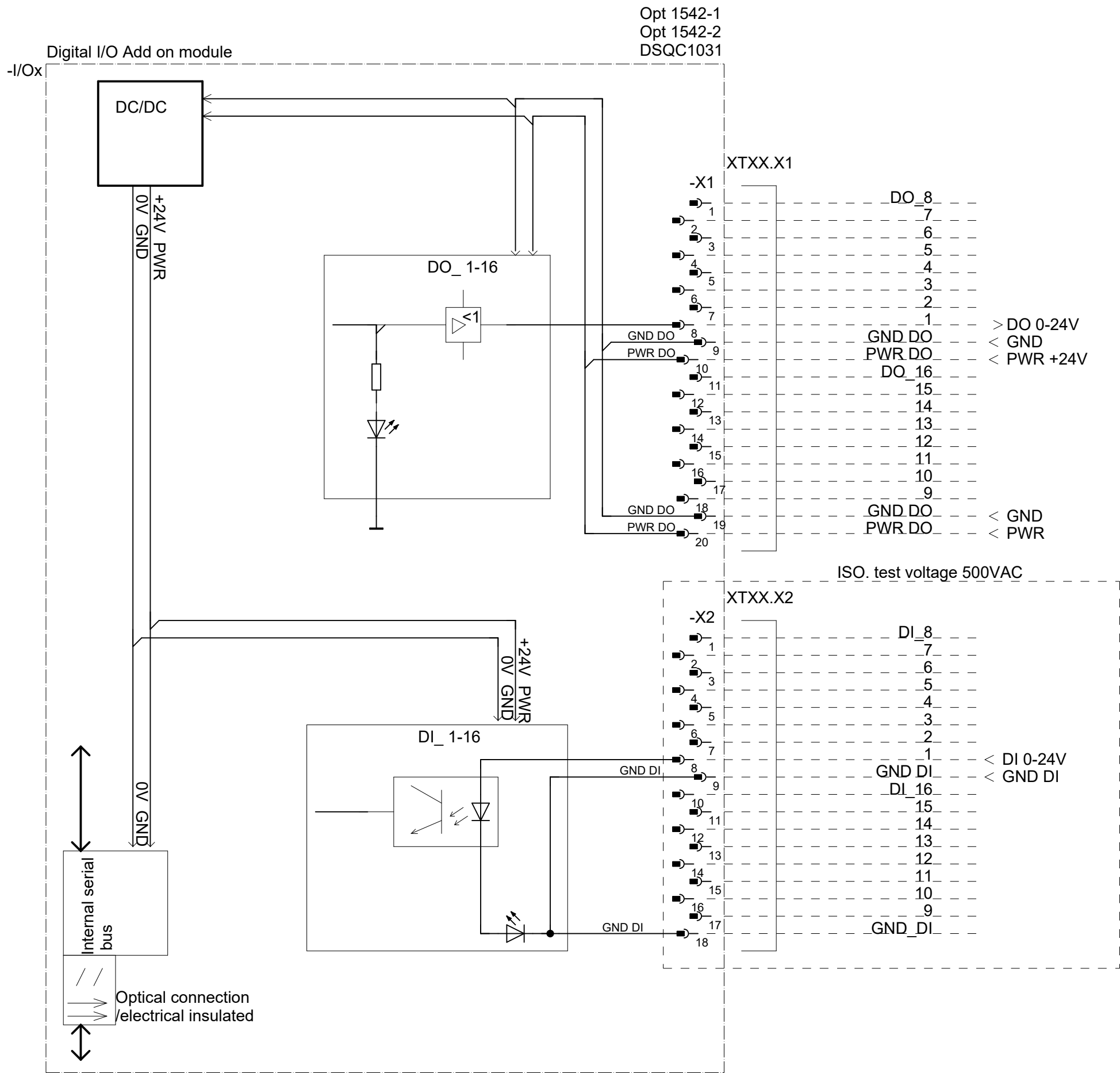
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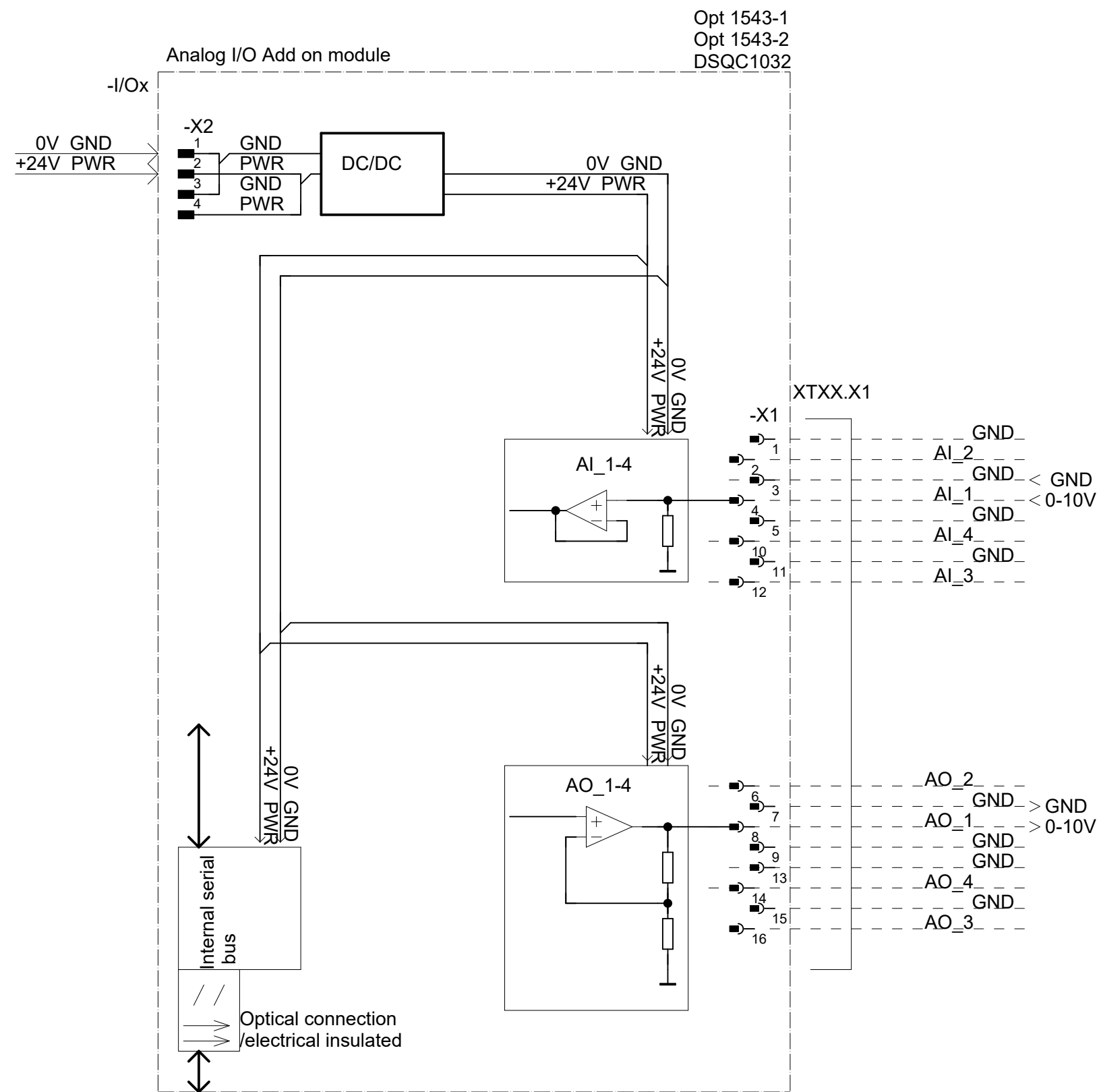
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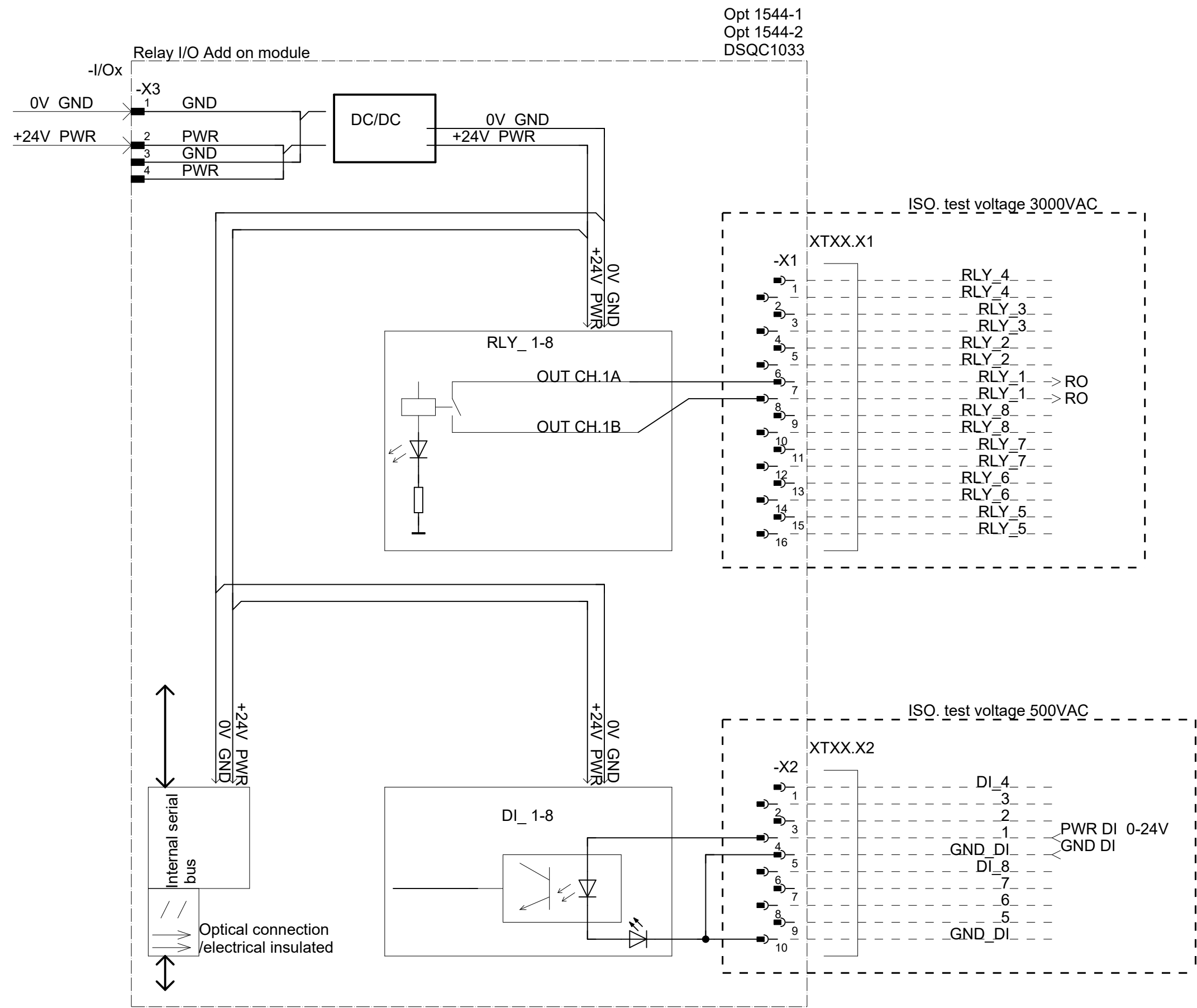
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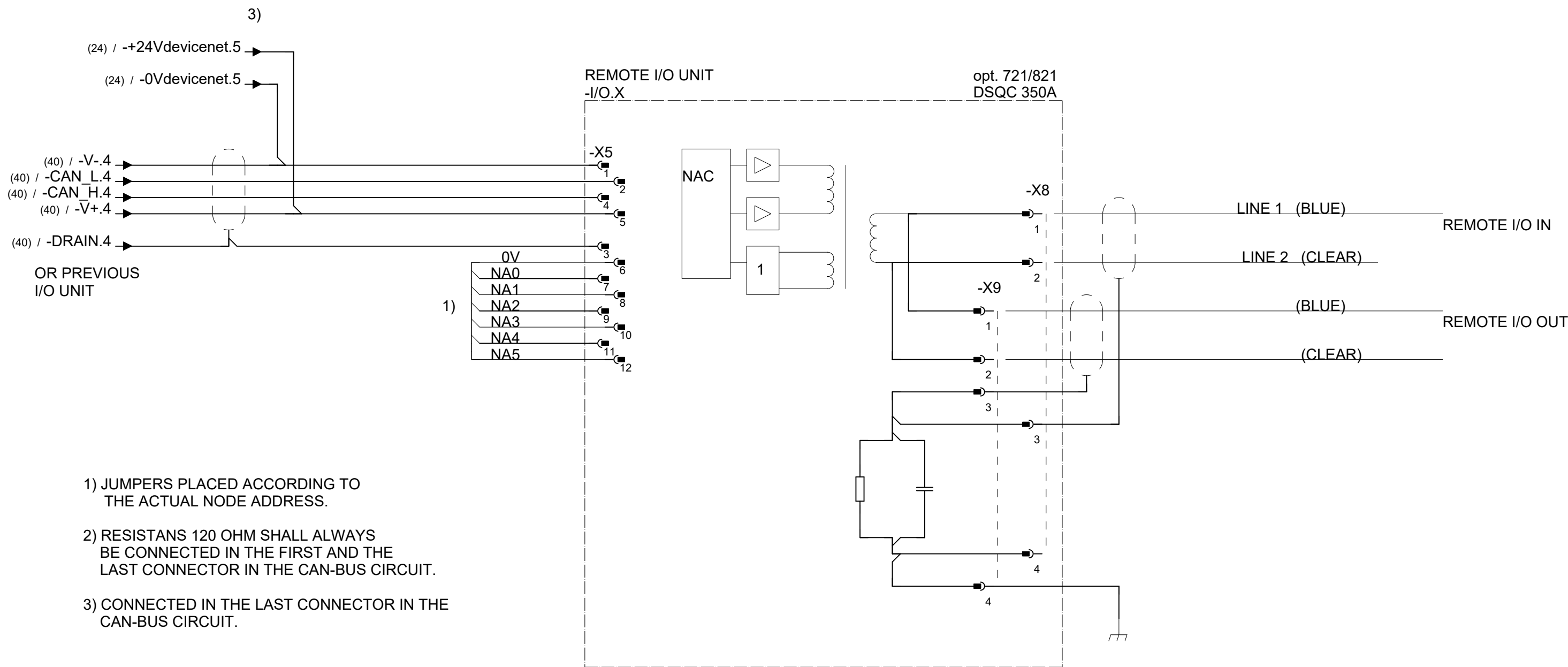
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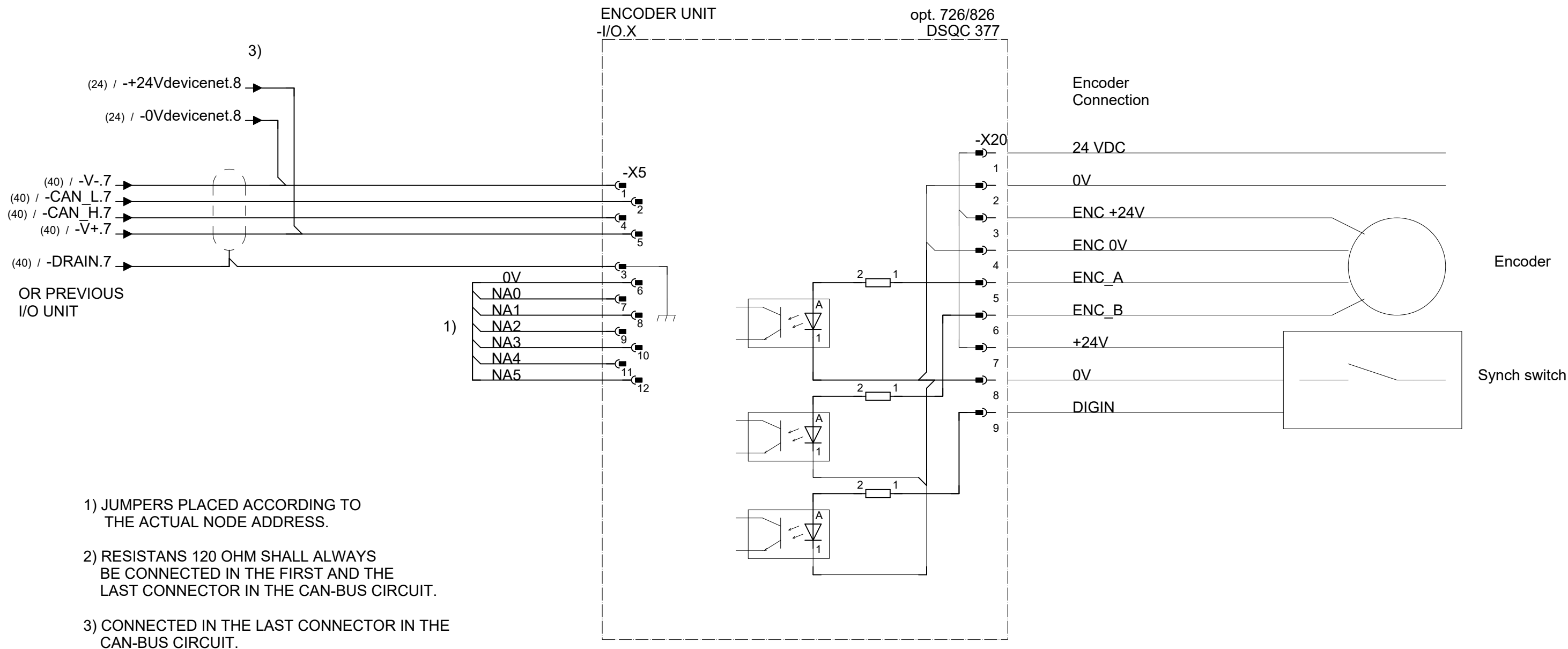
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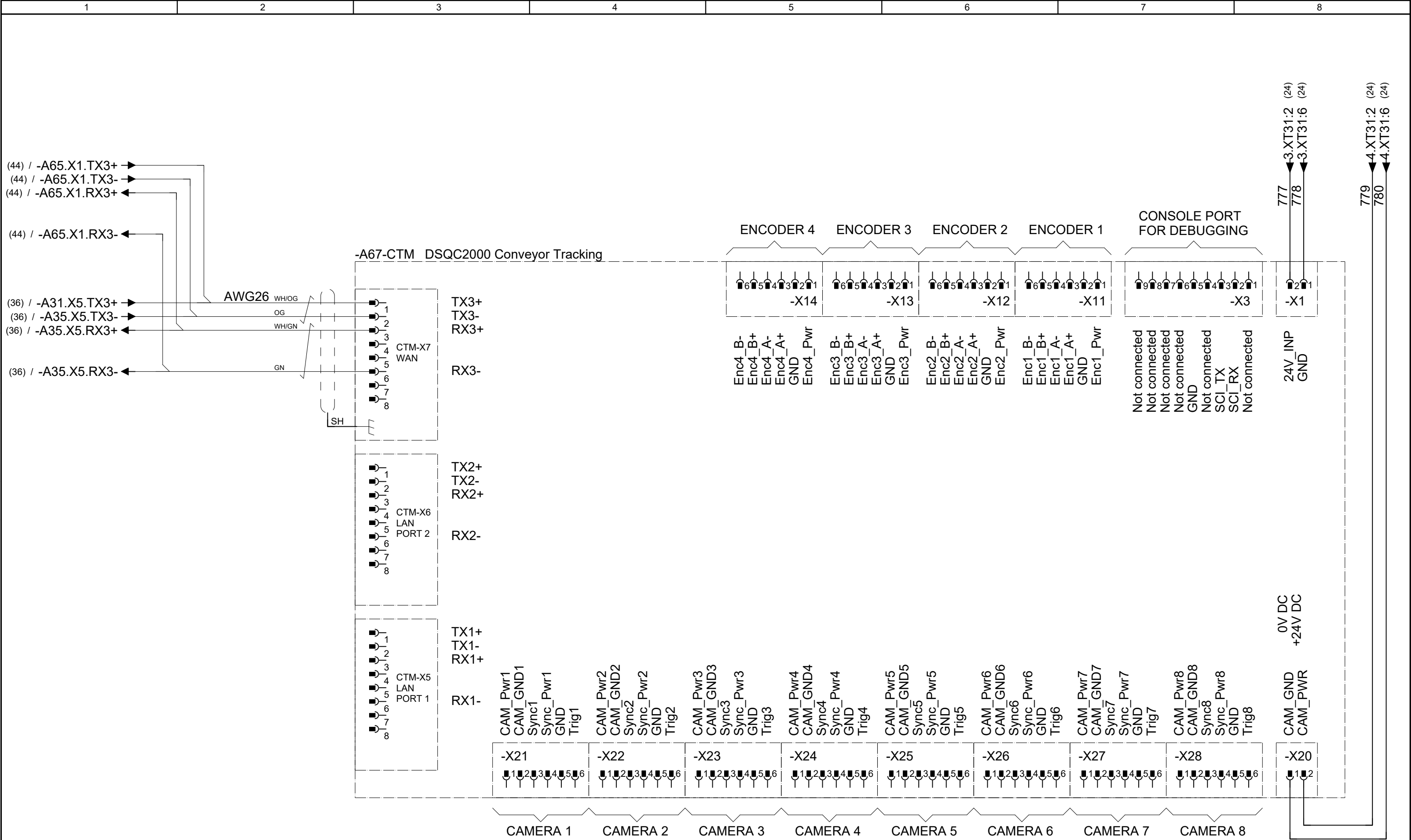
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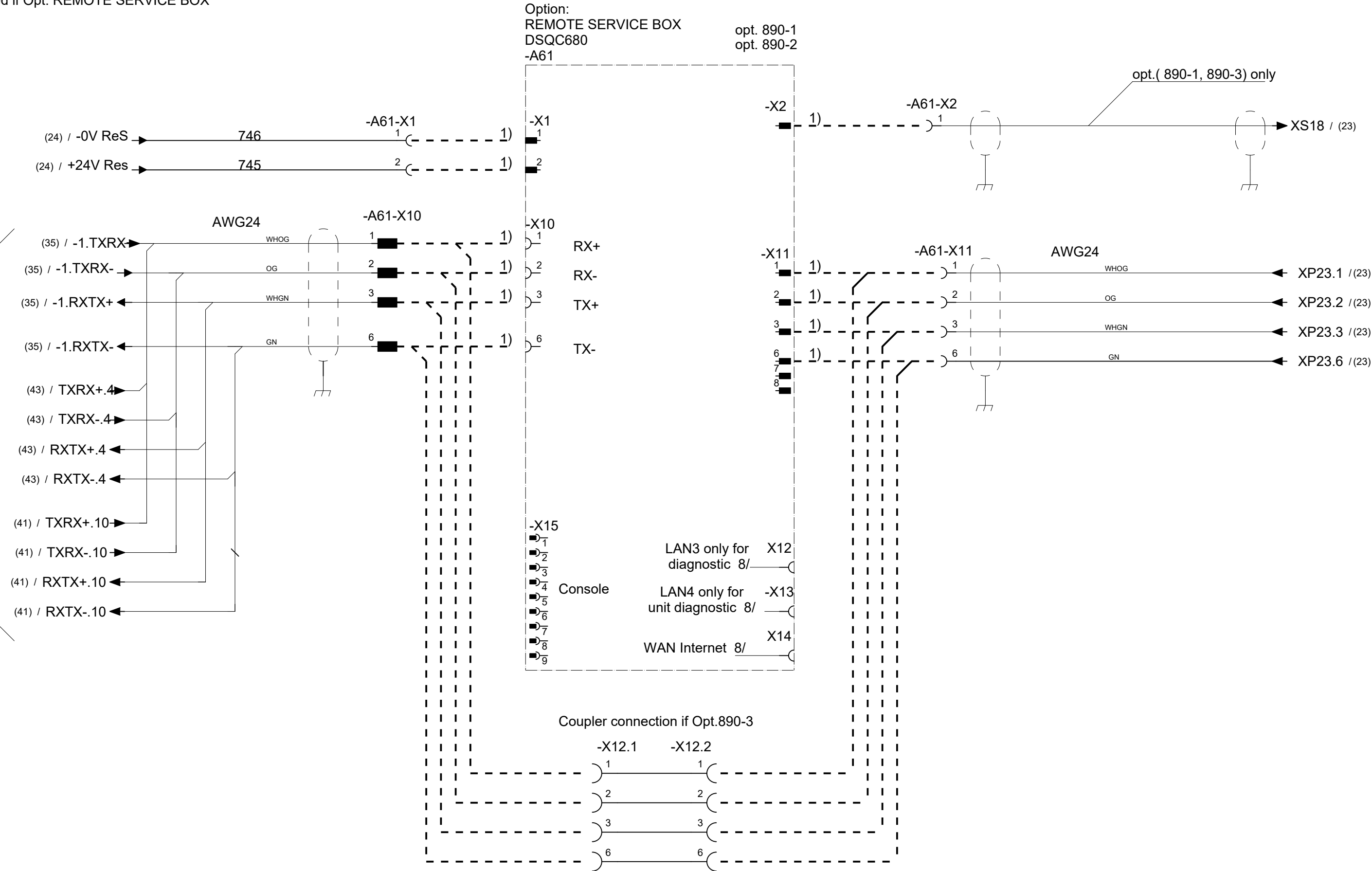
OPTION 1550-1

Latest revision:			Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 CONVEYOR TRACKING MODULE, DSQC 2000	Status: Approved	Plant: =		
						Location: + Sublocation: +		
Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08			Document no. 3HAC024480-011		Rev. Ind 11	Page53.5 Next 54 Total 157

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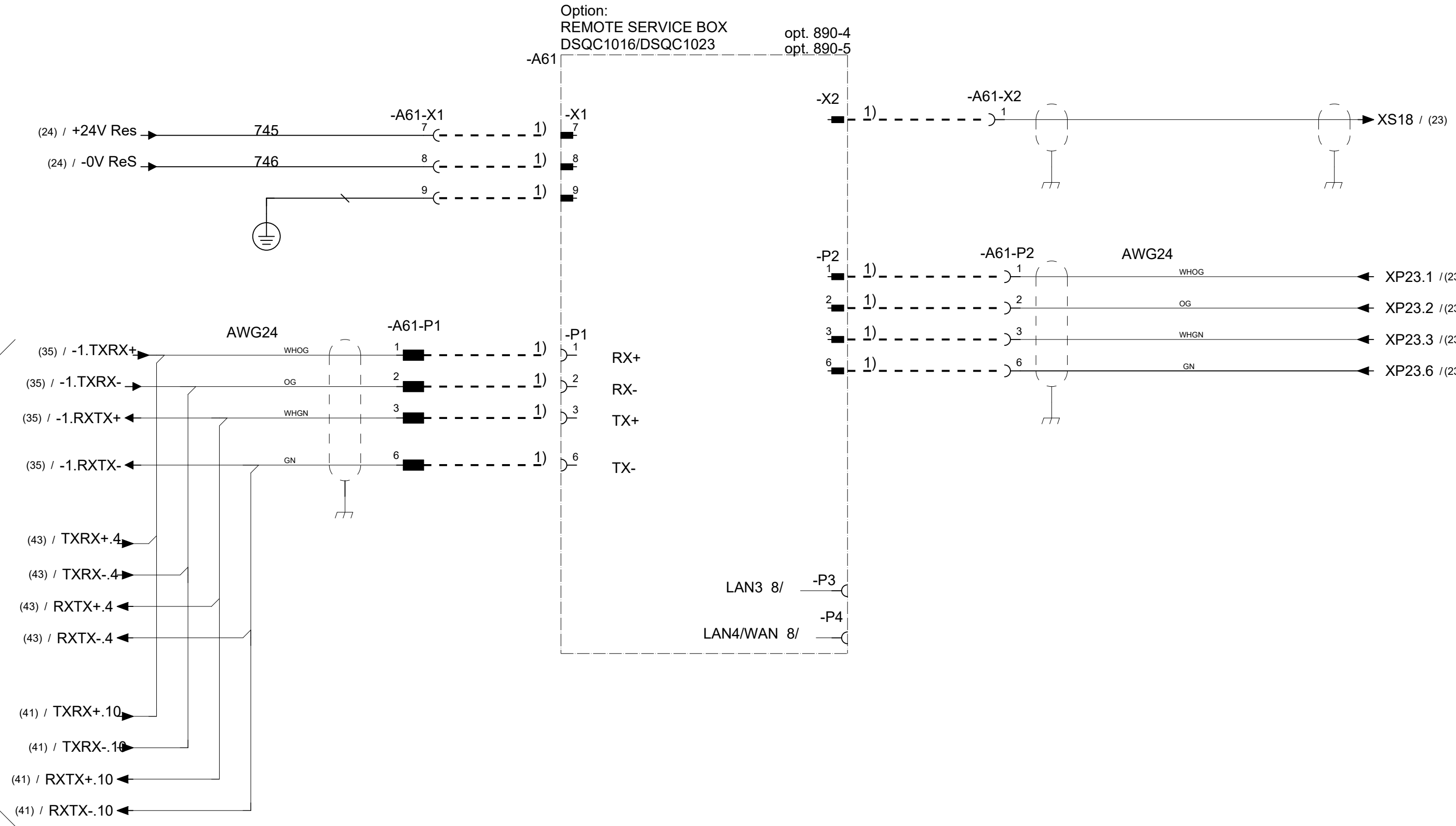
1) Only connected if Opt. REMOTE SERVICE BOX

A31.X2
or
A62.X4
or
A64.X5
if opt. 1341-1



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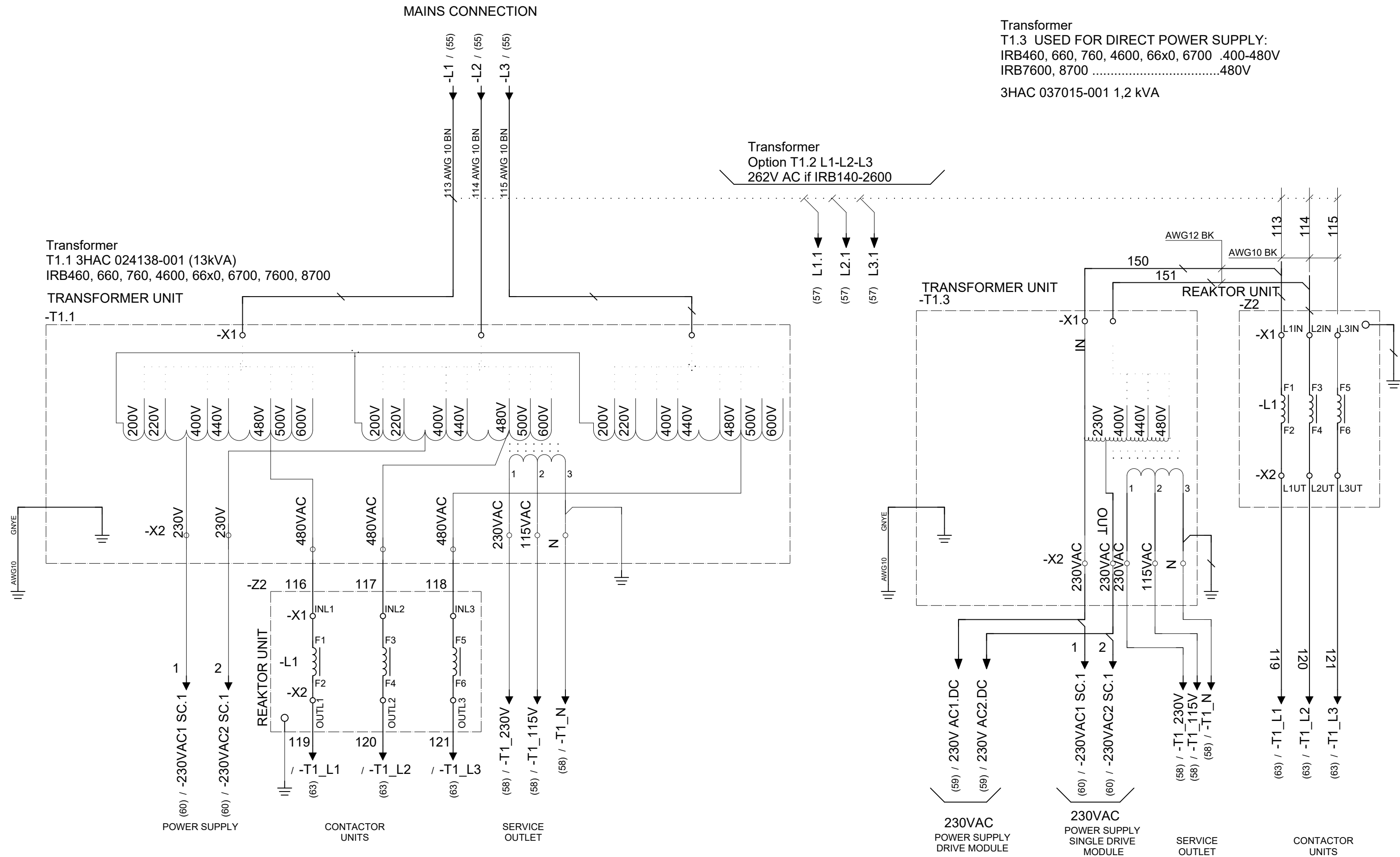
1) Only connected if Opt. REMOTE SERVICE BOX





Latest revision:				Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 MAINS CONNECTION XP0, Q1, F6, Z1, Z3	Status: Approved	Plant: =	
							Location: +	
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								Total 157

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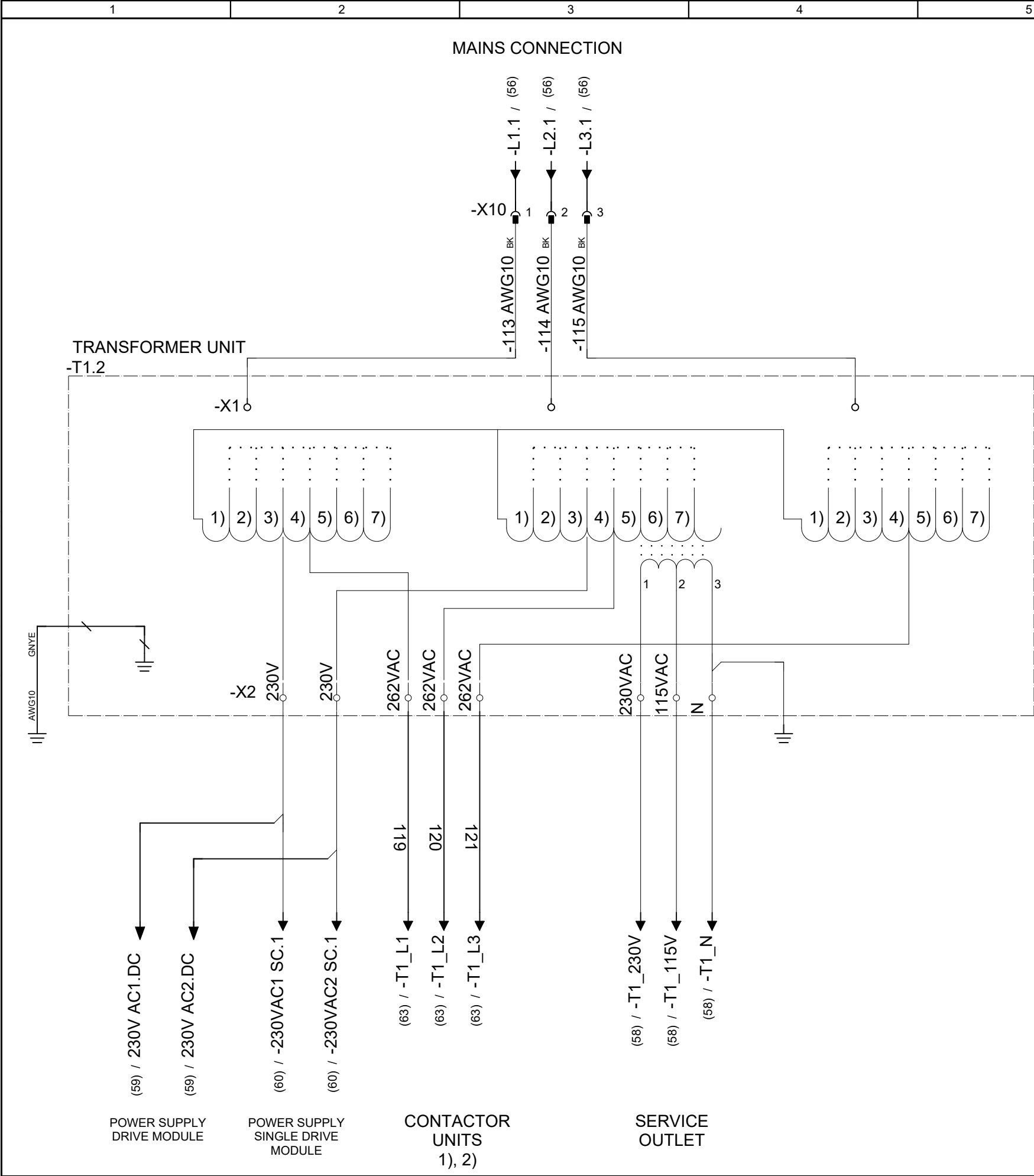
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Prepared by, date:T Stålnacke 201810	Approved by, date:S Ögren	2018-10-08

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IRC5 DESIGN 14 Rel: 18.2 TRANSFORMER UNIT 480V T1.1, T1.3, Z2, X10

Status: Approved	Plant: Location: Sublocation:+	= +
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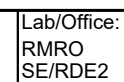
Option: Transformer T1.2 L1-L2-L3 = 262V
if IRB120 - 360, 14x0 - 44x0, 6400R
T1.2

	(4,2kVA)	(4,2kVA)	(4,2kVA)	(6,0kVA)
Terminal	3HAC037016-001	3HAC037017-001	3HAC037018-001	3HAC024180--001
1)	200V	400V	440V	200V
2)	220V	—	480V	220V
3)	—	—	500V	400V
4)	—	—	600V	440V
5)	—	—	—	480V
6)	—	—	—	500V
7)	—	—	—	600V



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Approved by, date:S Ögren	2018-10-08
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OPTION : SERVICE OUTLET F4, F5, X22

Status:	Approved
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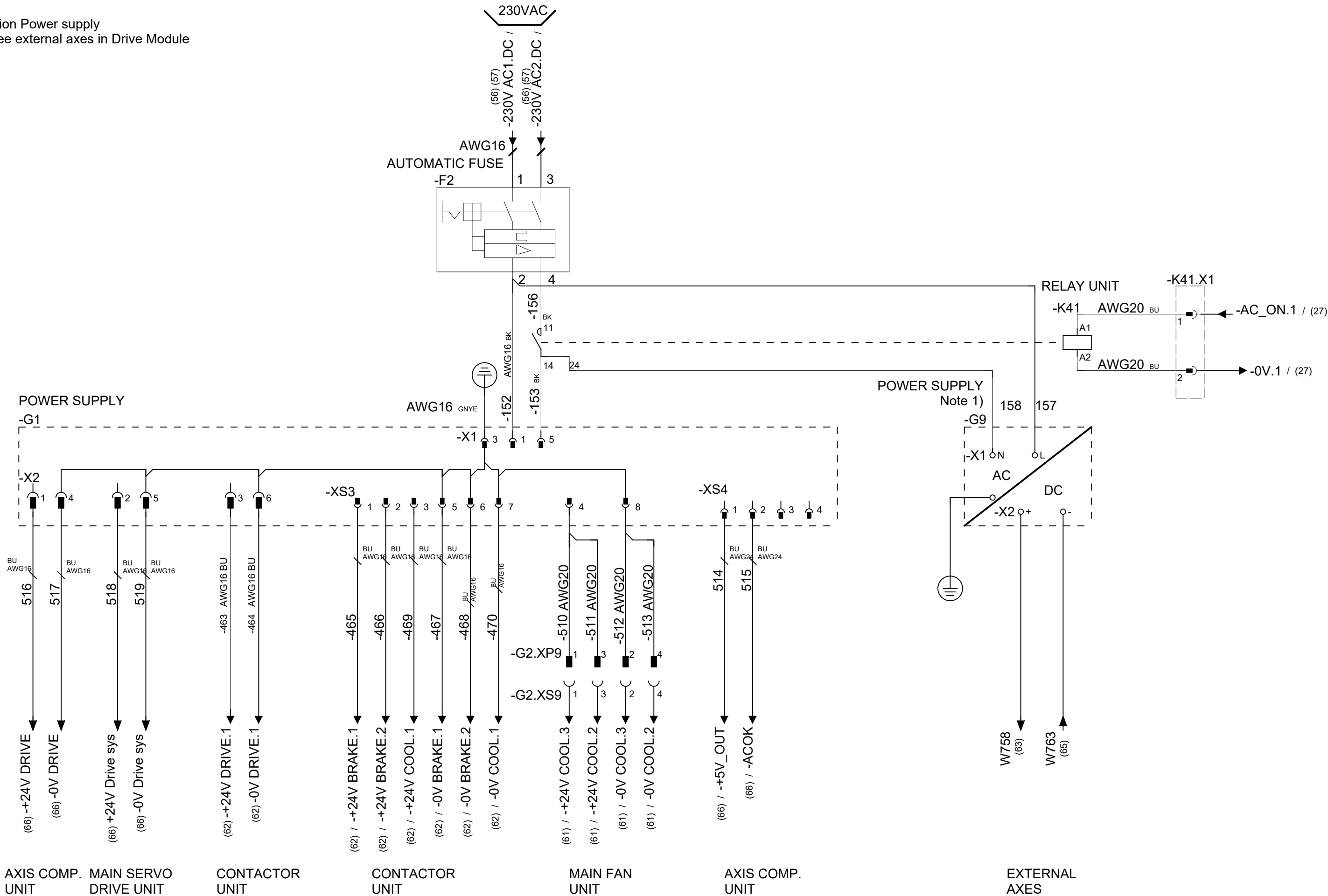
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1) Option Power supply
for three external axes in Drive Module



A21.X7 PANEL BOARD

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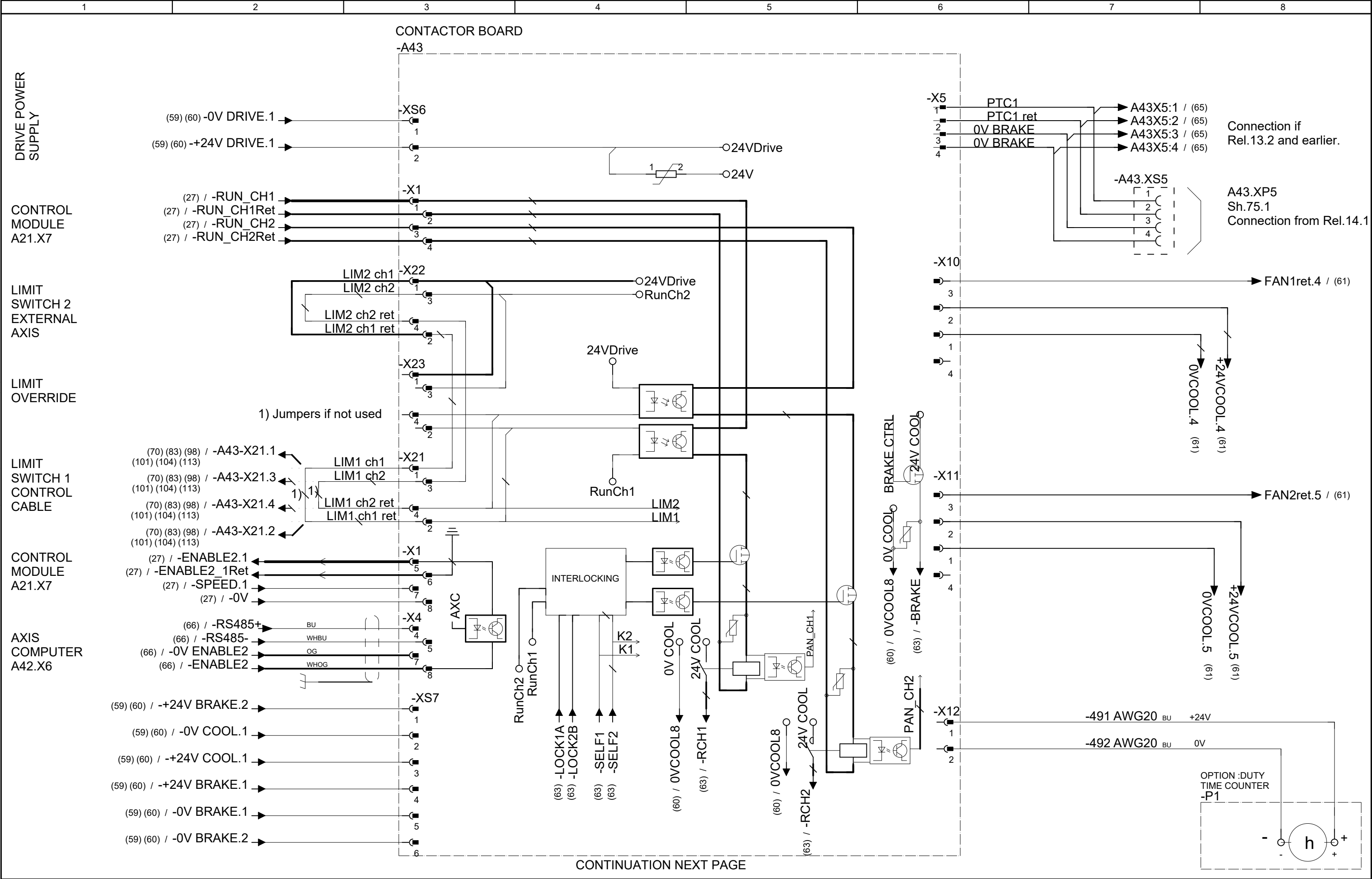
	Lab/Office: RMRO SE/RDE2

IRC5 DESIGN 14 Rel: 18.2 POWER SUPPLY DSQC 626 AND 627 FOR DRIVE MODULE F2, G1, G9, K41.X1	

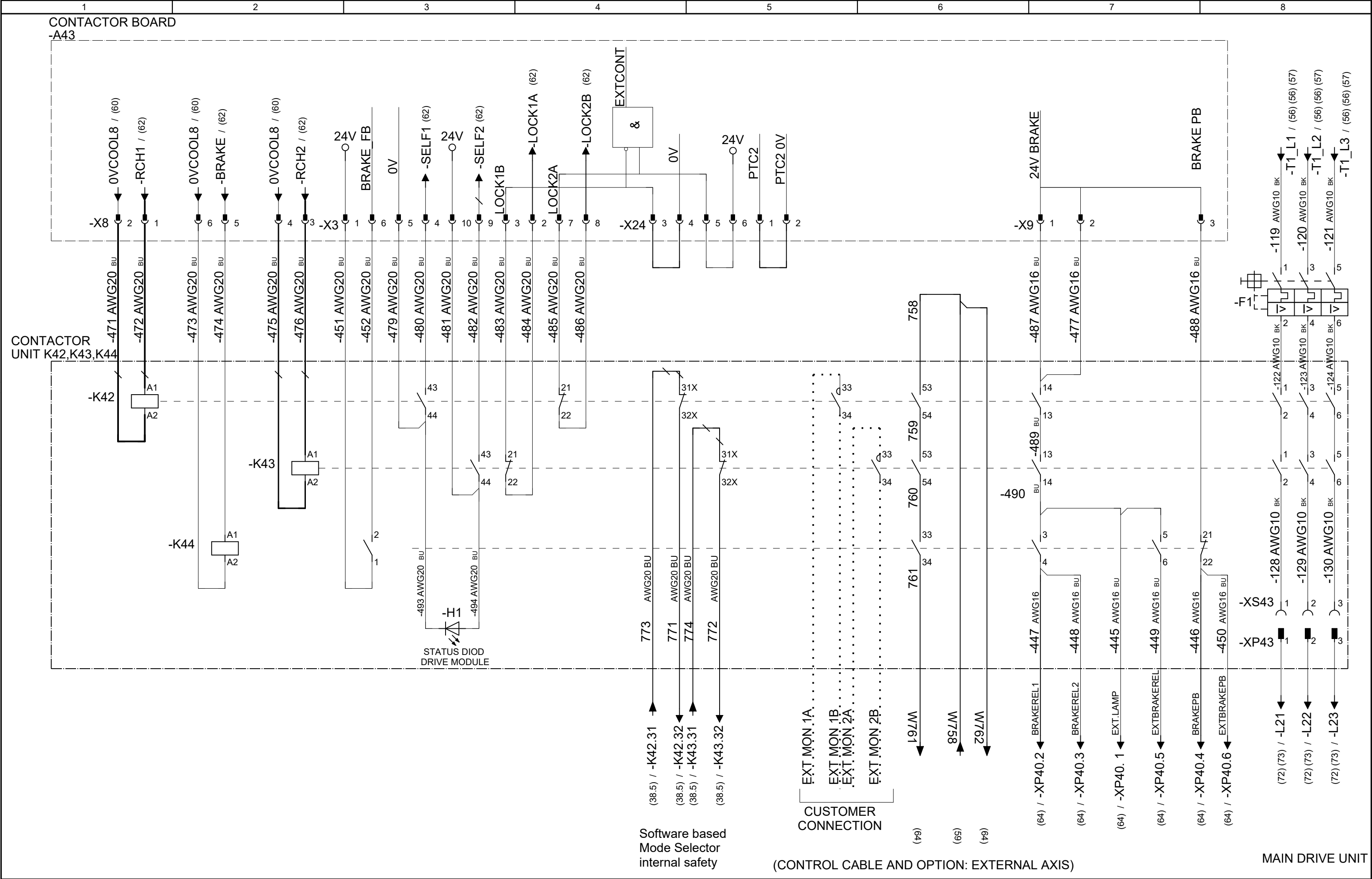
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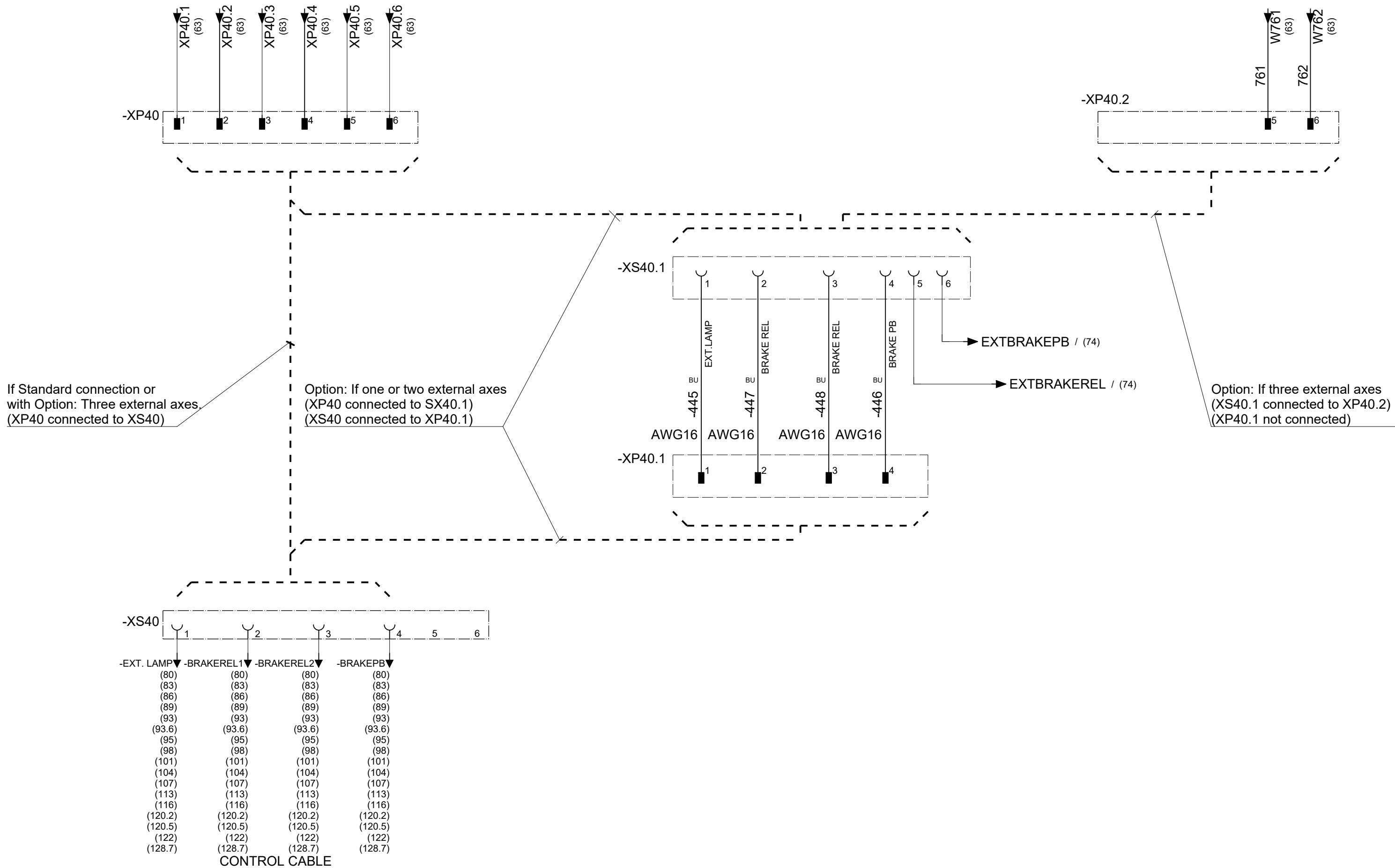
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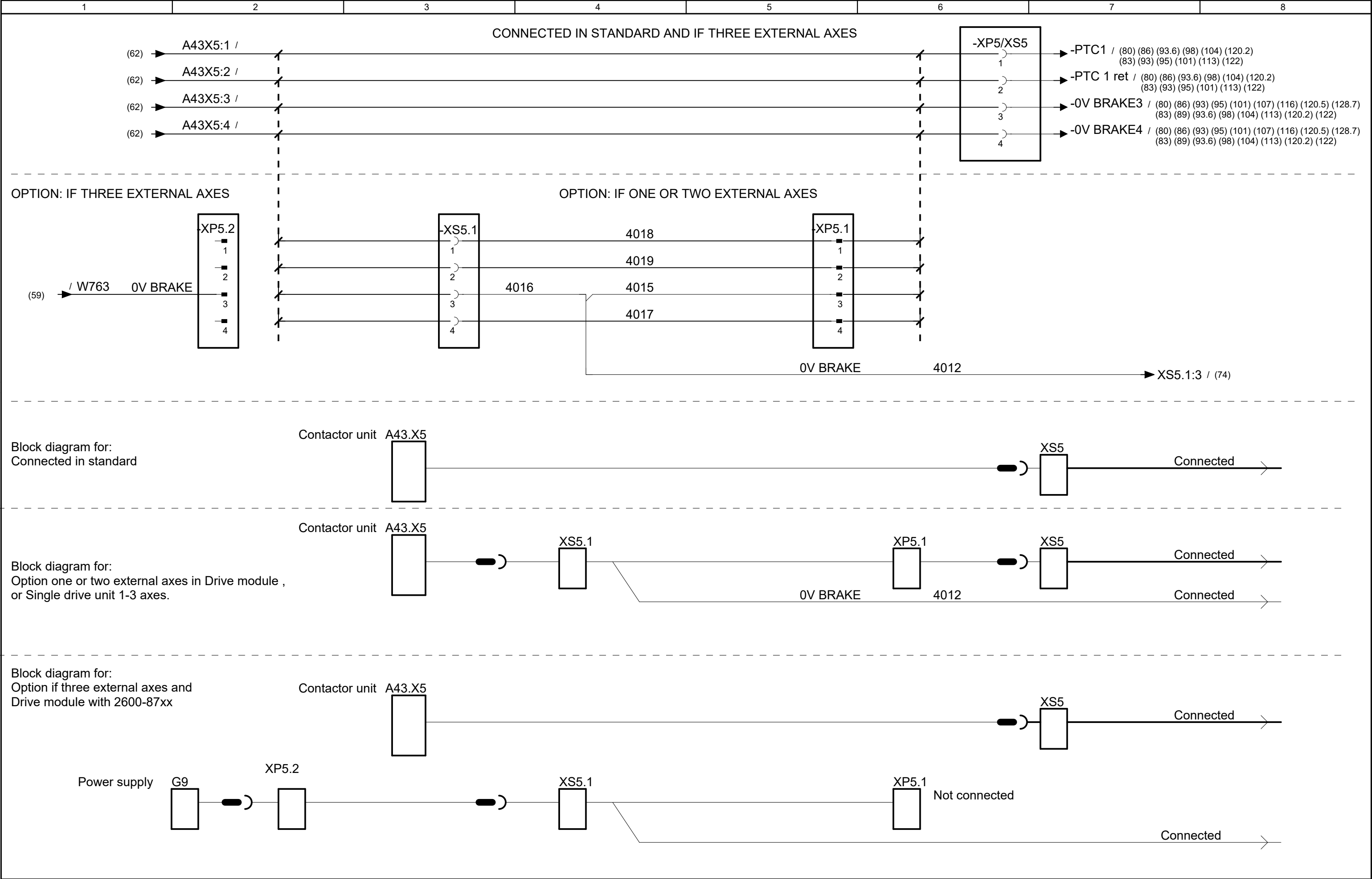
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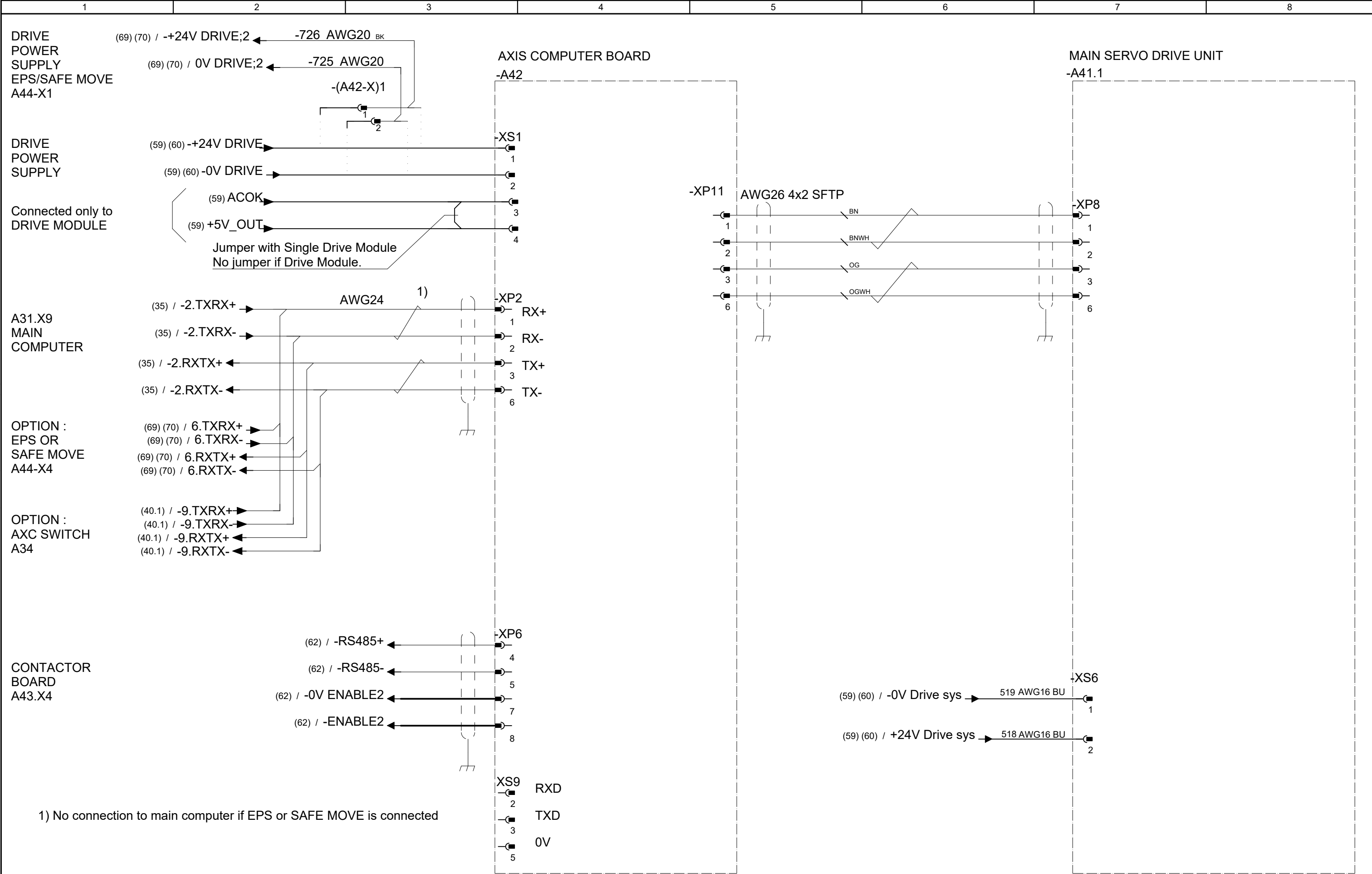
Latest revision:			Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 CONTACTOR UNIT A43, K42, K43, K44	Status: Approved		Plant: = Location: + Sublocation: +		
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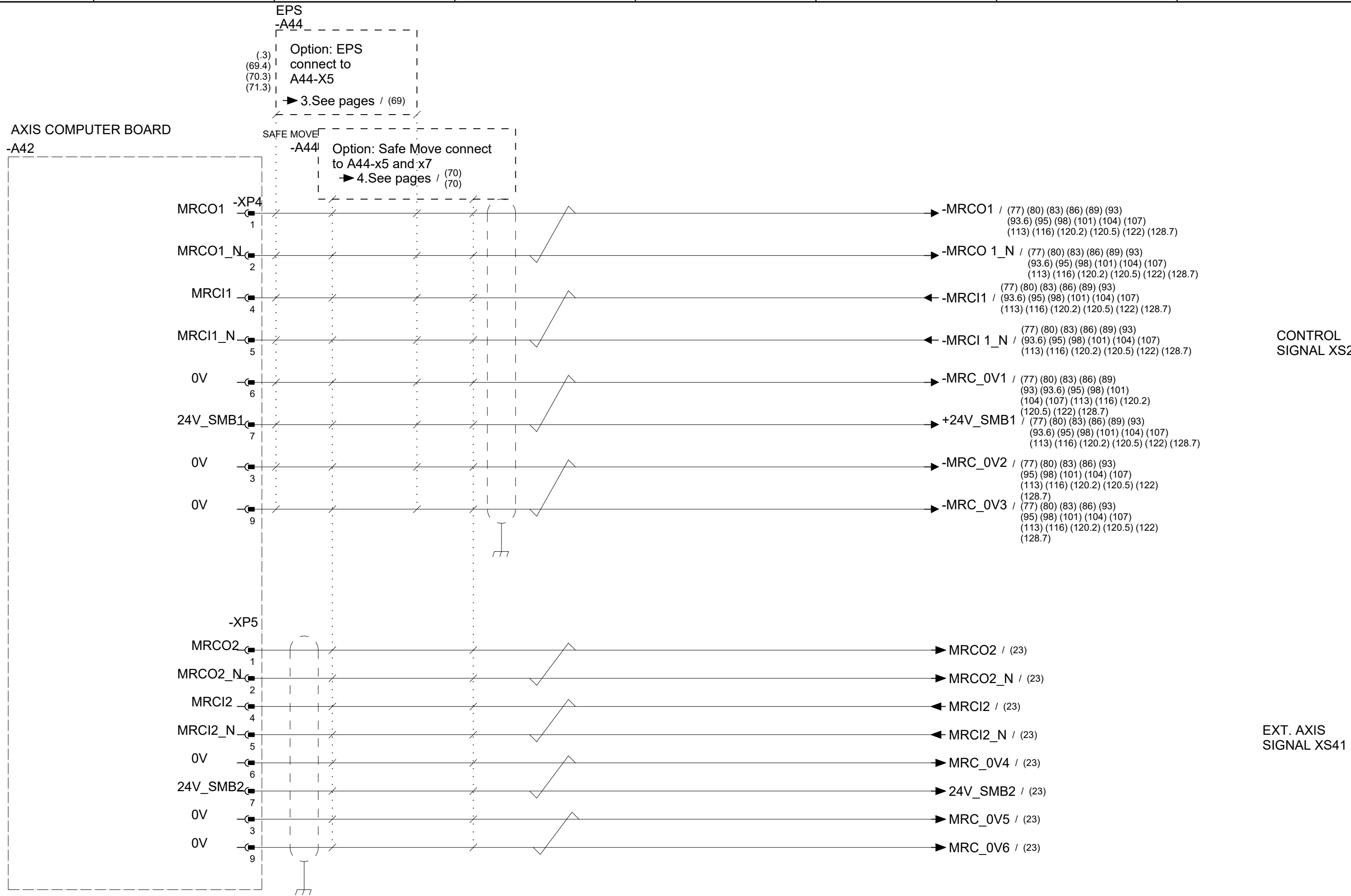
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IRC5 DESIGN 14 Rel: 18.2
AXIS COMPUTER UNIT A42, A44

Status:
Approved

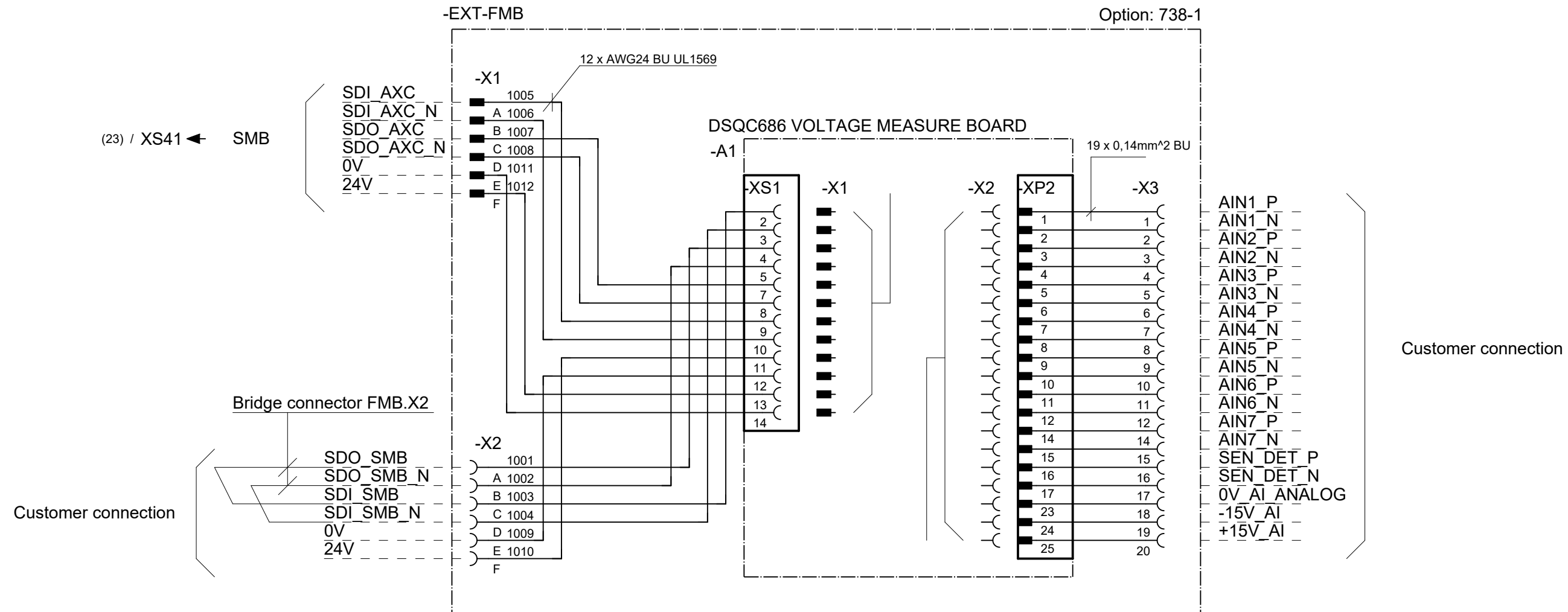
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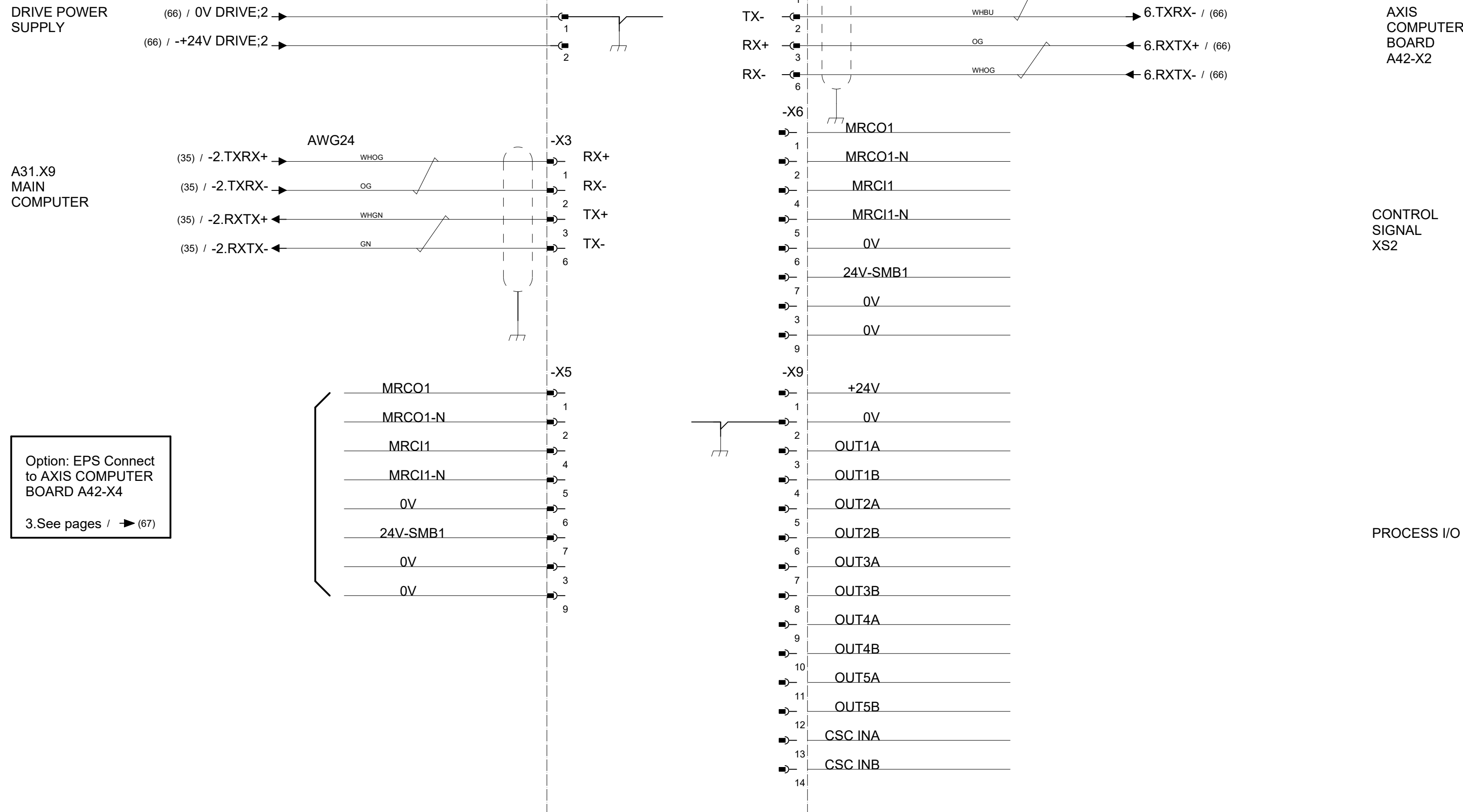
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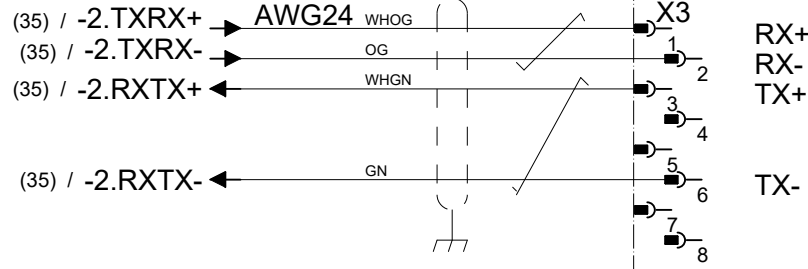


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DRIVE POWER
SUPPLY

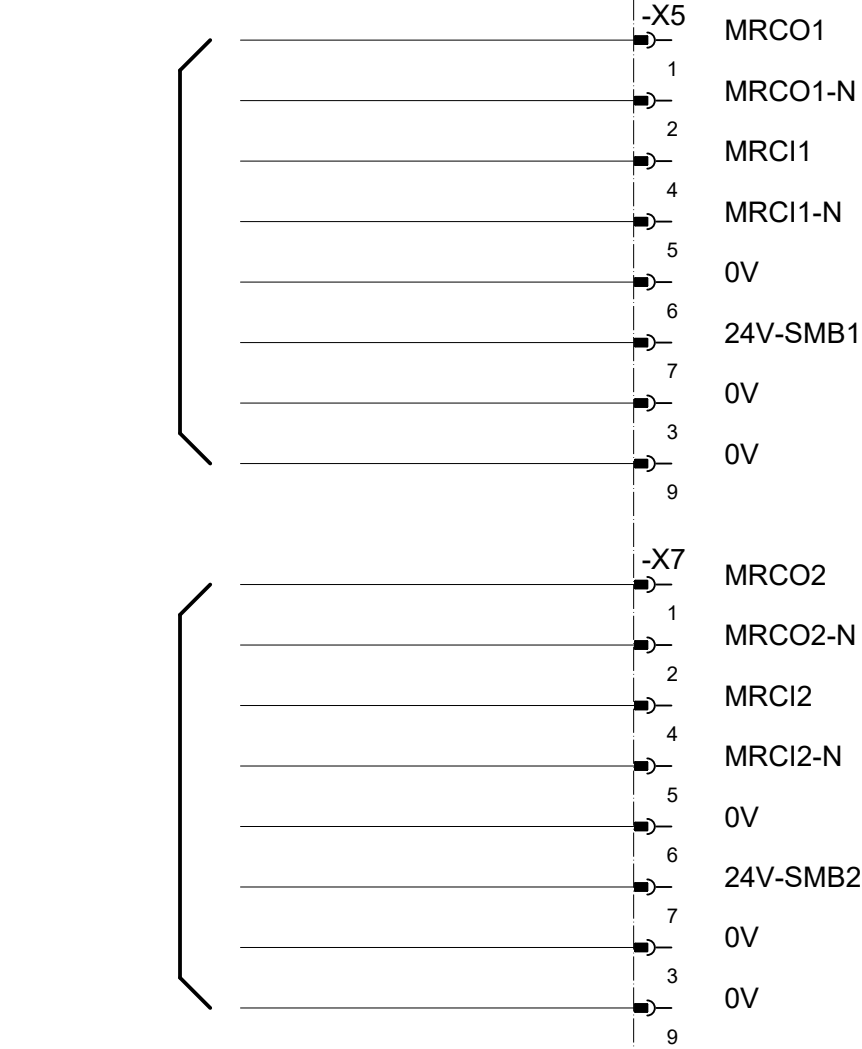
(66) / -0V DRIVE;2
(66) / -+24V DRIVE;2

MAIN
COMPUTER
A31.X9



Connect to
AXIS COMPUTER
BOARD
A42-X4
➔ 4. See pages / (67)

Connect to
AXIS COMPUTER
BOARD
A42-X5
➔ 4. See pages / (67)



Relay output
pair 1

RelOut 1A X13

1

-A43-X21.1 / (62)

Relay output
pair 2

RelOut 1B

2

-A43-X21.2 / (62)

RelOut 2A

3

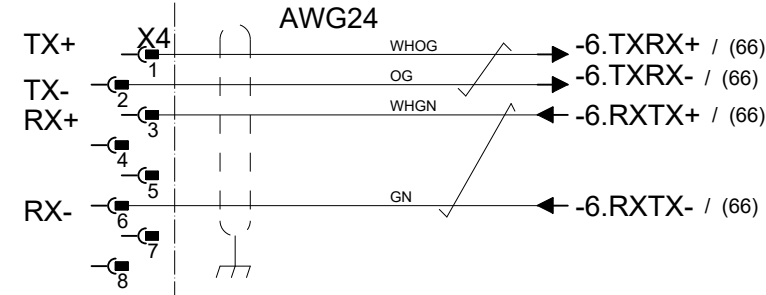
-A43-X21.3 / (62)

RelOut 2B

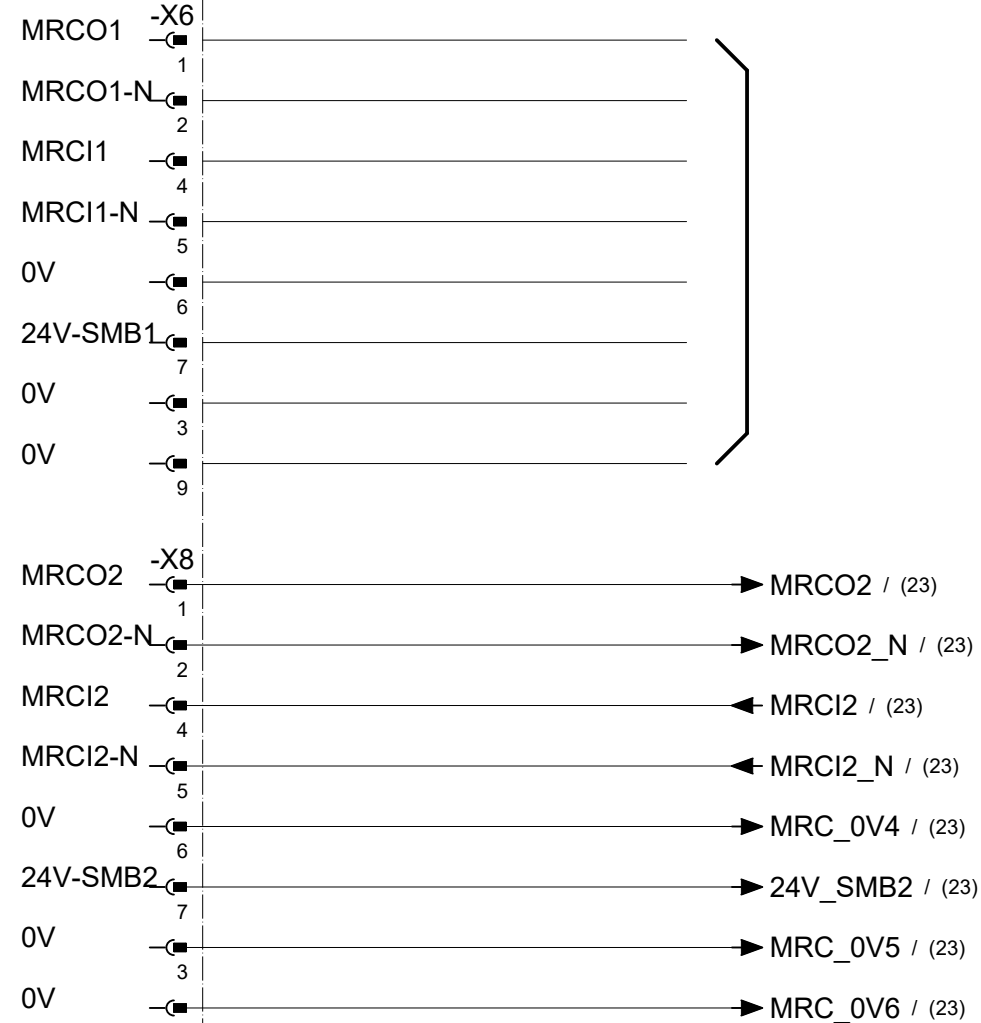
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-A43-X21.4 / (62)

CONTACTOR UNIT
X21



AXIS
COMPUTER
BOARD
A42.X2



CONTROL
SIGNAL
XS2

EXT. AXIS
SIGNAL
XS41

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IRC5 DESIGN 14 Rel: 18.2
SAFE MOVE A44, DSQC647

Status:
Approved

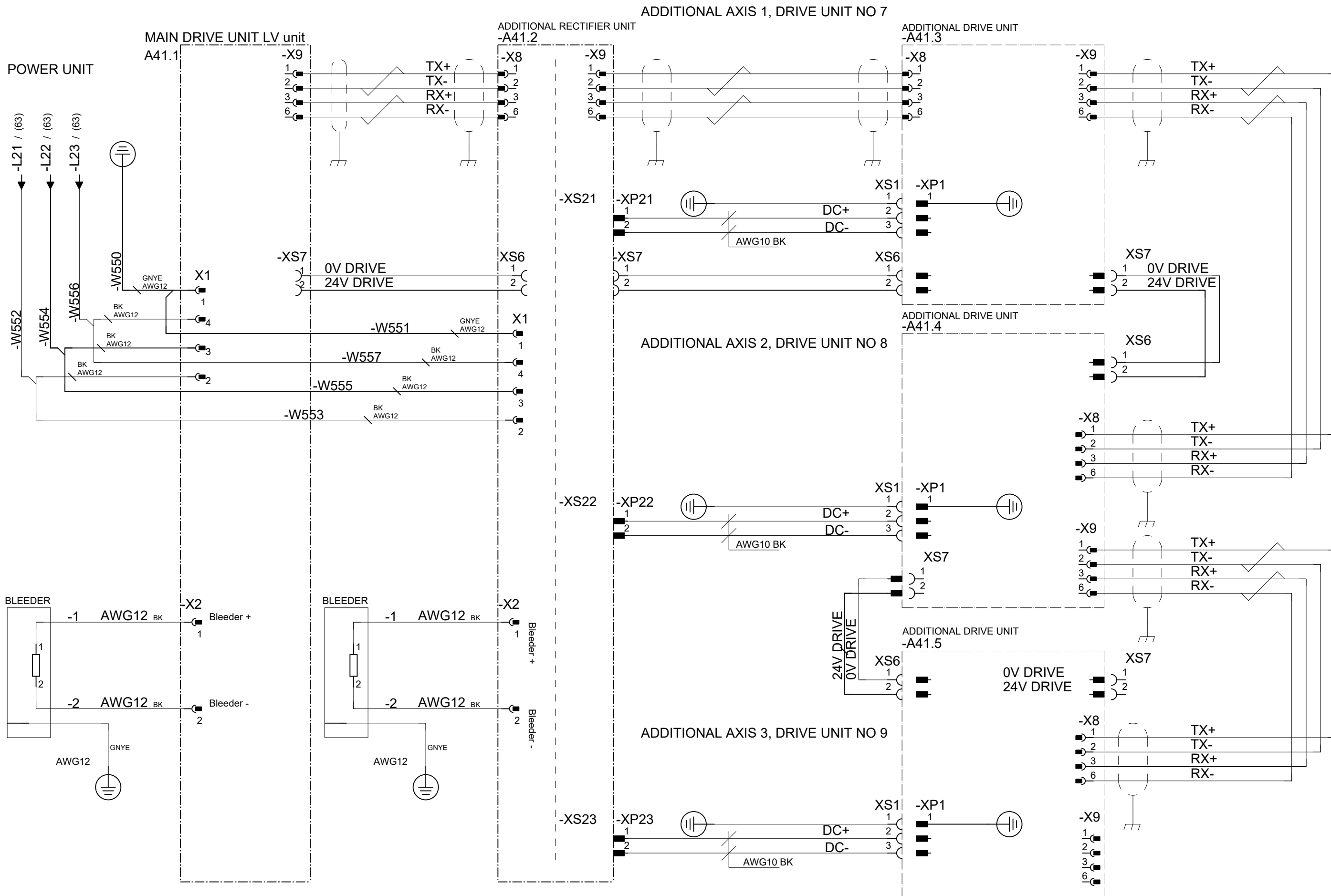
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IRC5 DESIGN 14 Rel: 18.2
MAIN DRIVE UNIT and ADDITIONAL AXIS 1-3 for LV
A41.1 ,2 ,3 ,4 ,5

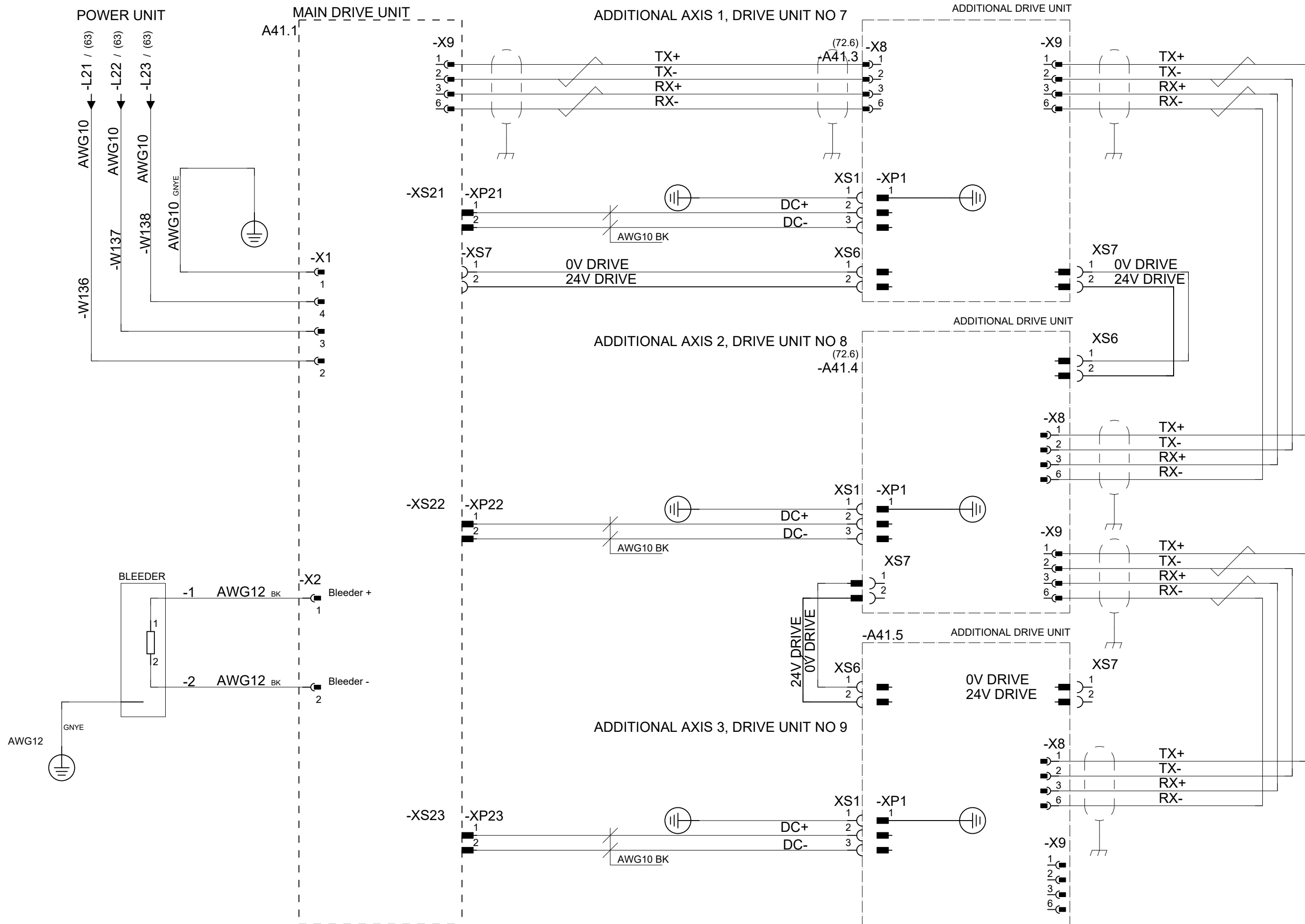
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IRC5 DESIGN 14 Rel: 18.2
MAIN DRIVE UNIT and ADDITIONAL AXIS 1-3
for HV A41.1, 3, 4, 5

Status:
Approved

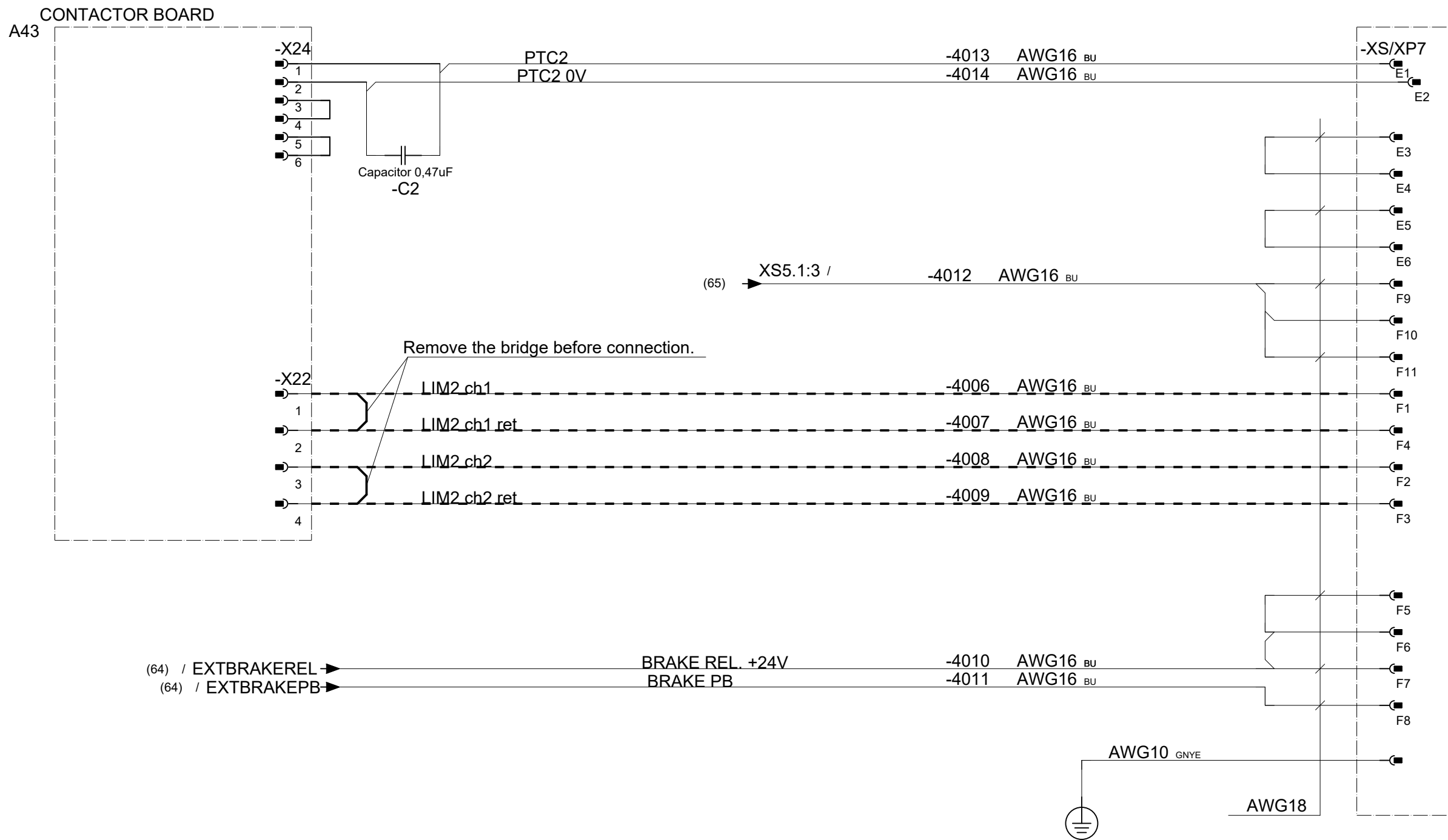
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IRC5 DESIGN 14 Rel: 18.2
EXTERNAL AXIS A43, XS/XP7
Only for release 13.2 and earlier

Status:
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Plant: =
Location: +
Sublocation: +

Document no.

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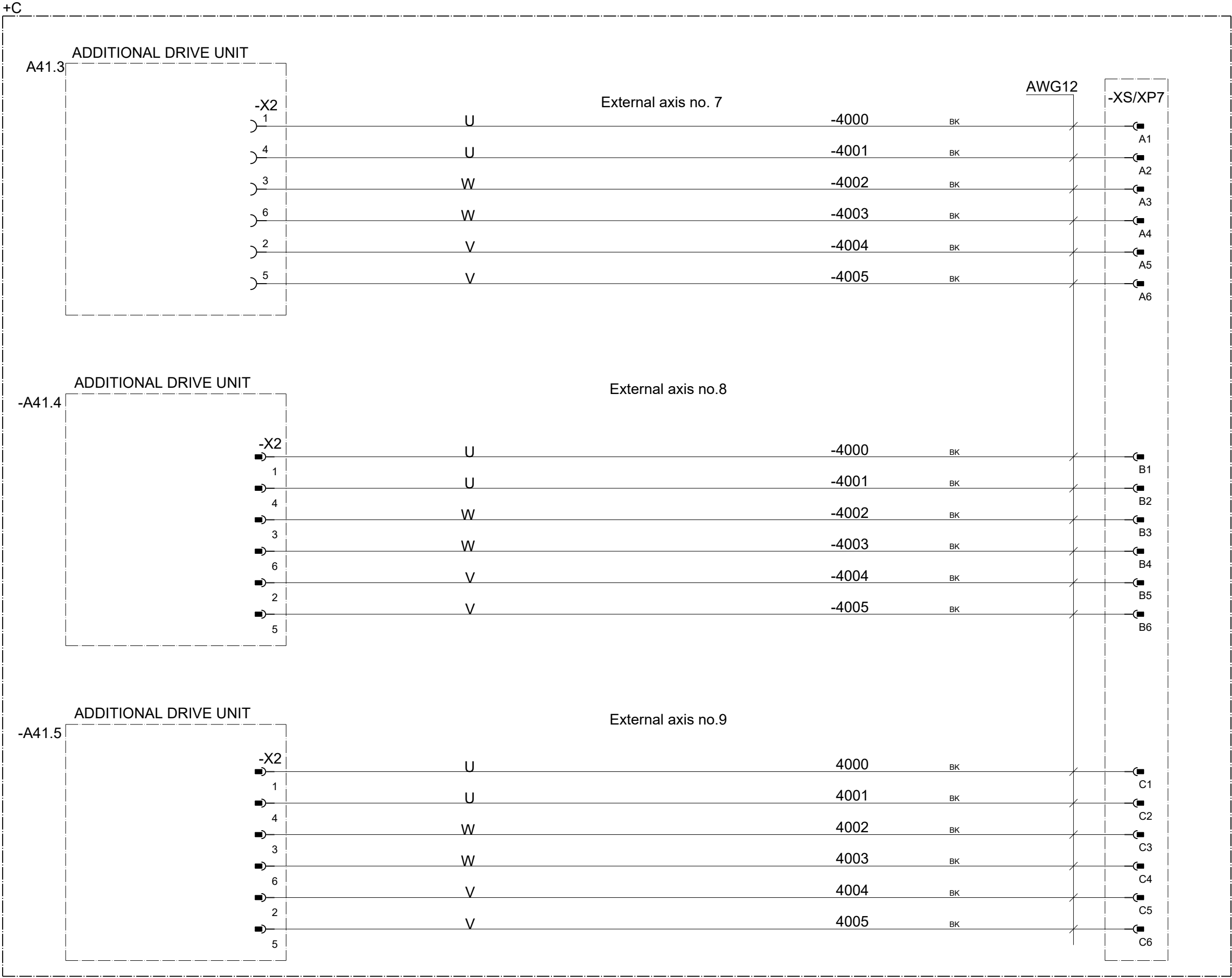
11

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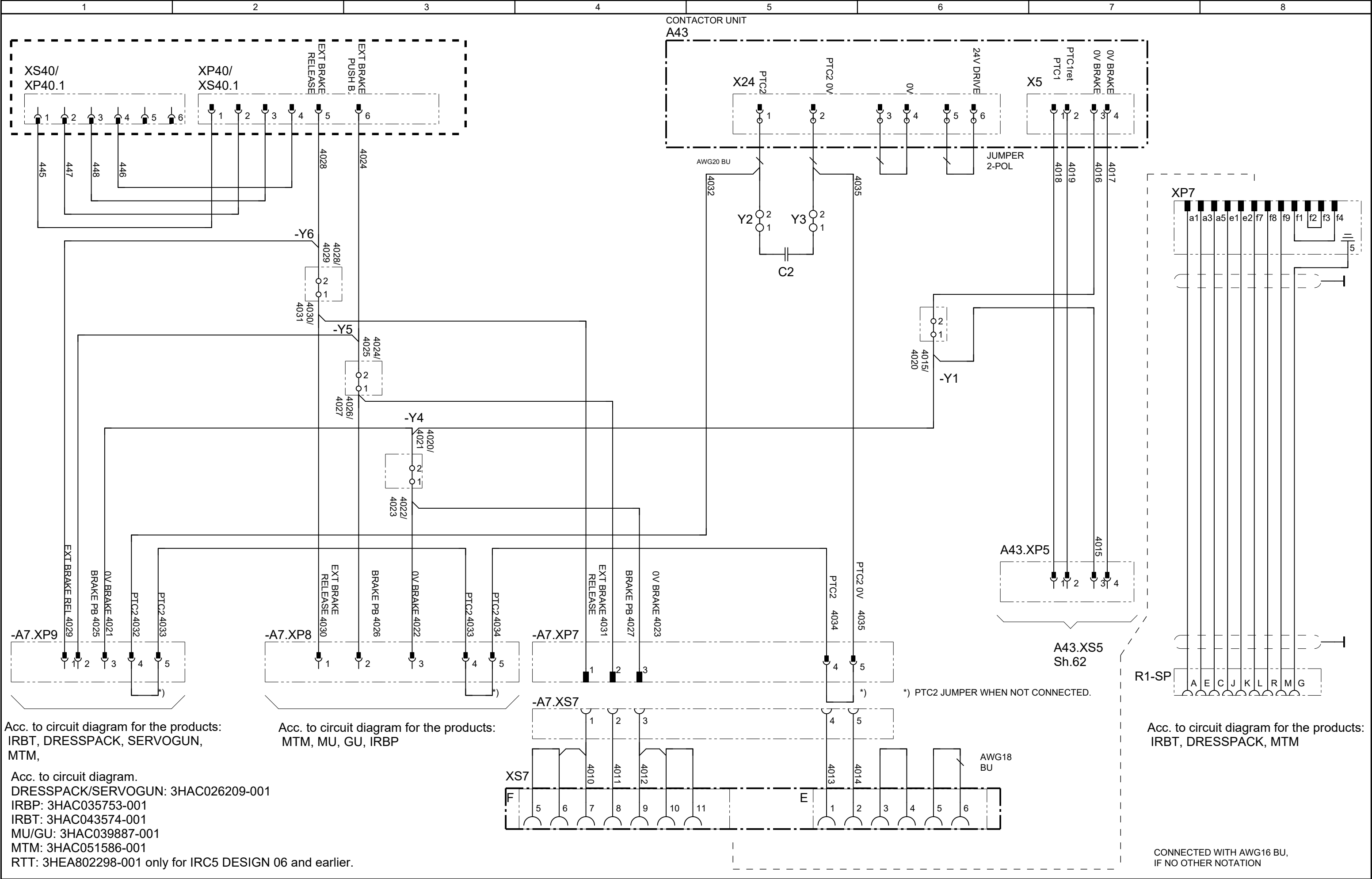
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Acc. to circuit diagram for the products:
IRBT, DRESSPACK, SERVOGUN,
MTM,

Acc. to circuit diagram.
DRESSPACK/SERVOGUN: 3HAC026209-001
IRBP: 3HAC035753-001
IRBT: 3HAC043574-001
MU/GU: 3HAC039887-001
MTM: 3HAC051586-001
RTT: 3HEA802298-001 only for IRC5 DESIGN 06 and earlier.

Acc. to circuit diagram for the products:
MTM, MU, GU, IRBP

Acc. to circuit diagram for the products:
IRBT, DRESSPACK, MTM

CONNECTED WITH AWG16 BU,
IF NO OTHER NOTATION

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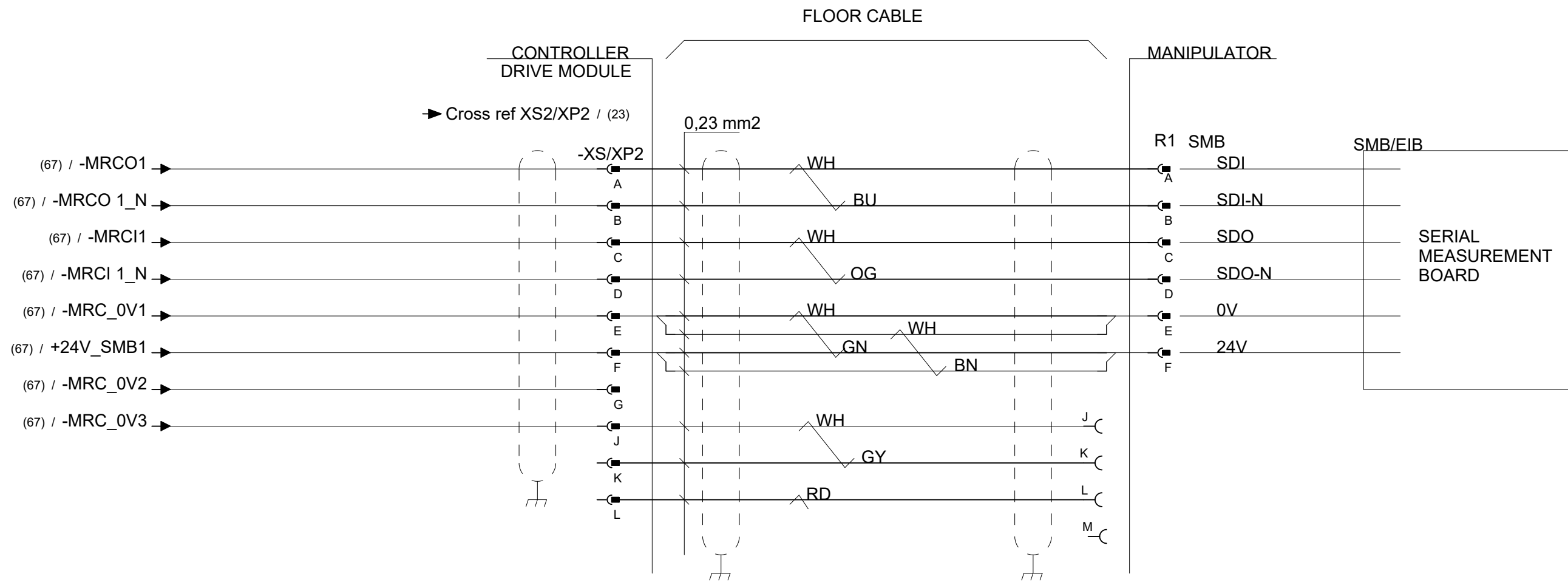
IRC5 DESIGN 14 Rel: 18.2 EXTERNAL AXES ADAPTER HARNESS XS/XP40, A43:XP5, A7:XP7 :XP8 :XP9 Only for rel.14.1 and later.

Status: Approved	Plant: Location: Sublocation:+	Rev. Ind 11	Page75.1 Next 76 Total 157
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According to Manipulator circuit diagram 3HAC031408-003

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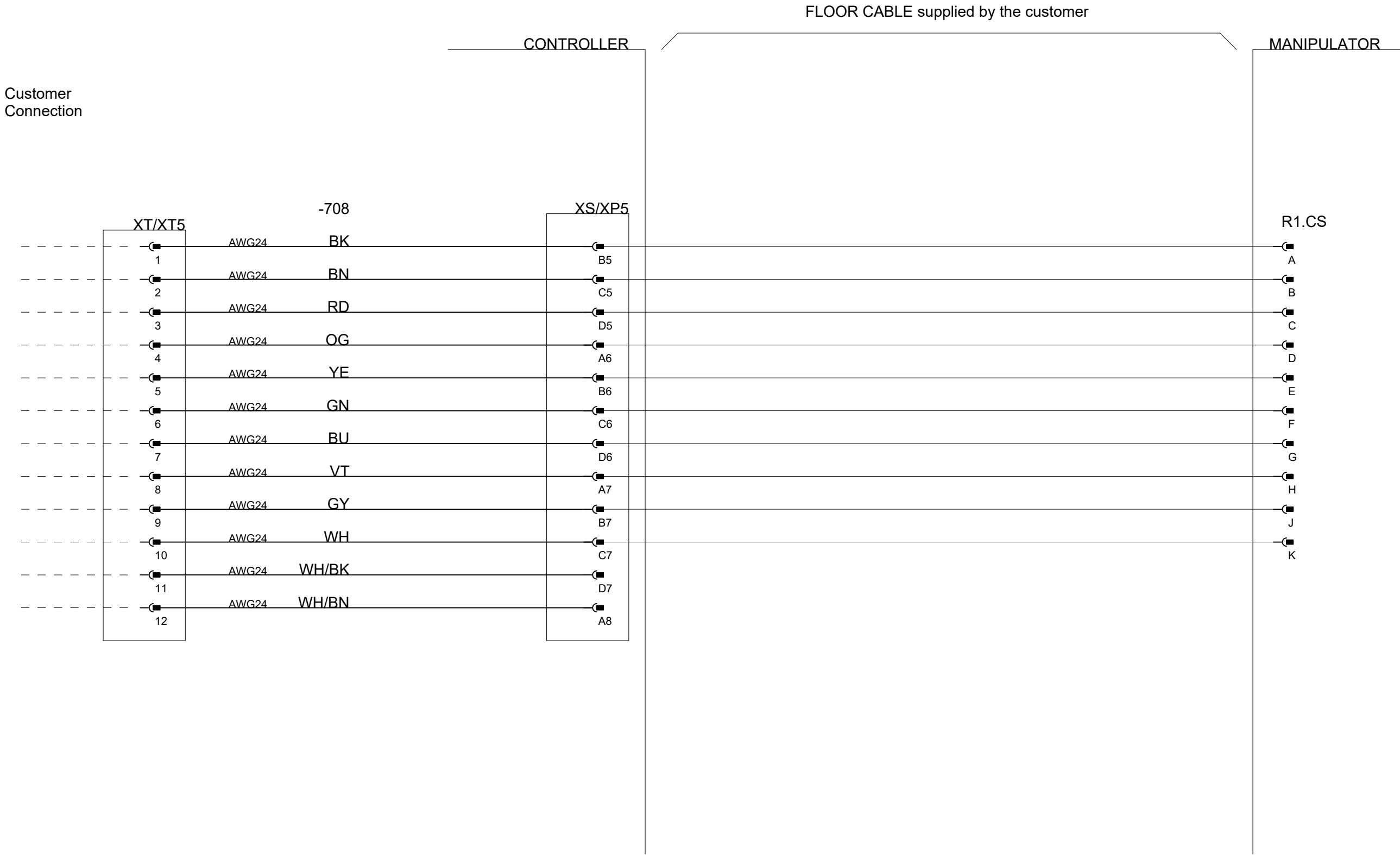


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IRC5 DESIGN 14 Rel: 18.2
CONTROL CABLE
IRB 120

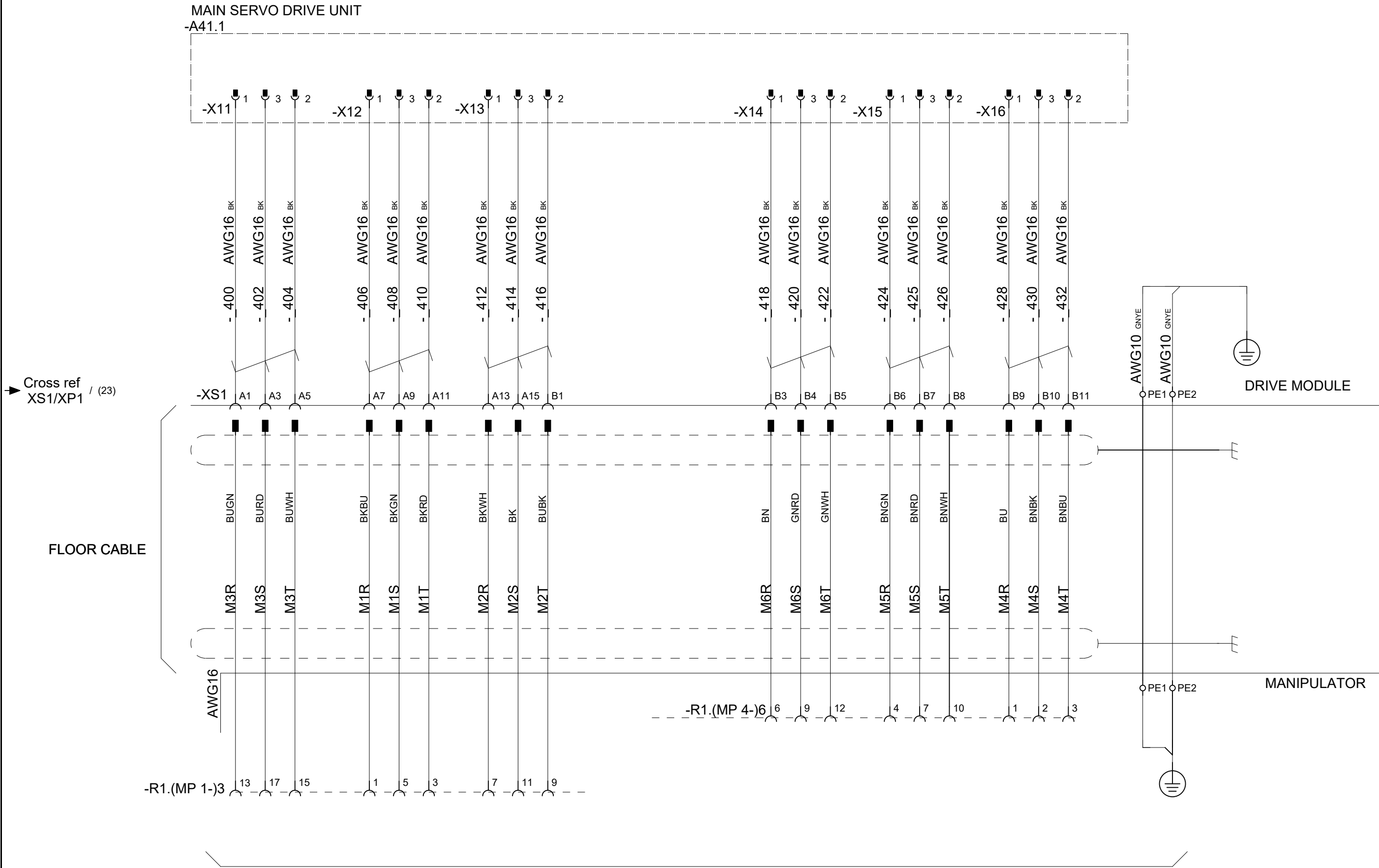
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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
X40

CONTACTOR UNIT
A43-X5

(67) / -MRCO1
(67) / -MRCO 1_N
(67) / -MRCI1
(67) / -MRCI 1_N
(67) / -MRC_0V1
(67) / +24V_SMB1
(67) / -MRC_0V2
(67) / -MRC_0V3

(64) / -EXT. LAMP
(64) / -BRAKEPB
(64) / -BRAKEREL1
(64) / -BRAKEREL2
(65) / -0V BRAKE4
(65) / -PTC1
(65) / -PTC 1 ret
(65) / -0V BRAKE3

- 433 AWG16
- 434 AWG16 BU
- 435 AWG16 BU
- 436 AWG16 BU
- 438 AWG16 BU
- 439 AWG16 BU
- 440 AWG16 BU
- 437 AWG16 BU

CONTROLLER
DRIVE MODULE

-XS2
A
B
C
D
E
F
G
H
J
K
L

-XS1
C7
B16
B12
B13
B14
C2
C1
B15
D2
D1
D3
D4

FLOOR CABLE

0,23 mm2

AWG16

MANIPULATOR

R2.SMB

SDI
SDI-N
SDO
SDO-N
0V
24V

SERIAL
MEASUREMENT
BOARD

BATSUP
BATLD

R1-H1

R1-(MP 4-)6

-R1.140-(MP 1-)3

According to Manipulator circuit diagram 3HAC6816-3

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IRC5 DESIGN 14 Rel: 18.2
CONTROL CABLE
IRB 140

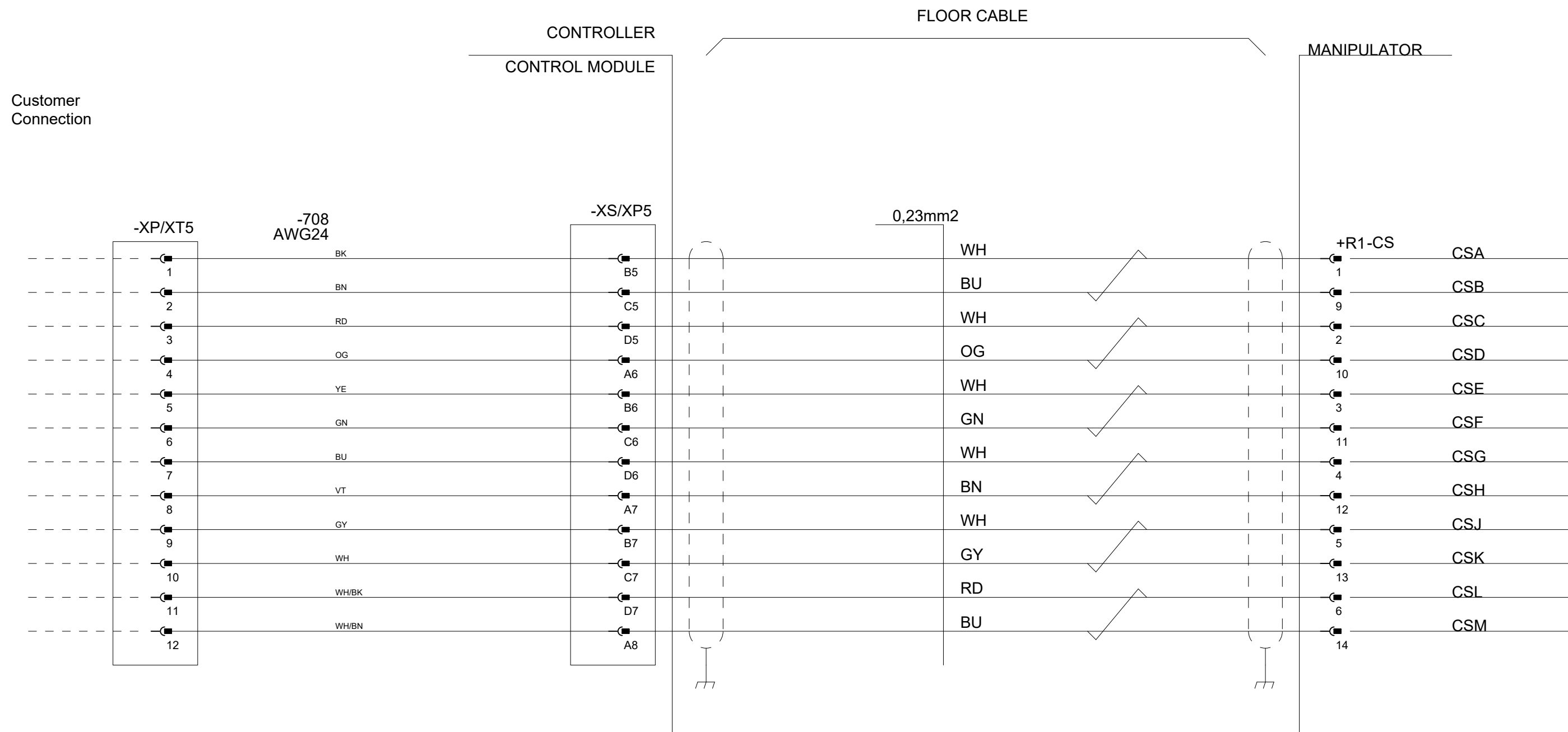
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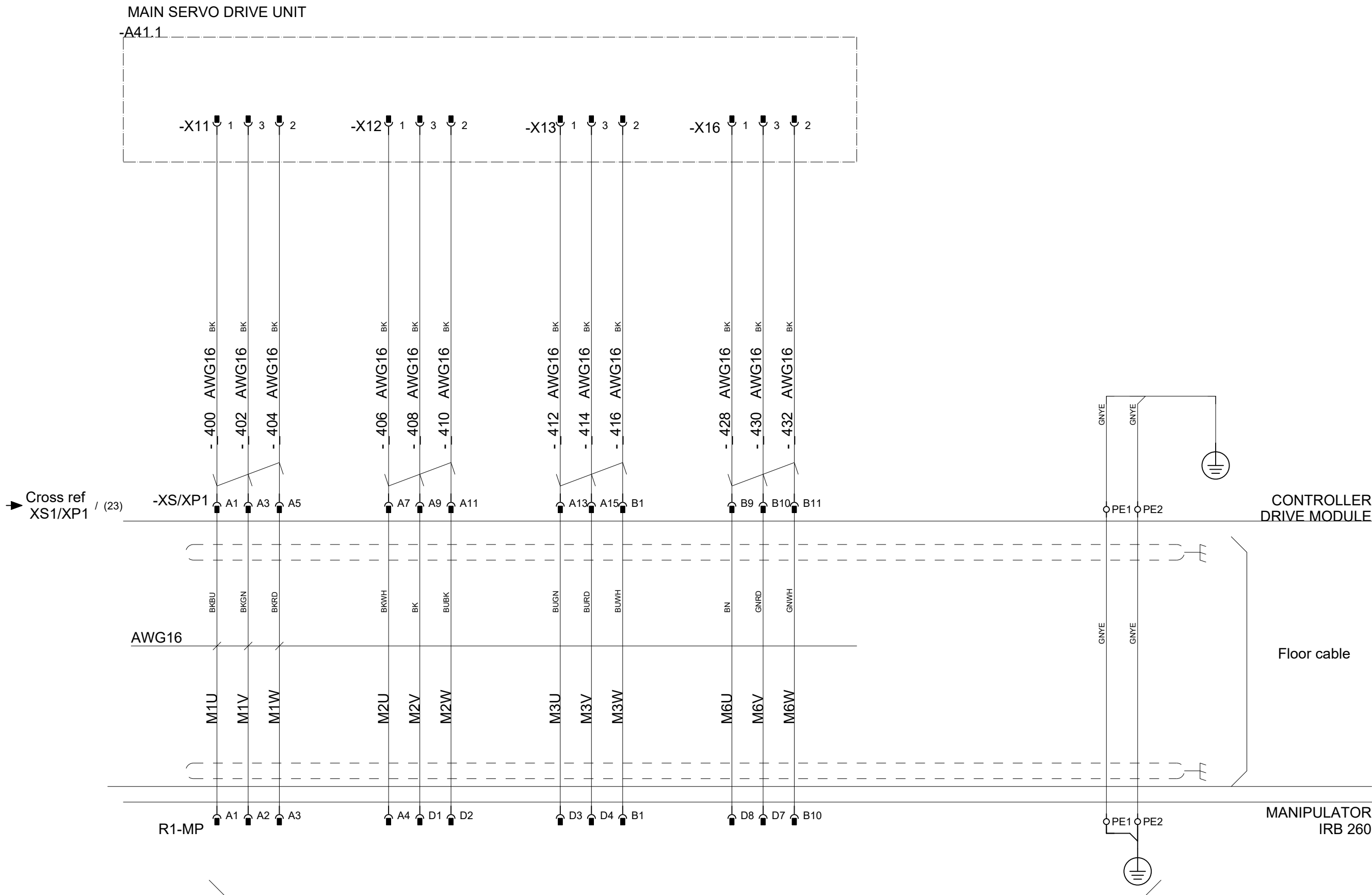
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According to Manipulator circuit diagram 3HAC025611-001

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IRC5 DESIGN 14 Rel: 18.2 SERVO DRIVE UNIT IRB 260

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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
X40

CONTACTOR UNIT
A43-X5

CONTACTOR UNIT
A43-X21

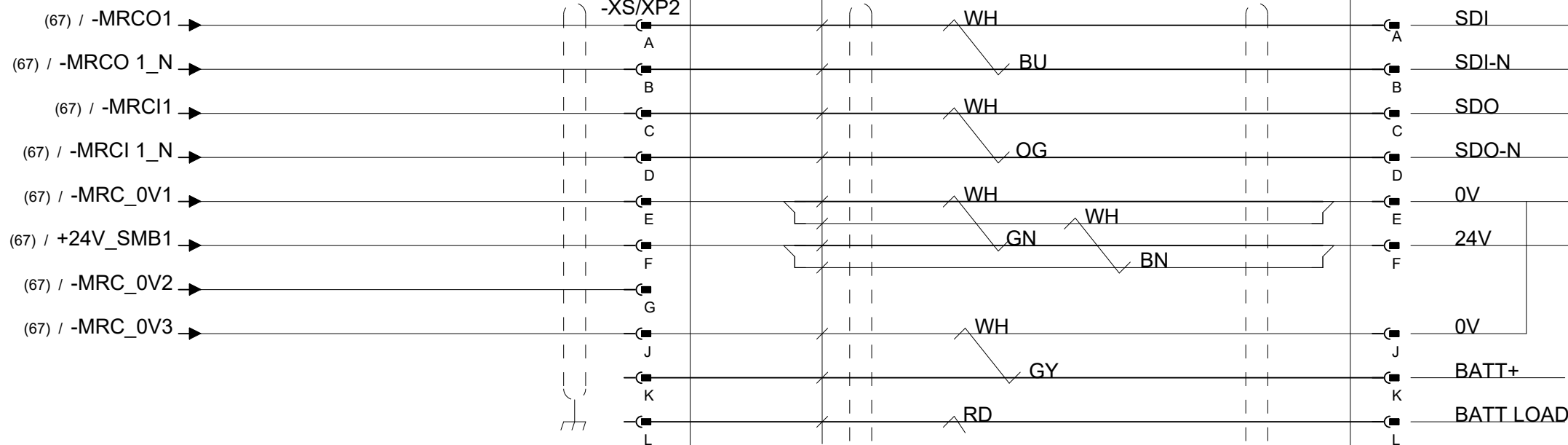
CONTROLLER
DRIVE MODULE

FLOOR CABLE

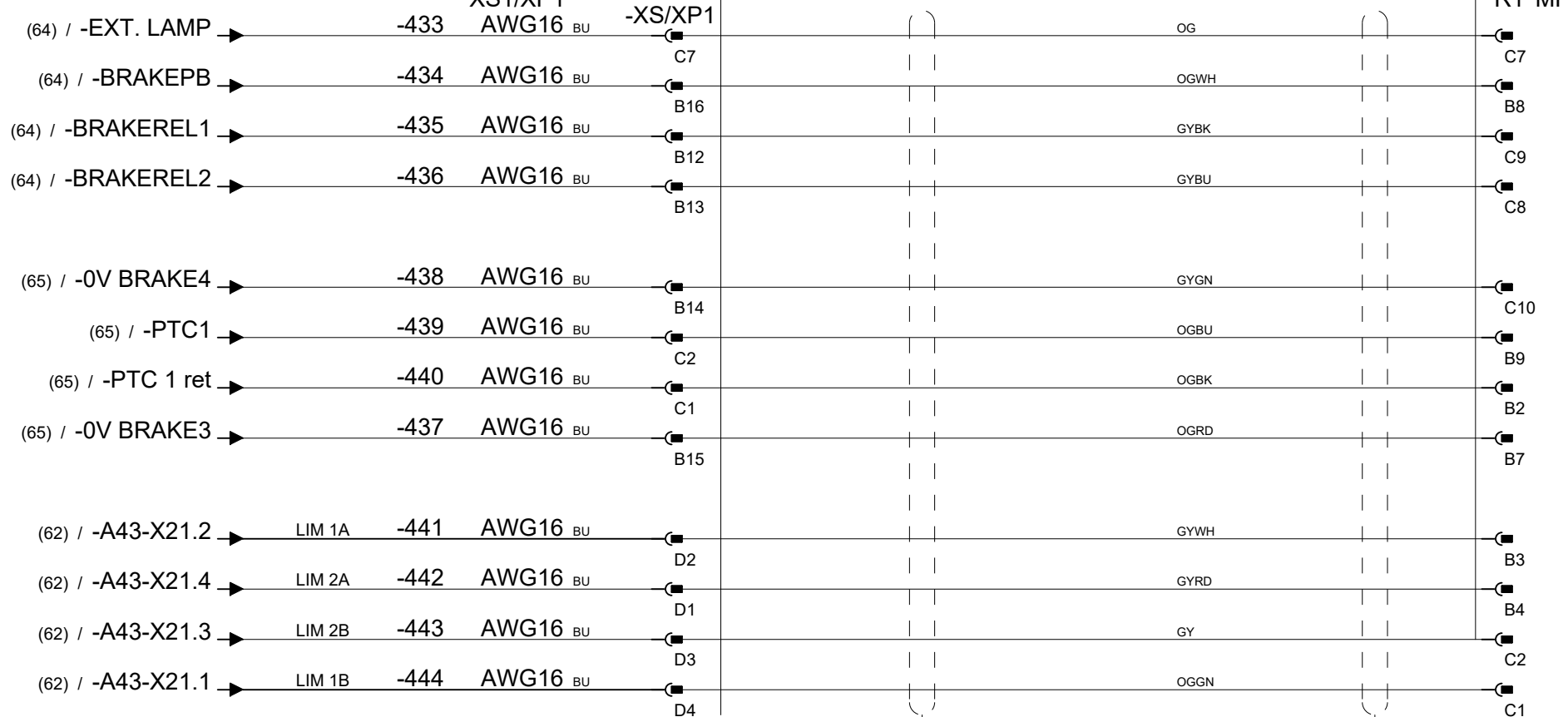
MANIPULATOR

→ Cross ref XS2/XP2 / (23)

0,23 mm²



→ Cross ref
XS1/XP1 / (23)



SERIAL
MEASUREMENT
BOARD

According to Manipulator circuit diagram 3HAC025611-001

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IRC5 DESIGN 14 Rel: 18.2
CONTROL CABLE
IRB 260

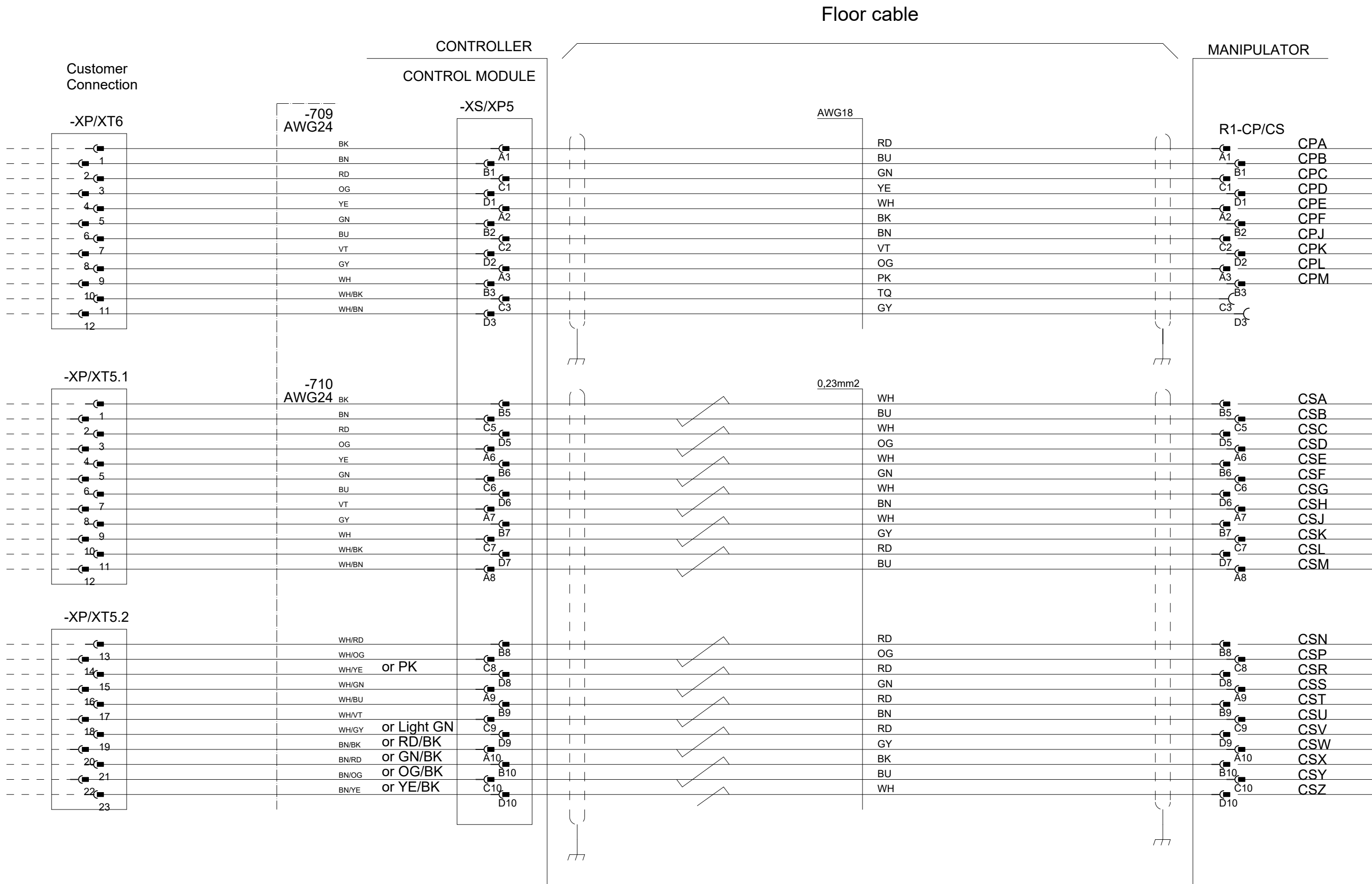
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Document no.
3HAC024480-011

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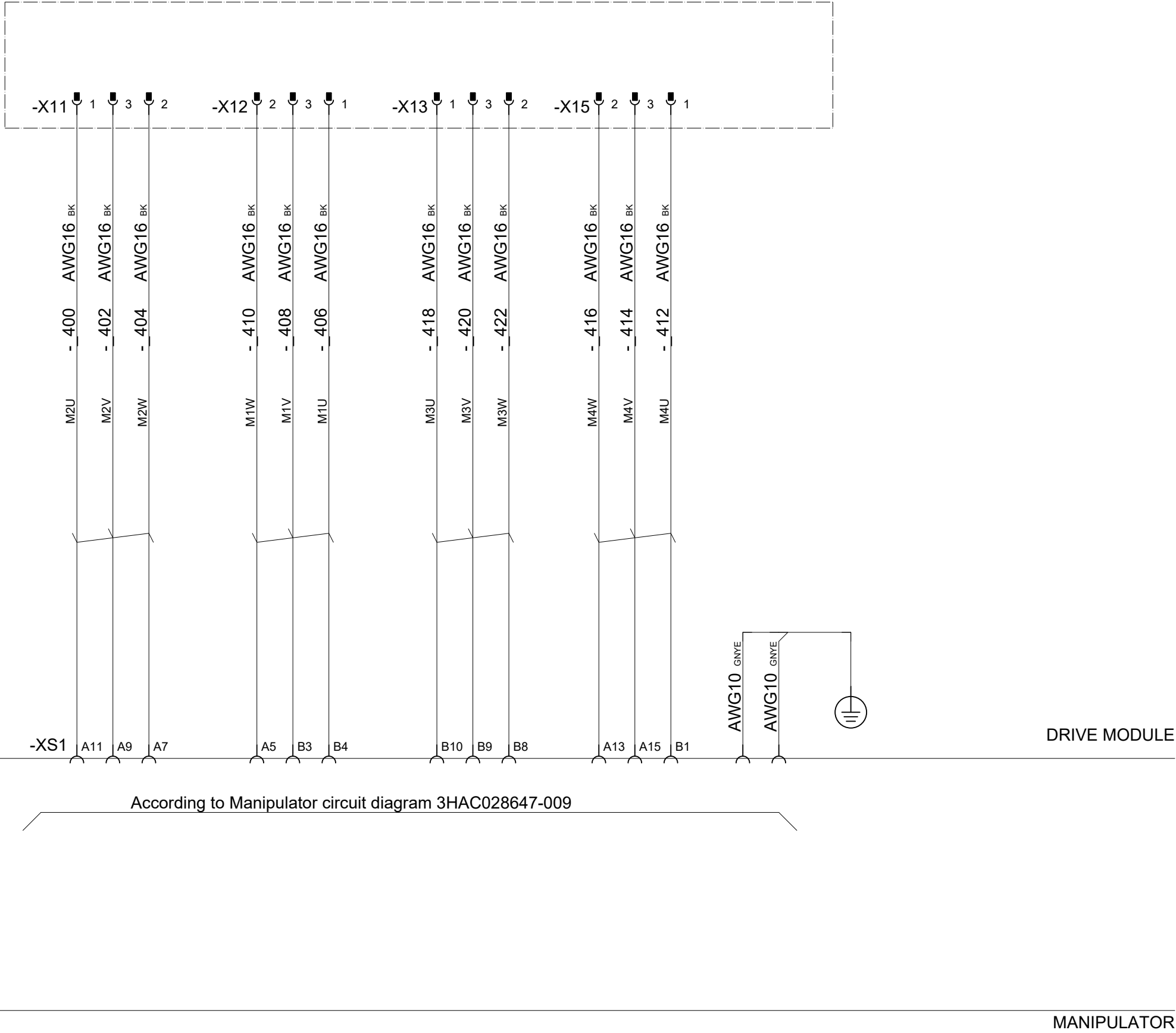
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➔ Cross ref
XS1/XP1 / (23)

FLOOR CABLE

MAIN SERVO DRIVE UNIT

-A41.1



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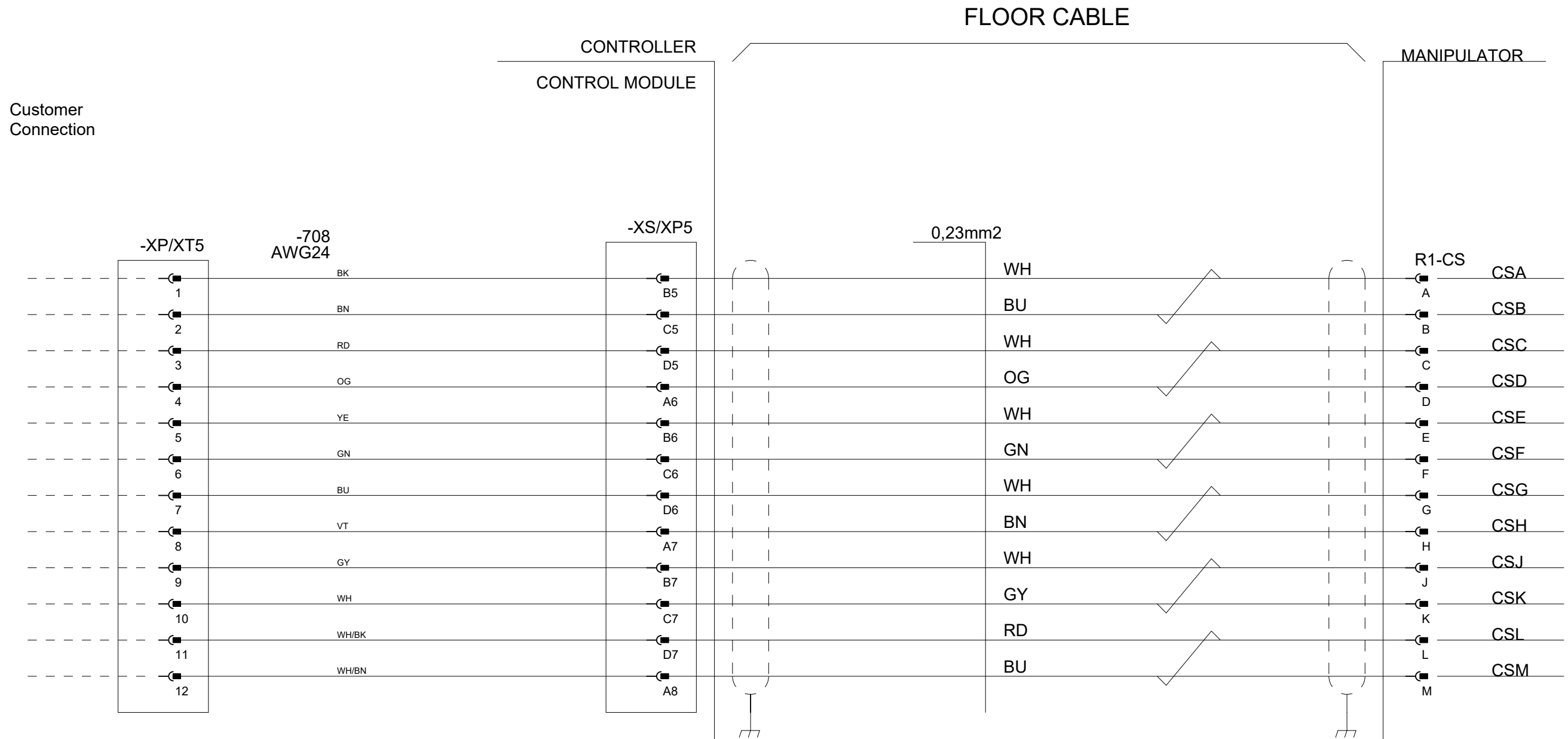
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IRC5 DESIGN 14 Rel: 18.2 SERVO DRIVE UNITS IRB 360
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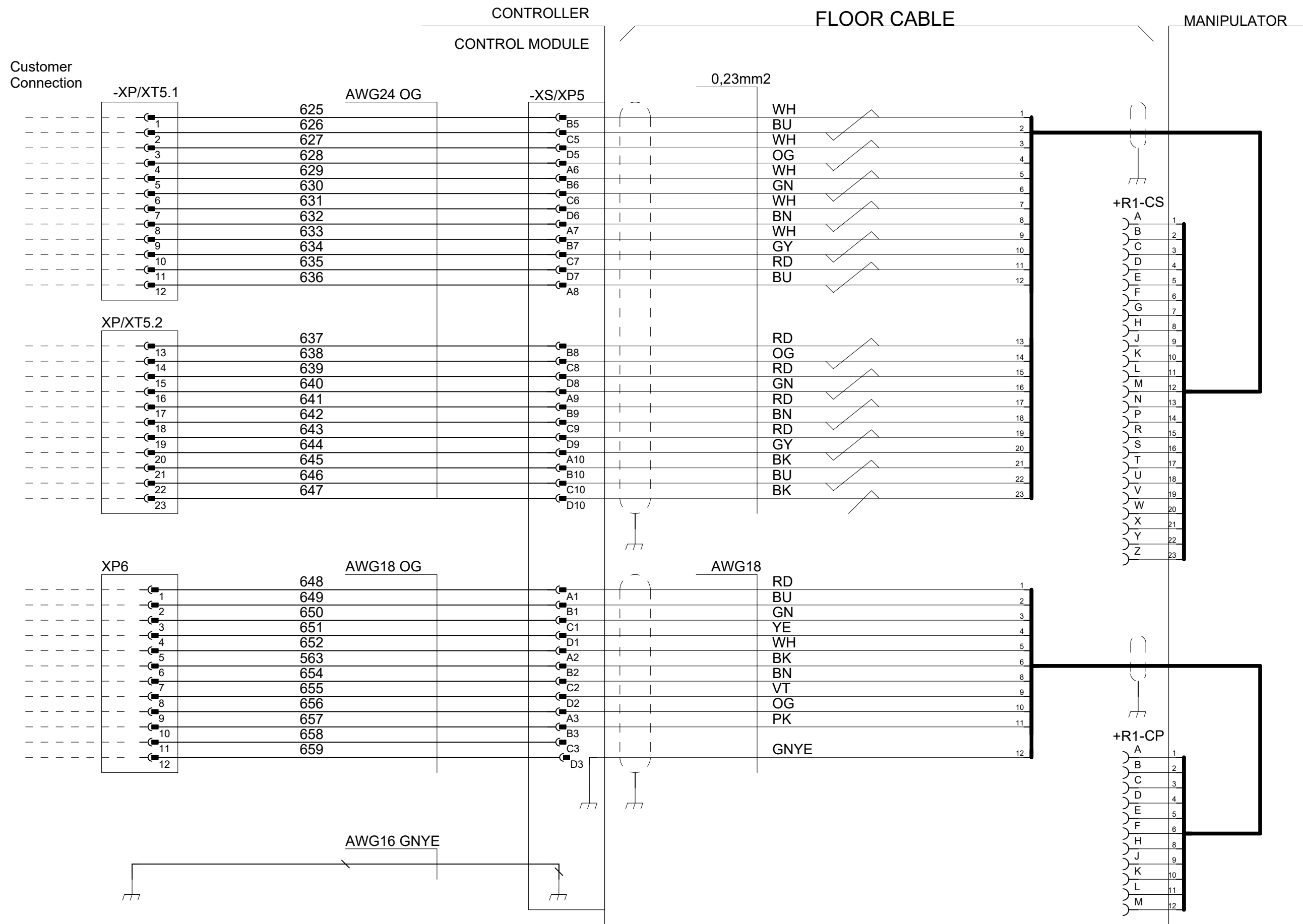


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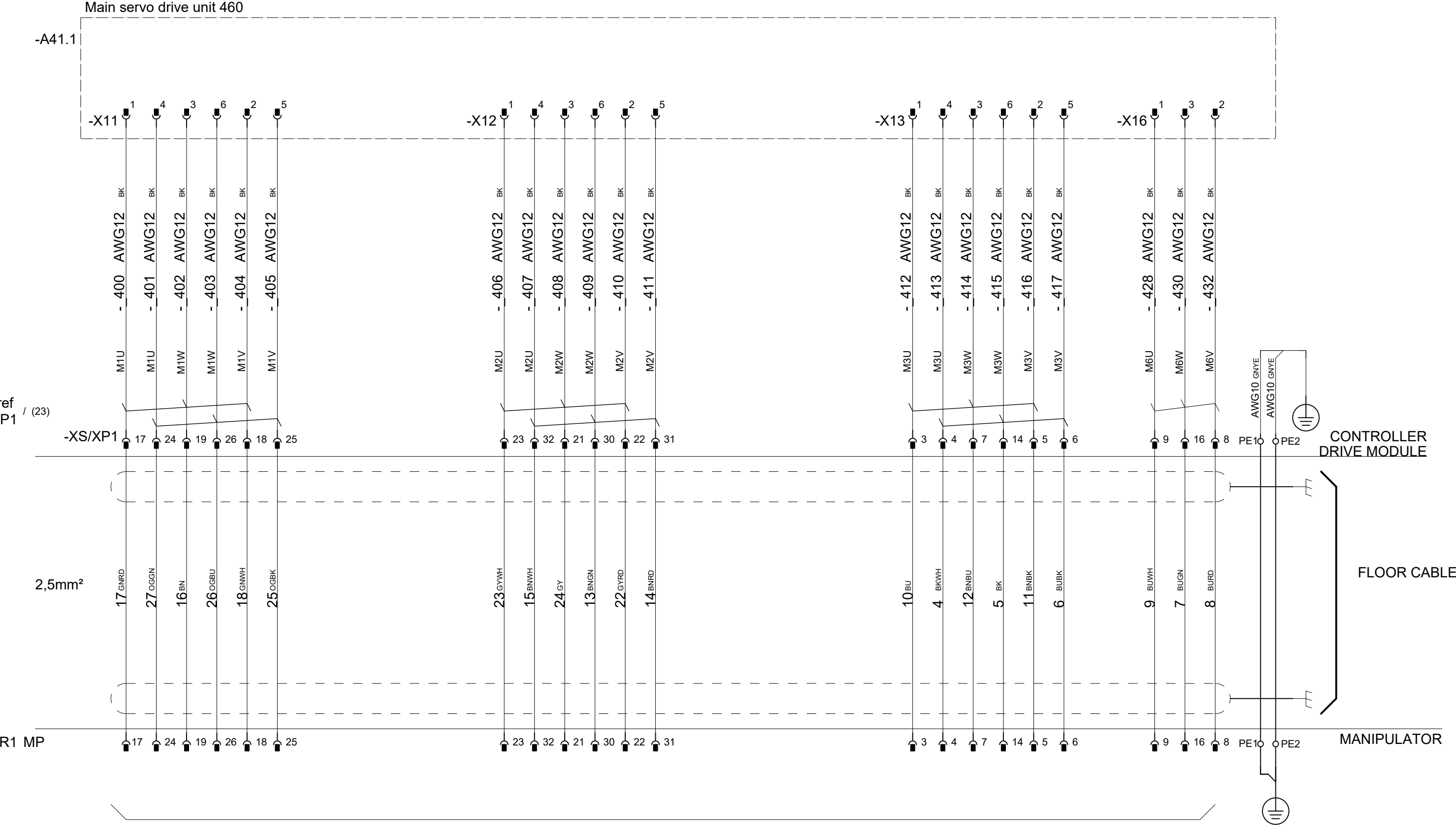


According to Manipulator circuit diagram 3HAC028647-009

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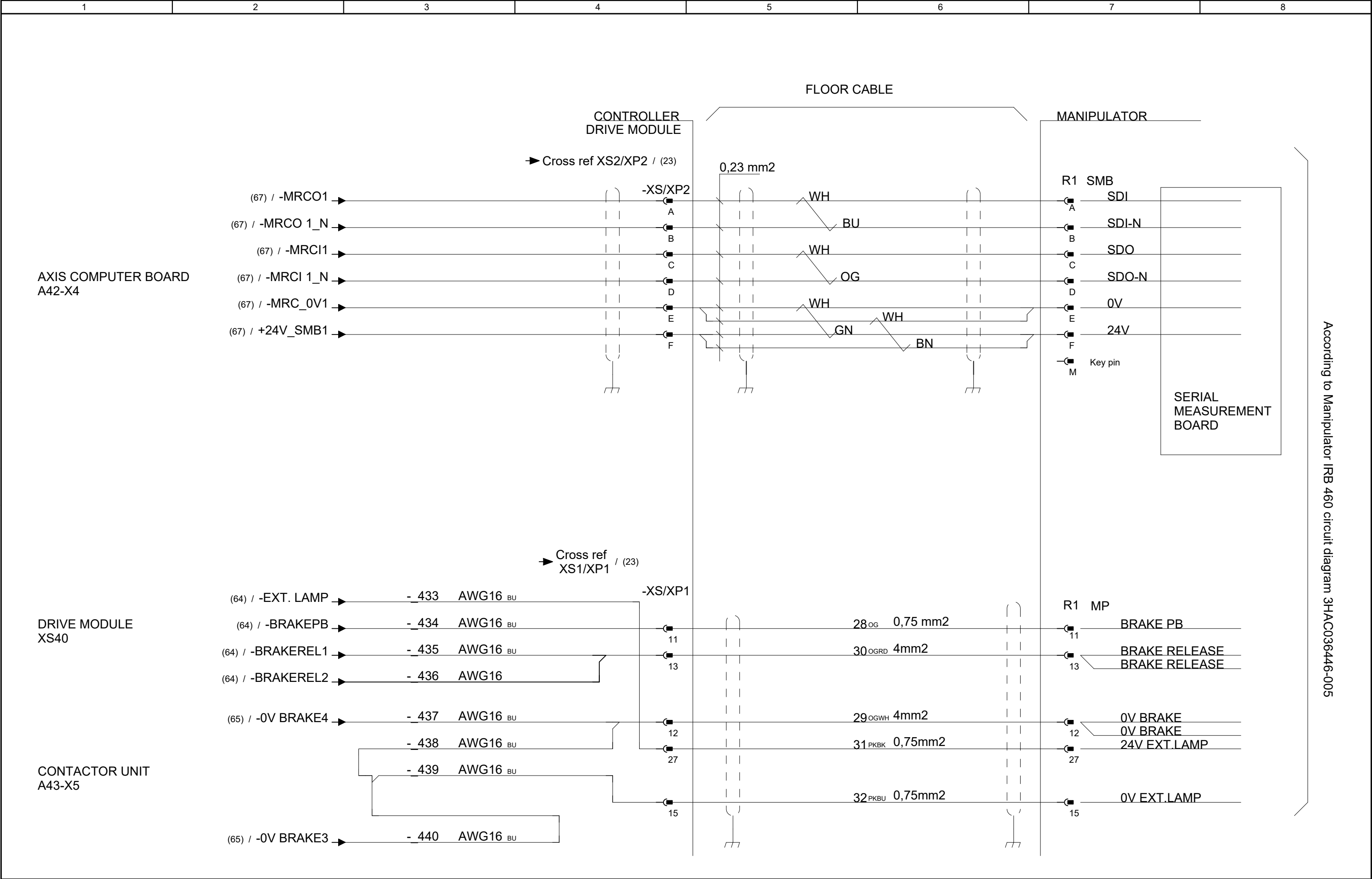
Cabinet module



According to Manipulator circuit diagram 3HAC036446-005

Latest revision:			Lab/Office: RMRO SE/RDE2	IRC5 DESIGN 14 Rel: 18.2 SERVO DRIVE SYSTEM IRB 460	Status: Approved	Plant: = Location: + Sublocation: +
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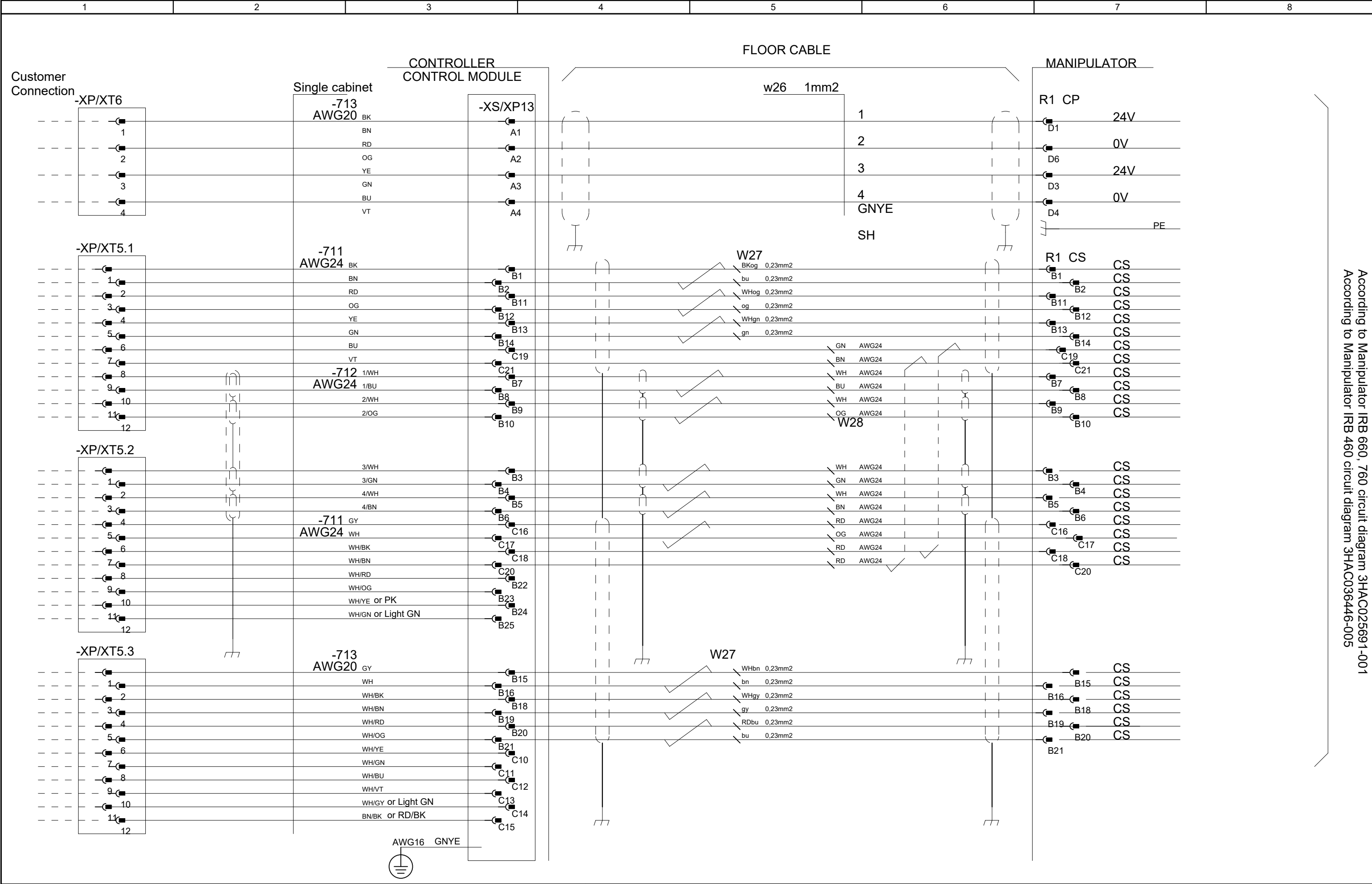
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According to Manipulator IRB 460 circuit diagram 3HAC036446-005

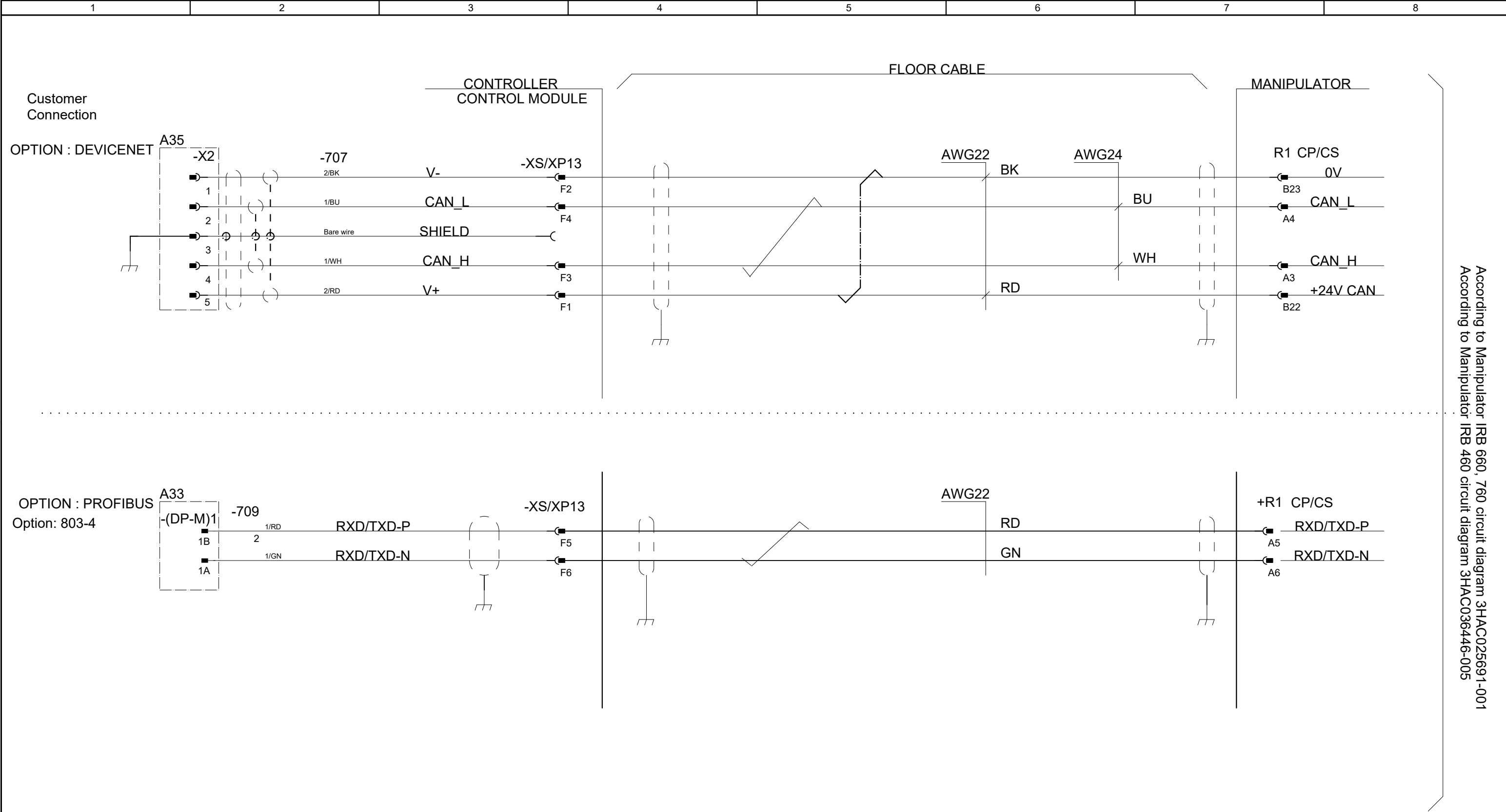
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Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08			Rev. Ind 11	Page 89 Next 90 Total 157	

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According to Manipulator IRB 660, 760 circuit diagram 3HAC025691-001
According to Manipulator IRB 460 circuit diagram 3HAC036446-005

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According to Manipulator IRB 660, 760 circuit diagram 3HAC025691-001
According to Manipulator IRB 460 circuit diagram 3HAC036446-005

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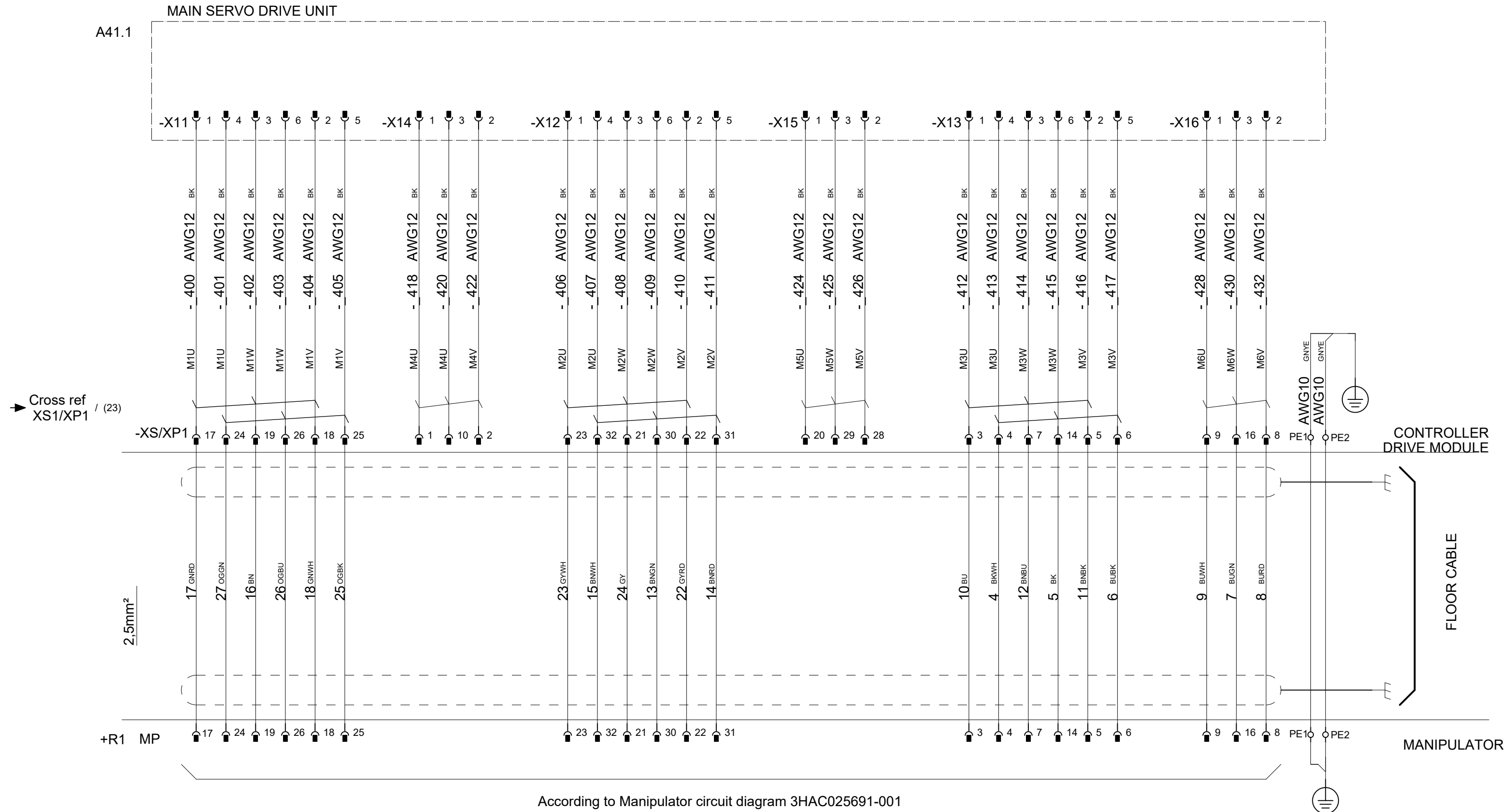


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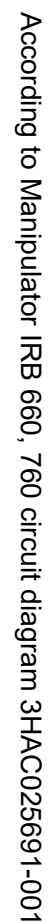
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C-BUS/P-BUS/ to CP/CS
IRB460, 660, 760

Status: Approved	Plant: Location: Sublocation:+	= +
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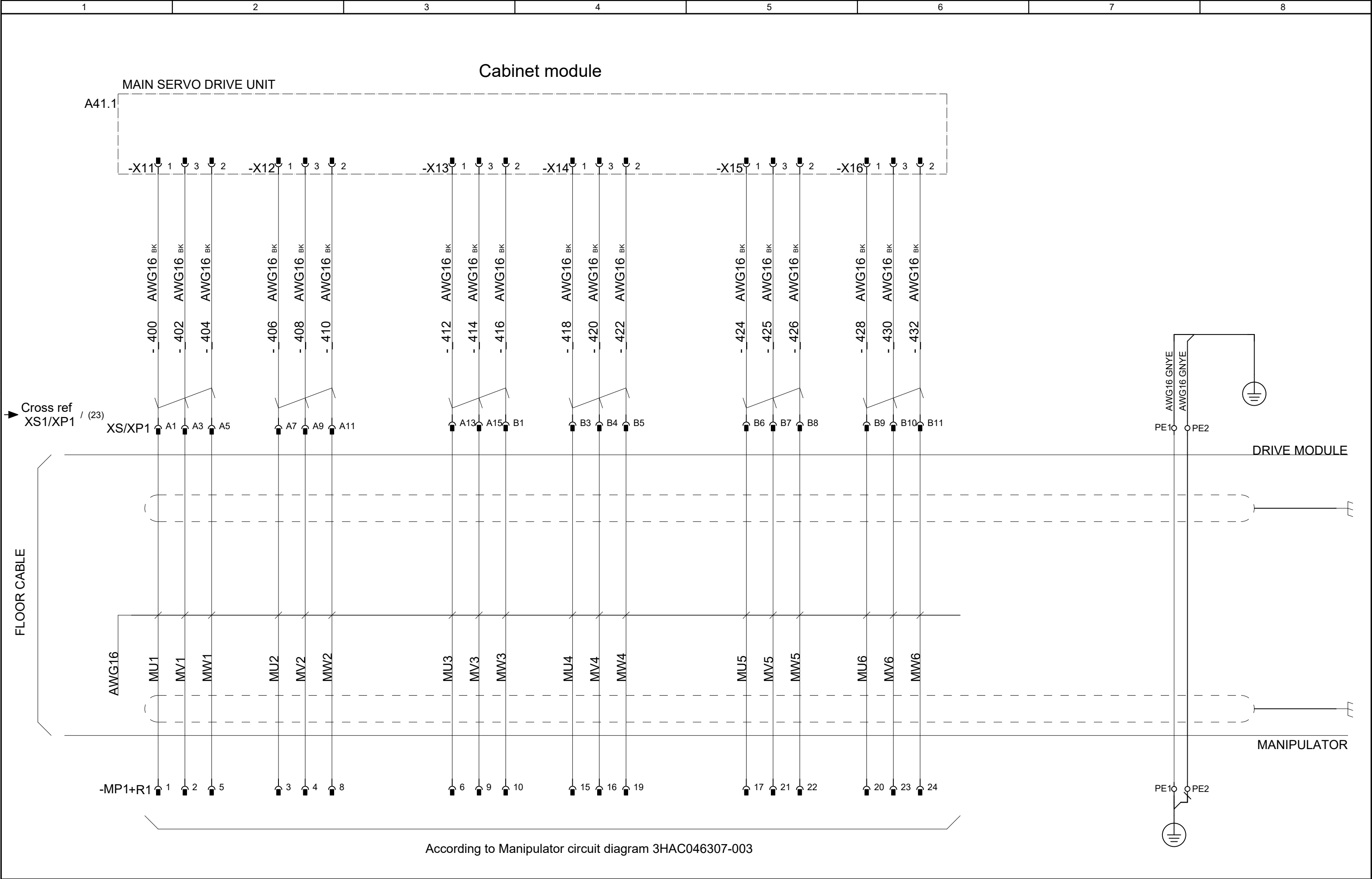
Cabinet module



According to Manipulator circuit diagram 3HAC025691-001



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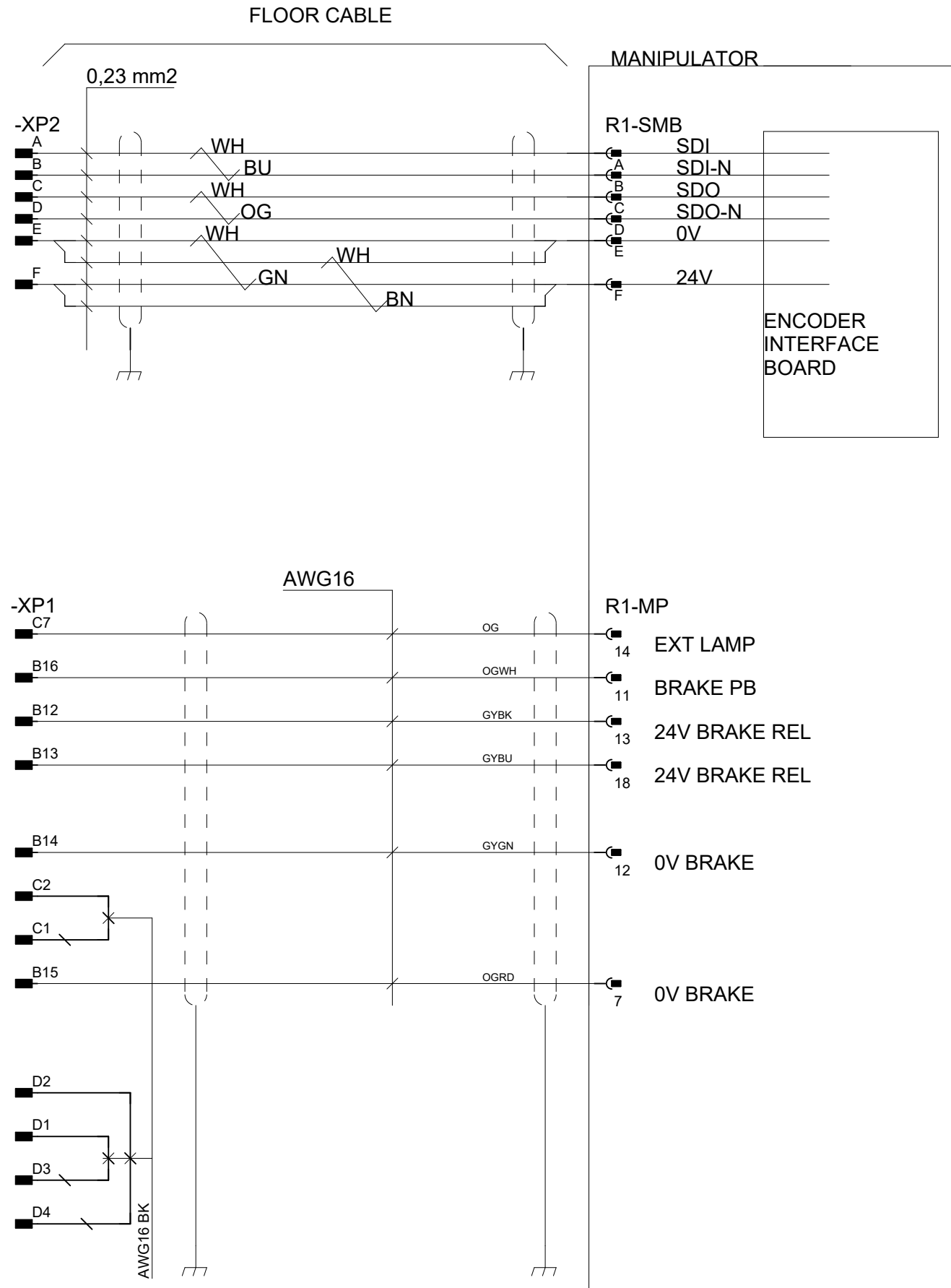
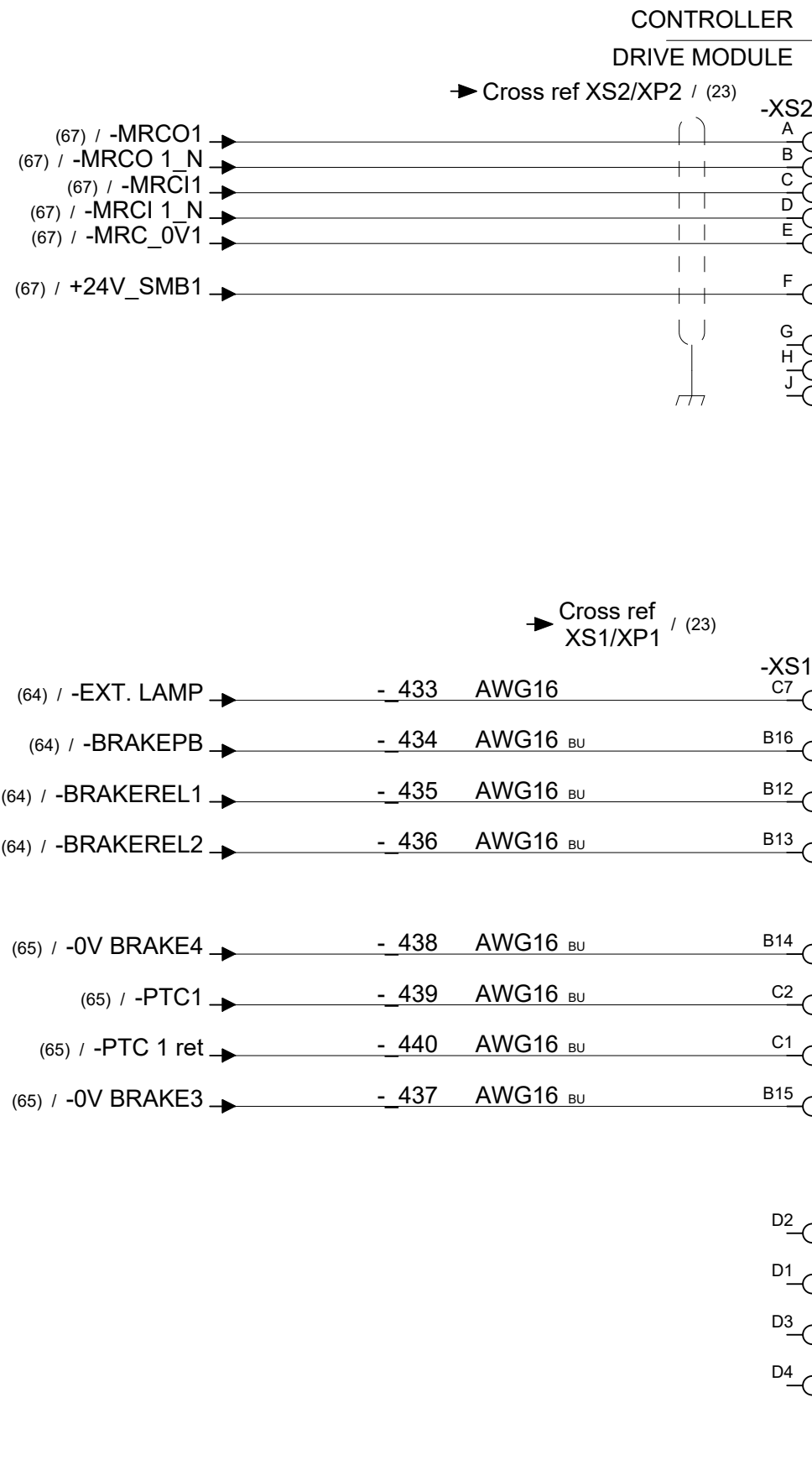
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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
X40

CONTACTOR UNIT
A43-X5



According to Manipulator circuit diagram 3HAC046307-003

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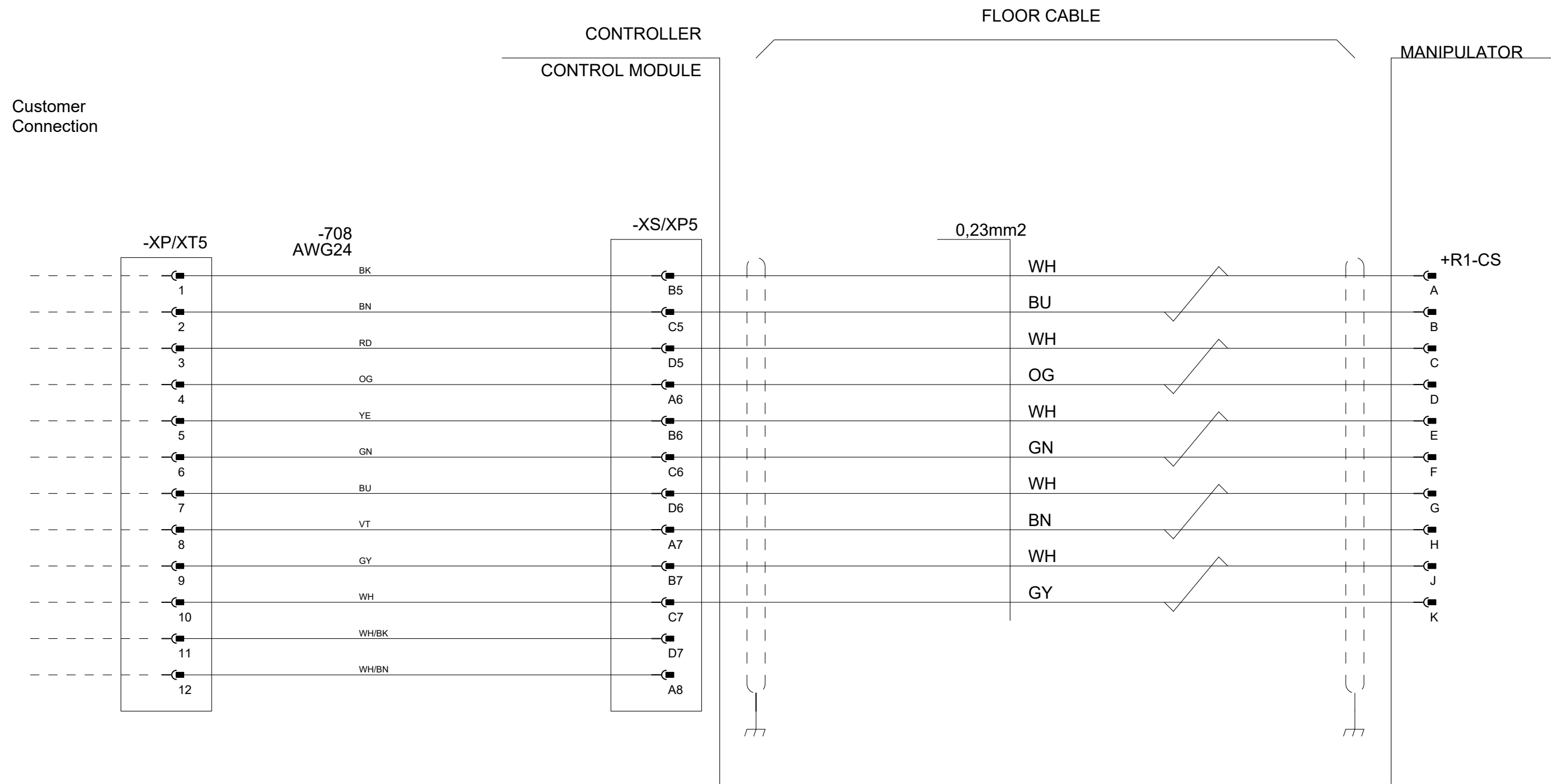


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IRC5 DESIGN 14 Rel: 18.2
CONTROL CABLE
IRB 1200

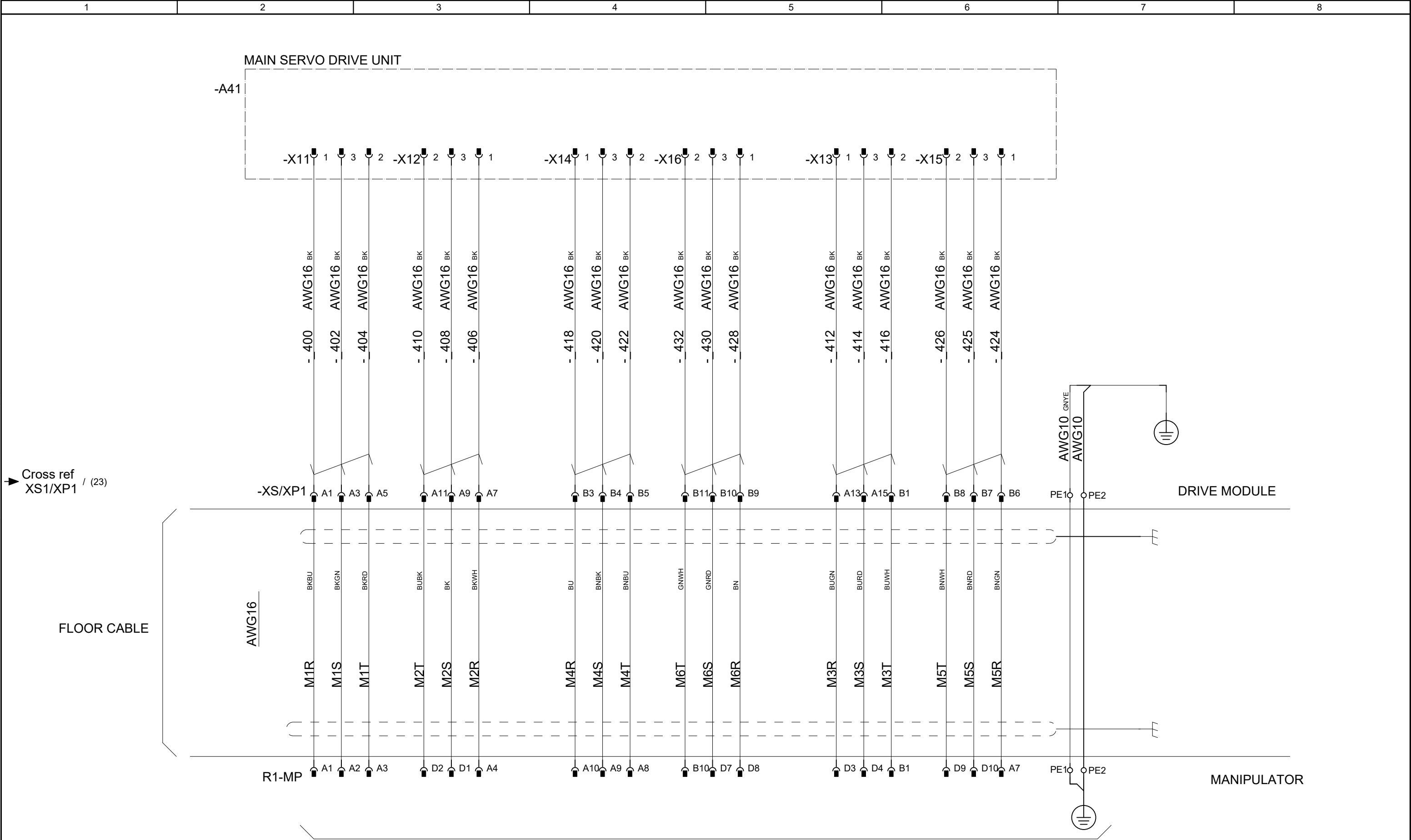
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According to Manipulator circuit diagram 3HAC046307-003

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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
X40

CONTACTOR UNIT
A43-X5

(67) / -MRCO1
(67) / -MRCO 1_N
(67) / -MRCI1
(67) / -MRCI 1_N
(67) / -MRC_0V1
(67) / +24V_SMB1
(67) / -MRC_0V2
(67) / -MRC_0V3

(64) / -EXT. LAMP
(64) / -BRAKEPB
(64) / -BRAKEREL1
(64) / -BRAKEREL2
(65) / -0V BRAKE4
(65) / -PTC1
(65) / -PTC 1 ret
(65) / -0V BRAKE3

- 433 AWG16
- 434 AWG16 BU
- 435 AWG16 BU
- 436 AWG16 BU
- 438 AWG16 BU
- 439 AWG16 BU
- 440 AWG16 BU
- 437 AWG16 BU

CONTROLLER
DRIVE MODULE

-XS/XP2
A
B
C
D
E
F
G
H
J
K
L

Cross ref
XS1/XP1 / (23)

-XS/XP1
C7
B16
B12
B13
B14
C2
C1
B15
D2
D1
D3
D4

FLOOR CABLE

0,23 mm2

AWG16

MANIPULATOR

R1-SMB

A
B
C
D
E
F
J
K
L

SDI
SDI-N
SDO
SDO-N
0V
24V
0V
BATSUP
BATLD

SERIAL
MEASUREMENT
BOARD

R1-MP

C7
B8
C9
C8
C10
B9
B2
B7
B3
B4
C2
C1

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IRC5 DESIGN 14 Rel: 18.2
CONTROL CABLE
IRB 1410

Status:
Approved

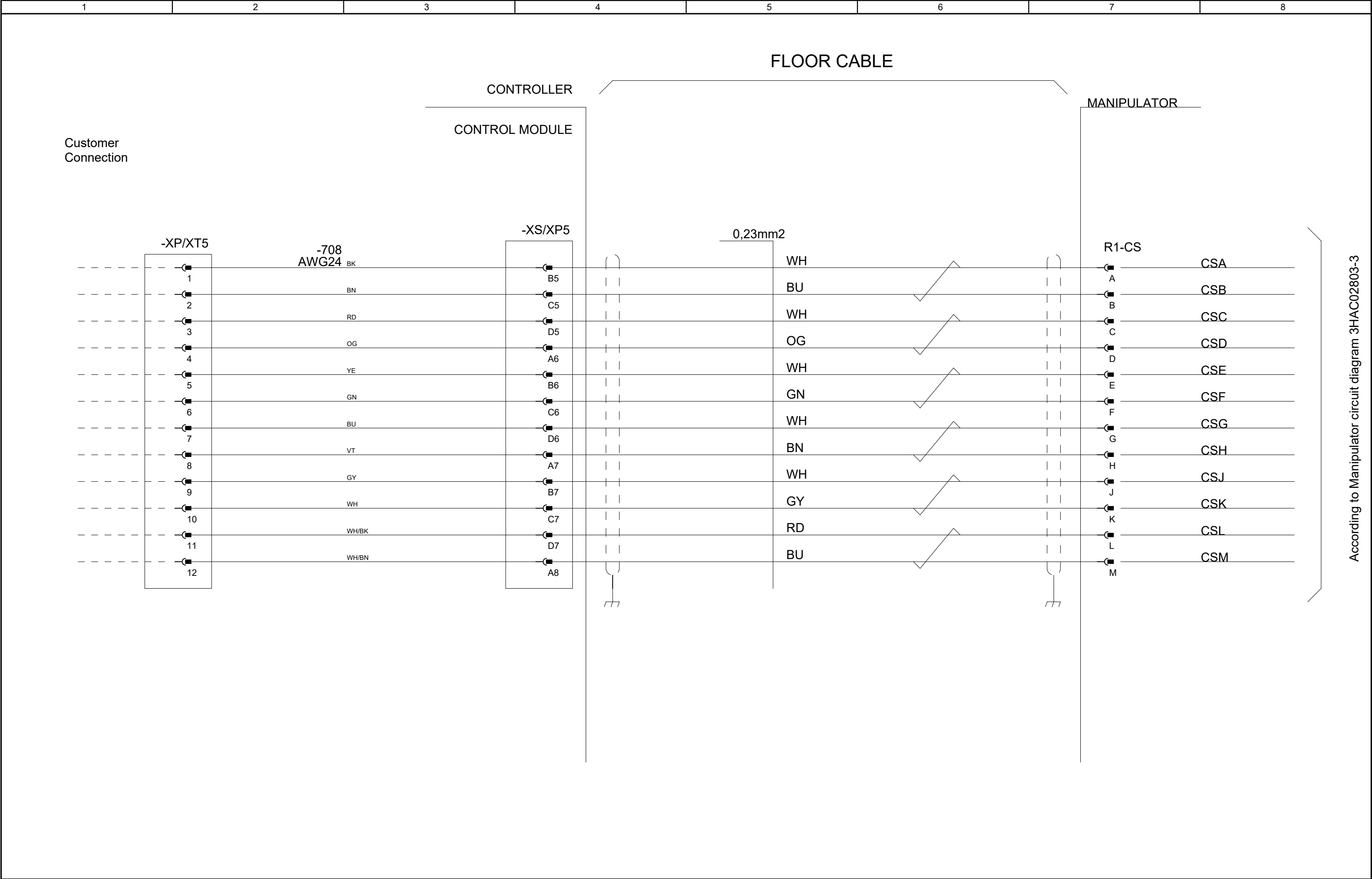
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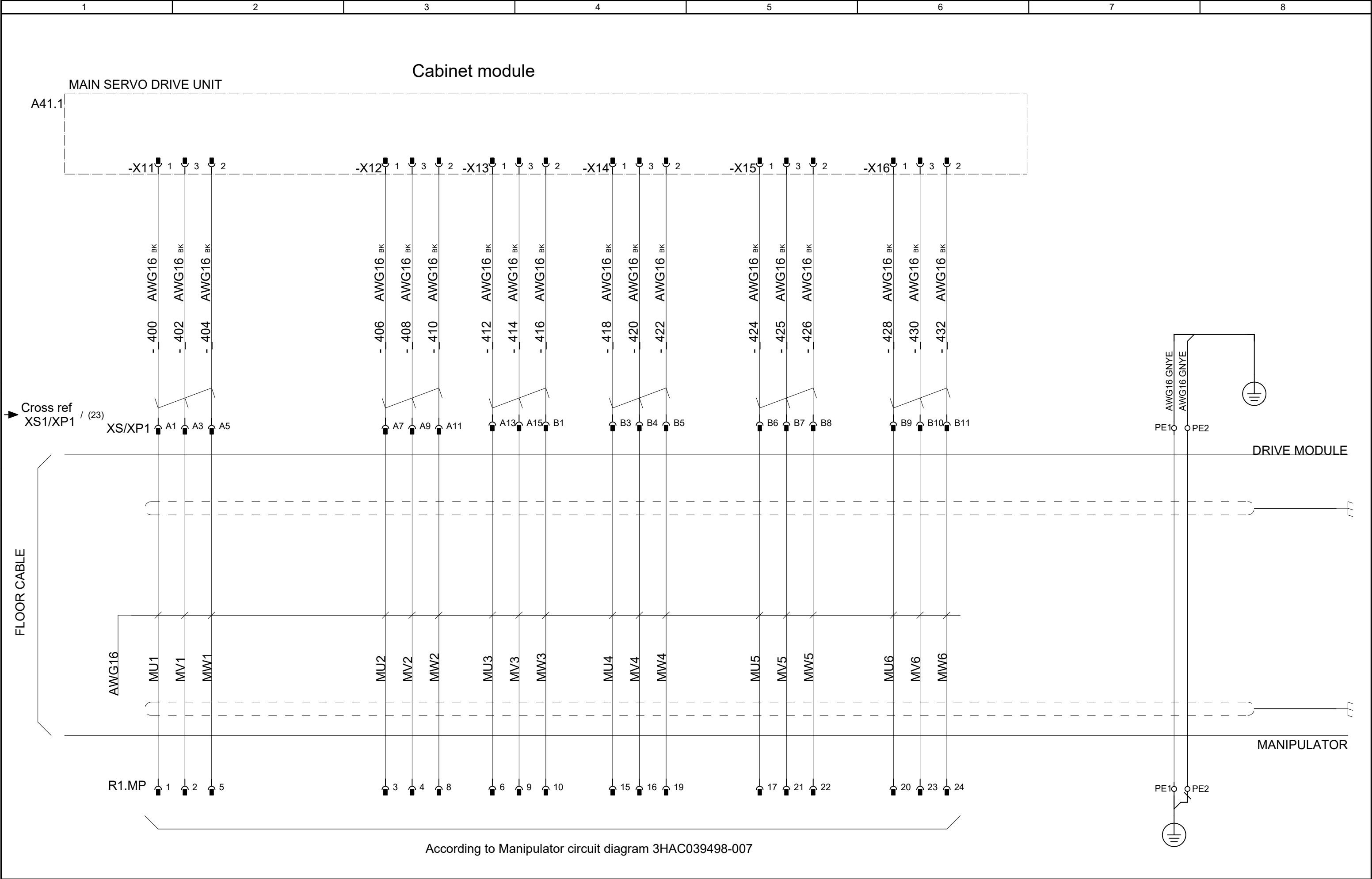
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11
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Total 157

According to Manipulator circuit diagram 3HAC02803-3

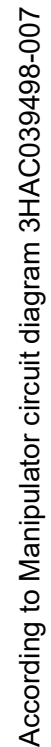
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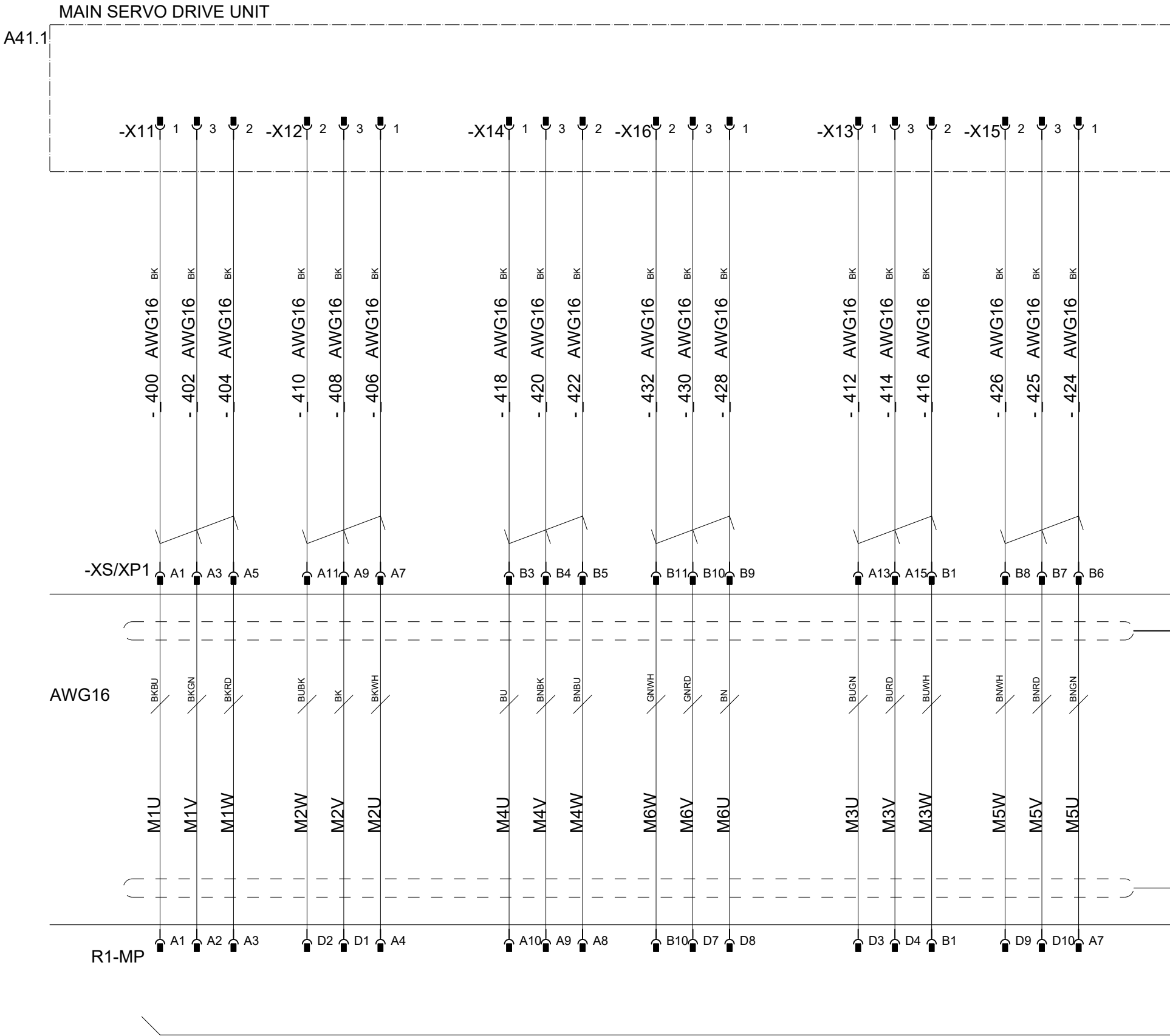


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→ Cross ref
XS1/XP1 / (23)

Floor cable



According to Manipulator circuit diagram 3HAC021351-003

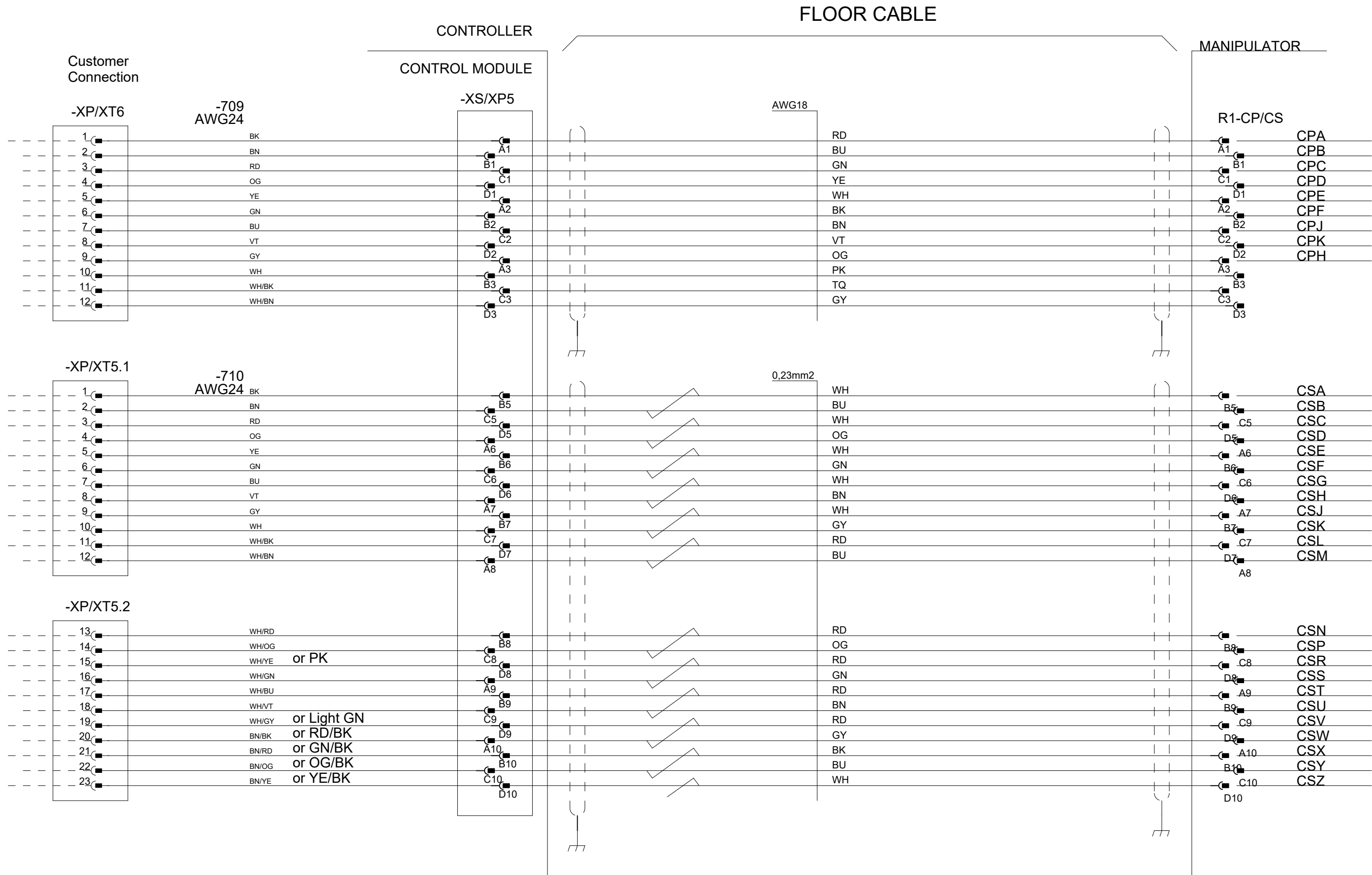
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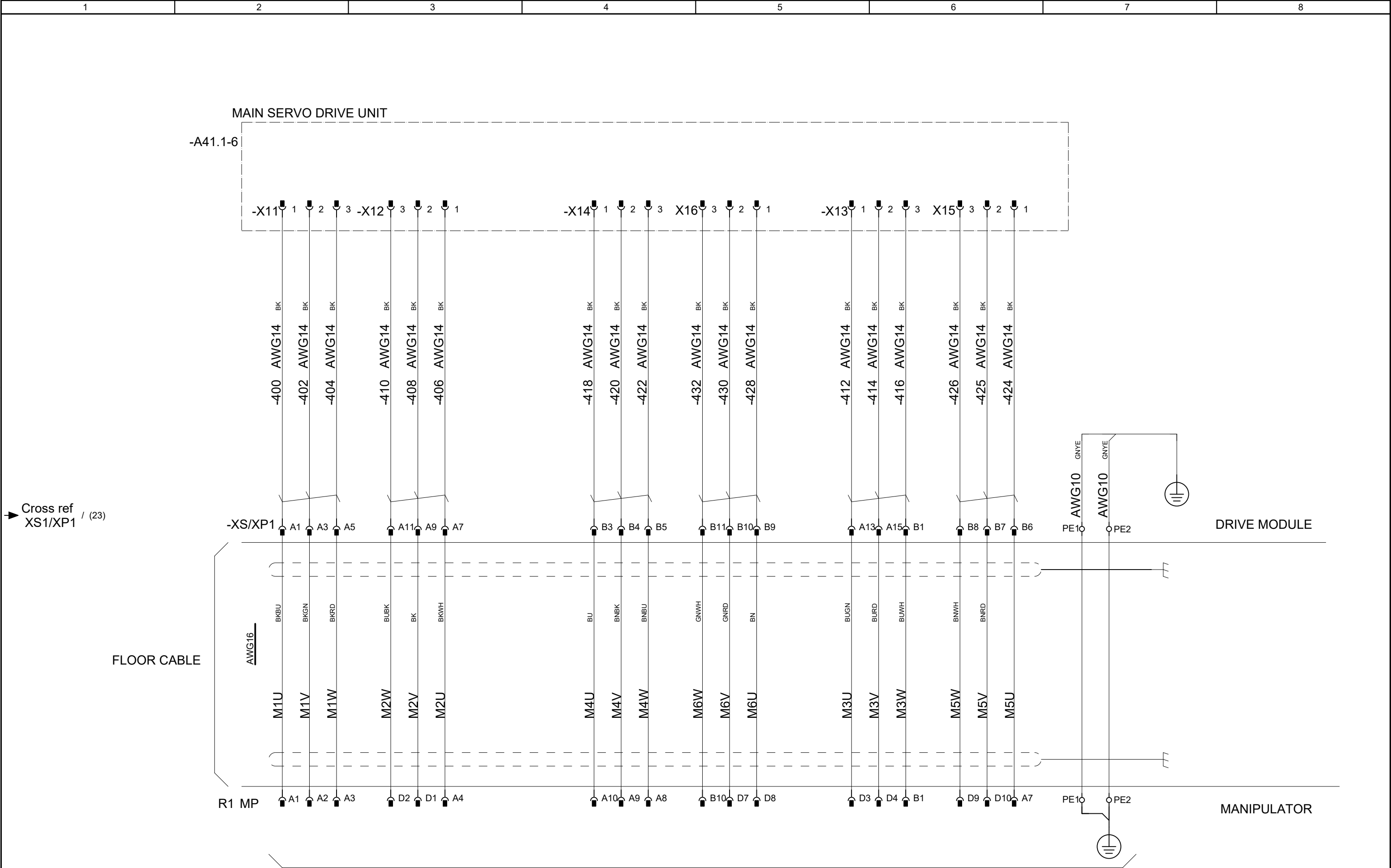
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According to Manipulator circuit diagram 3HAC021351-003



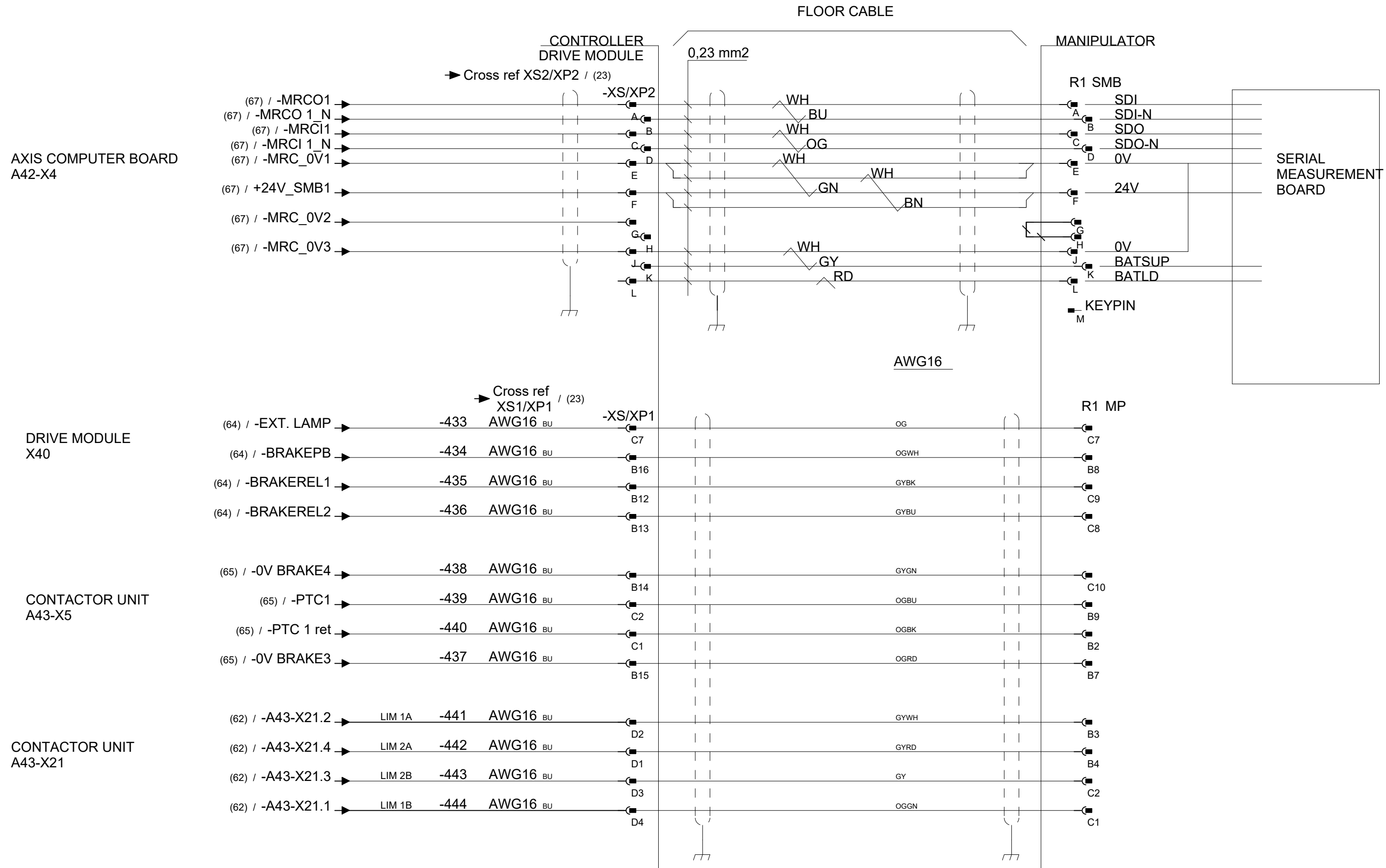
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➔ Cross ref
XS1/XP1 / (23)

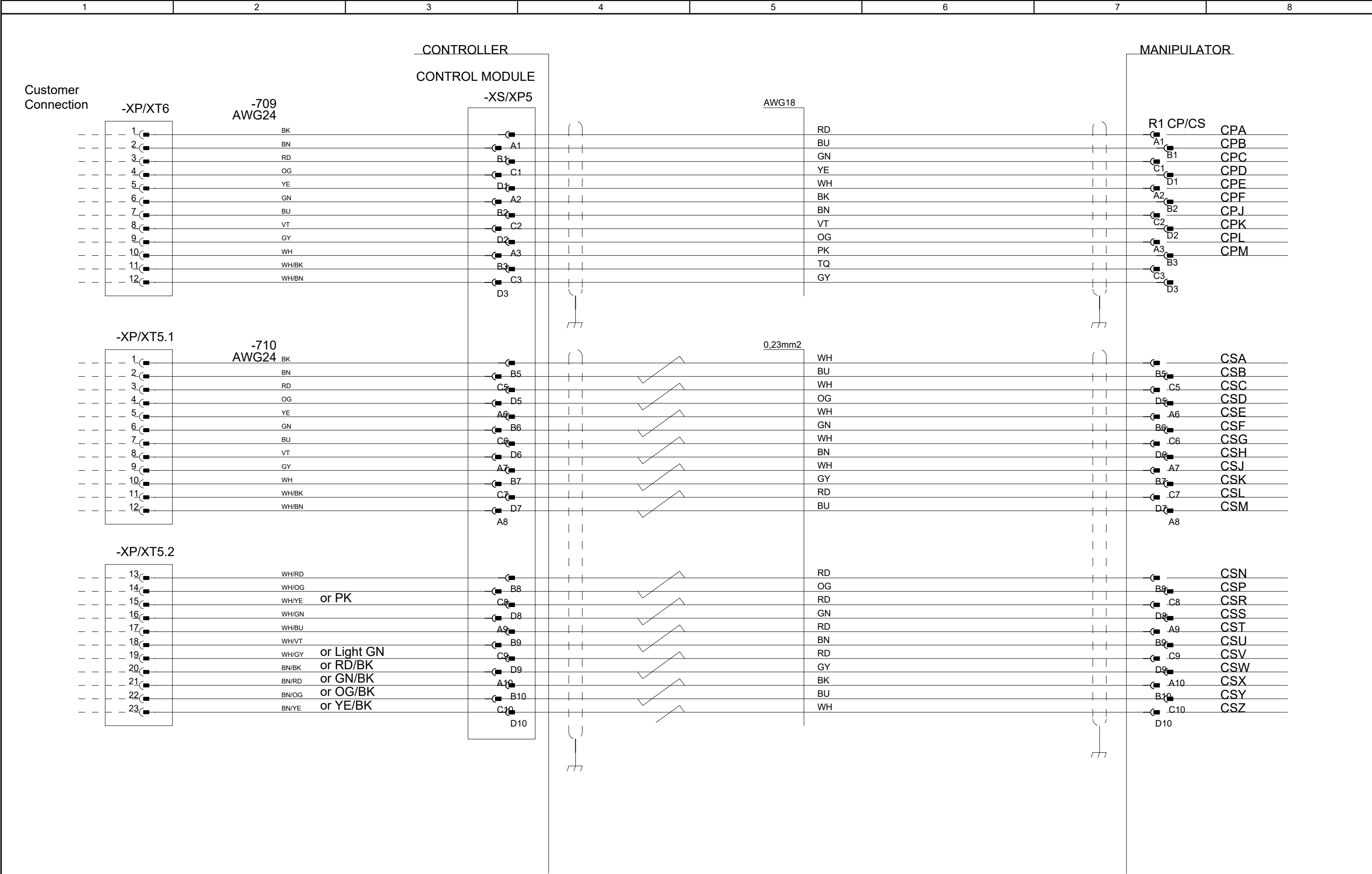
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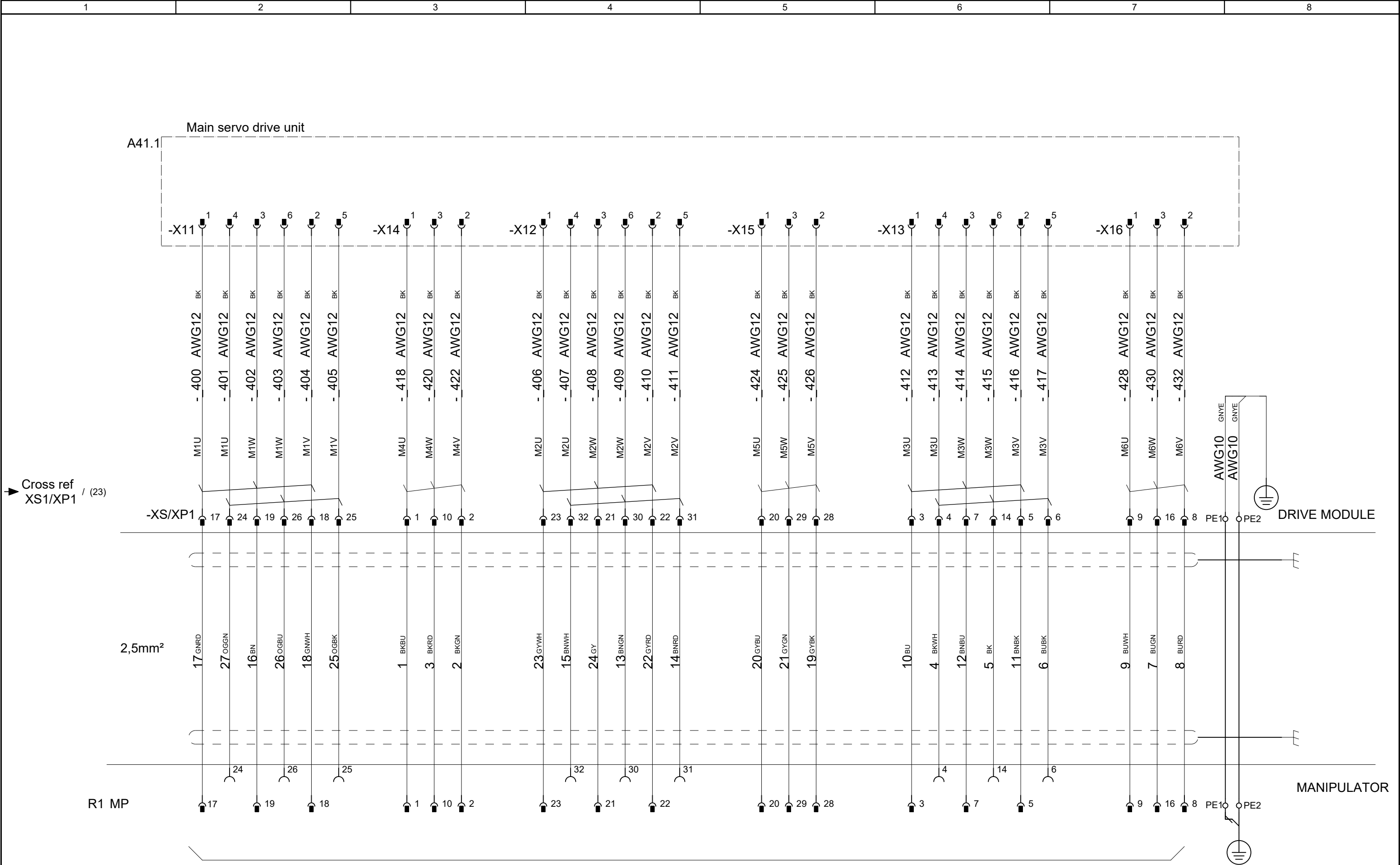


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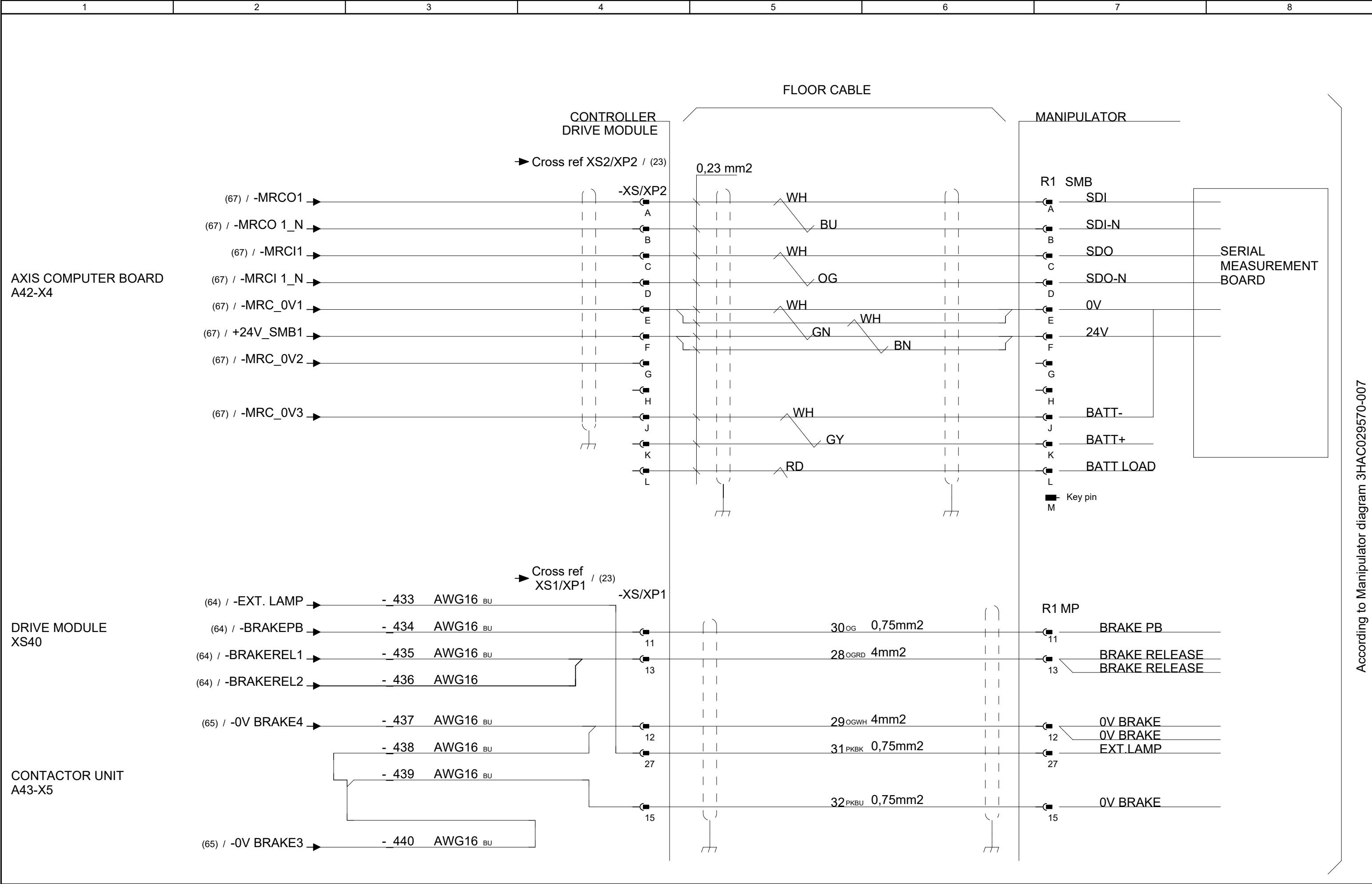


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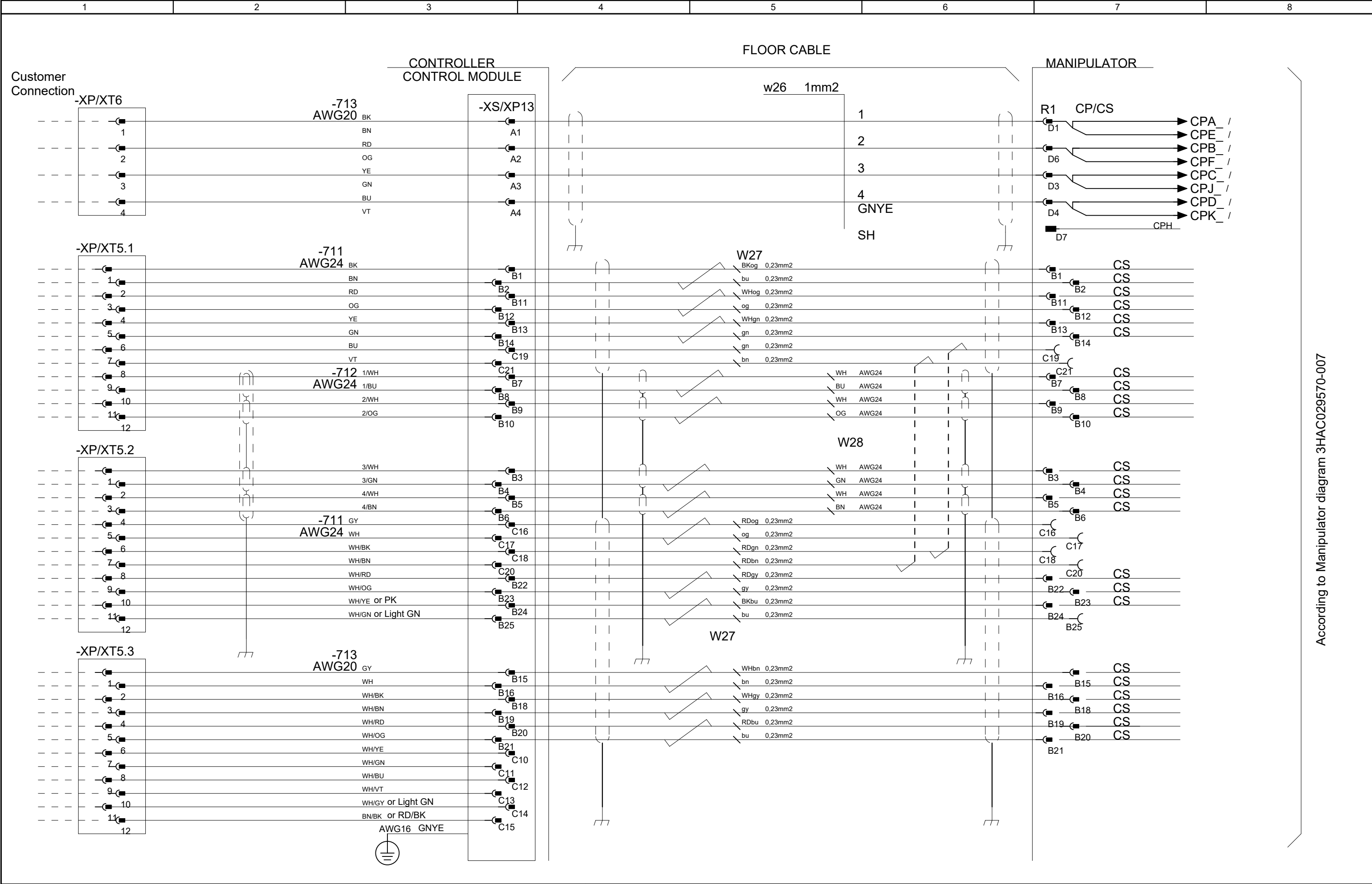
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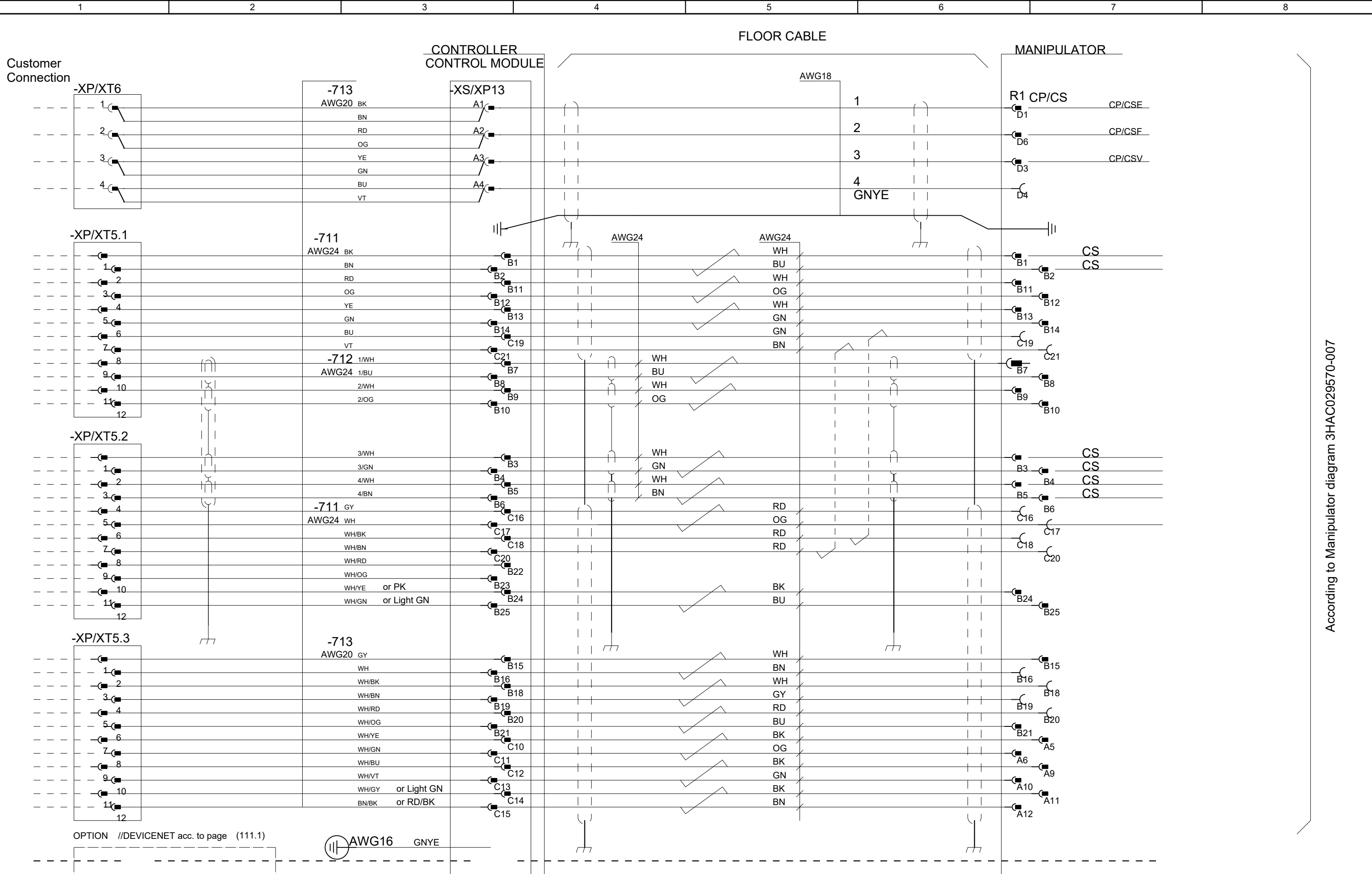
According to Manipulator diagram 3HAC029570-007

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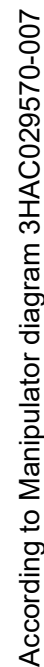
According to Manipulator diagram 3HAC029570-007

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According to Manipulator diagram 3HAC029570-007





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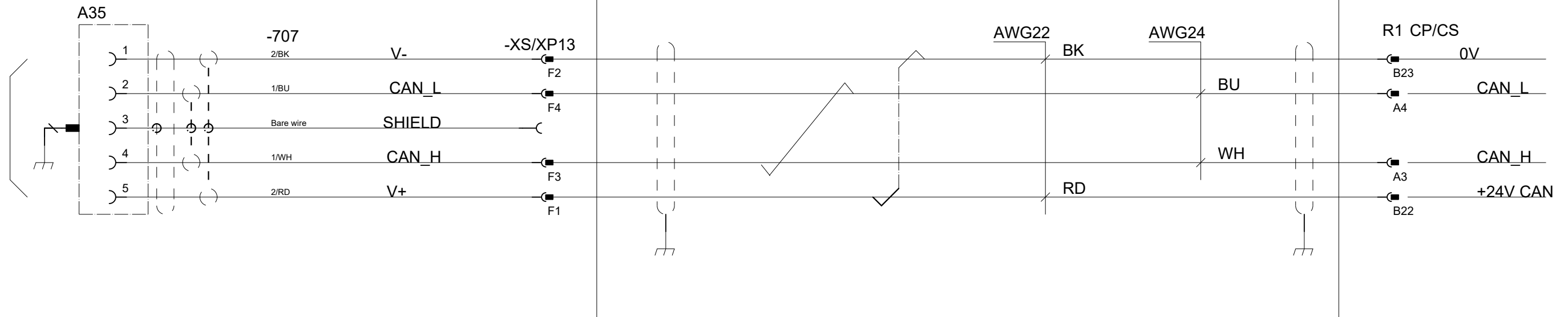
Customer
Connection

OPTION : DEVICENET
Additional sheet (109.1)

CONTROLLER
CONTROL MODULE

FLOOR CABLE

MANIPULATOR



Option: ProfiNet / Ethernet IP

Profi/Ethernet
-A32

(23) / 5.TXRX+
(23) / 5.RXTX+
(23) / 5.TXRX-
(23) / 5.RXTX-

XP9

1
2
3
4

AWG22

YE
WH
OG
BU

-R1.CBUS

1 TX+
2 RX+
3 TX-
4 RX-

ProfiNet/Ethernet

OPTION : PROFIBUS

Option: 803-4
Additional sheet (110.1)

A31
-(DP-M)1
1B
1A

-709
1/RD
2
1/GN

RXD/TXD-P
RXD/TXD-N

-XS/XP13
F5
F6

AWG22

RD
GN

+R1 CP/CS

A5 RXD/TXD-P
A6 RXD/TXD-N

According to Manipulator diagram 3HAC029570-007

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IRC5 DESIGN 14 Rel: 18.2
DevNet/PofiNet/Ethernet/Profibus addition to CP/CS
IRB2600

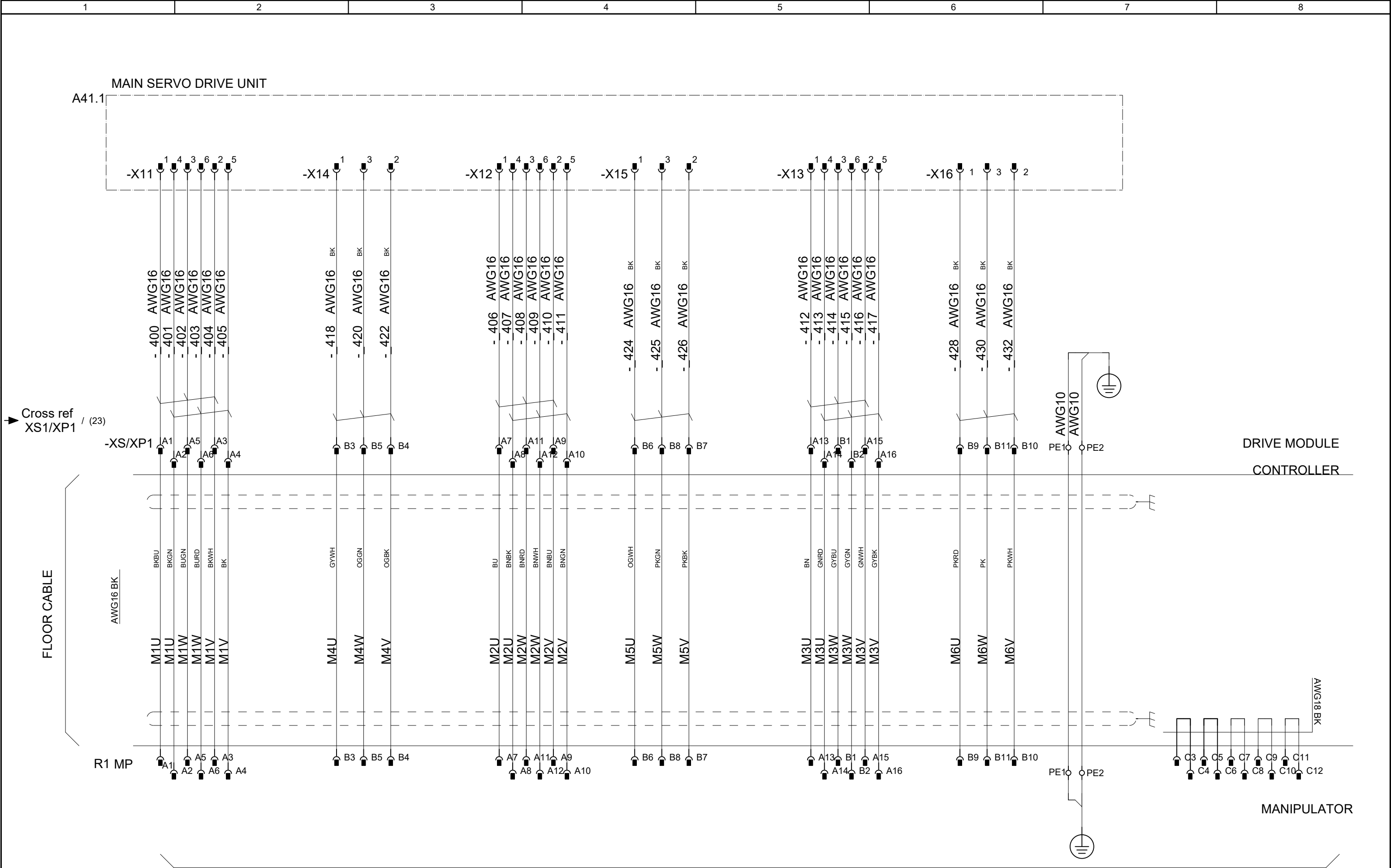
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3HAC024480-011

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Acc. to Manipulator circuit diagram 3HAC9821-1

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Prepared by, date:T Stålnacke 201810		Approved by, date:S Ögren 2018-10-08							

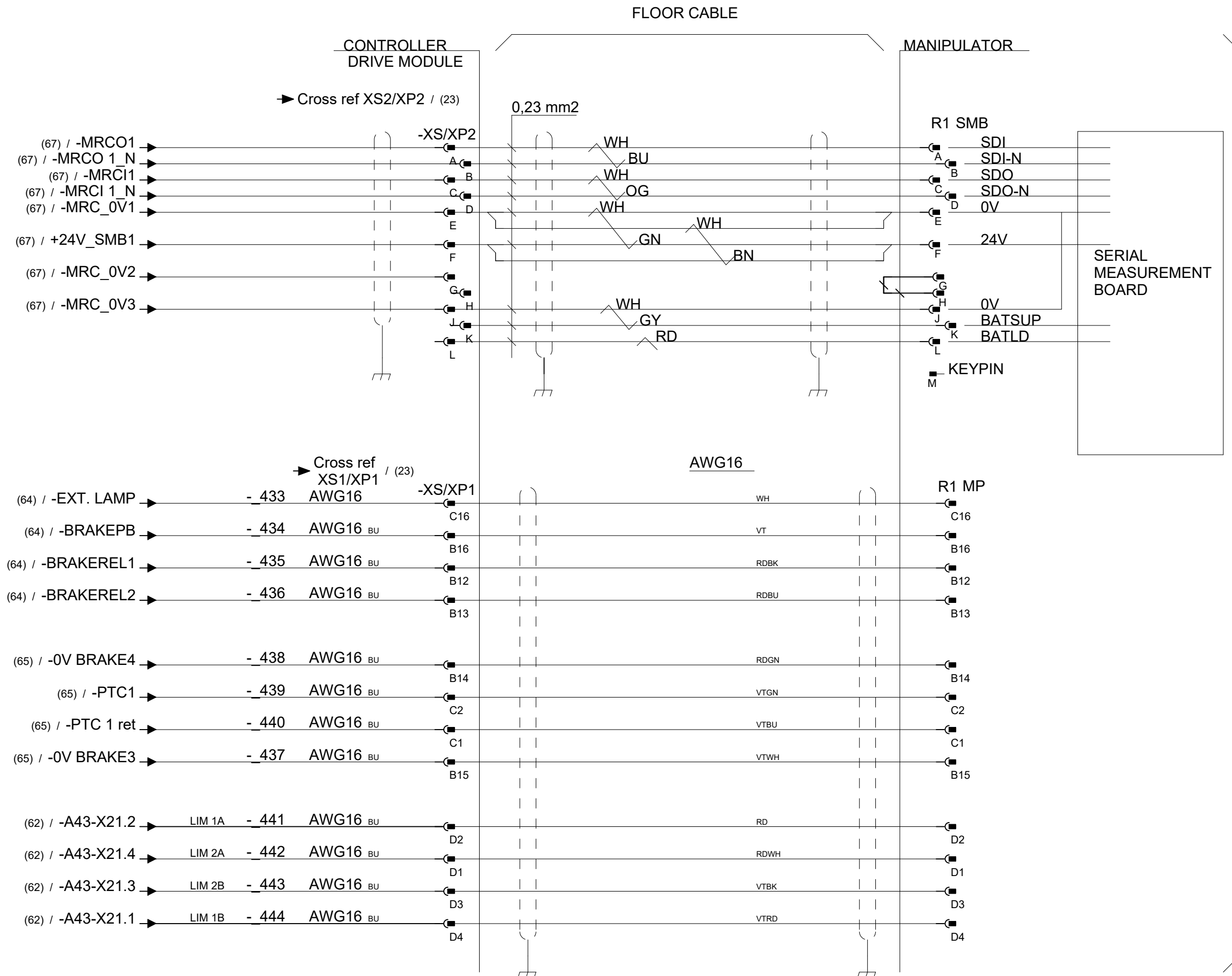
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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
X40

CONTACTOR UNIT
A43-X5

CONTACTOR UNIT
A43-X21



According to Manipulator diagram 3HAC9821-1

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CONTROL CABLE
IRB 4400

Status:
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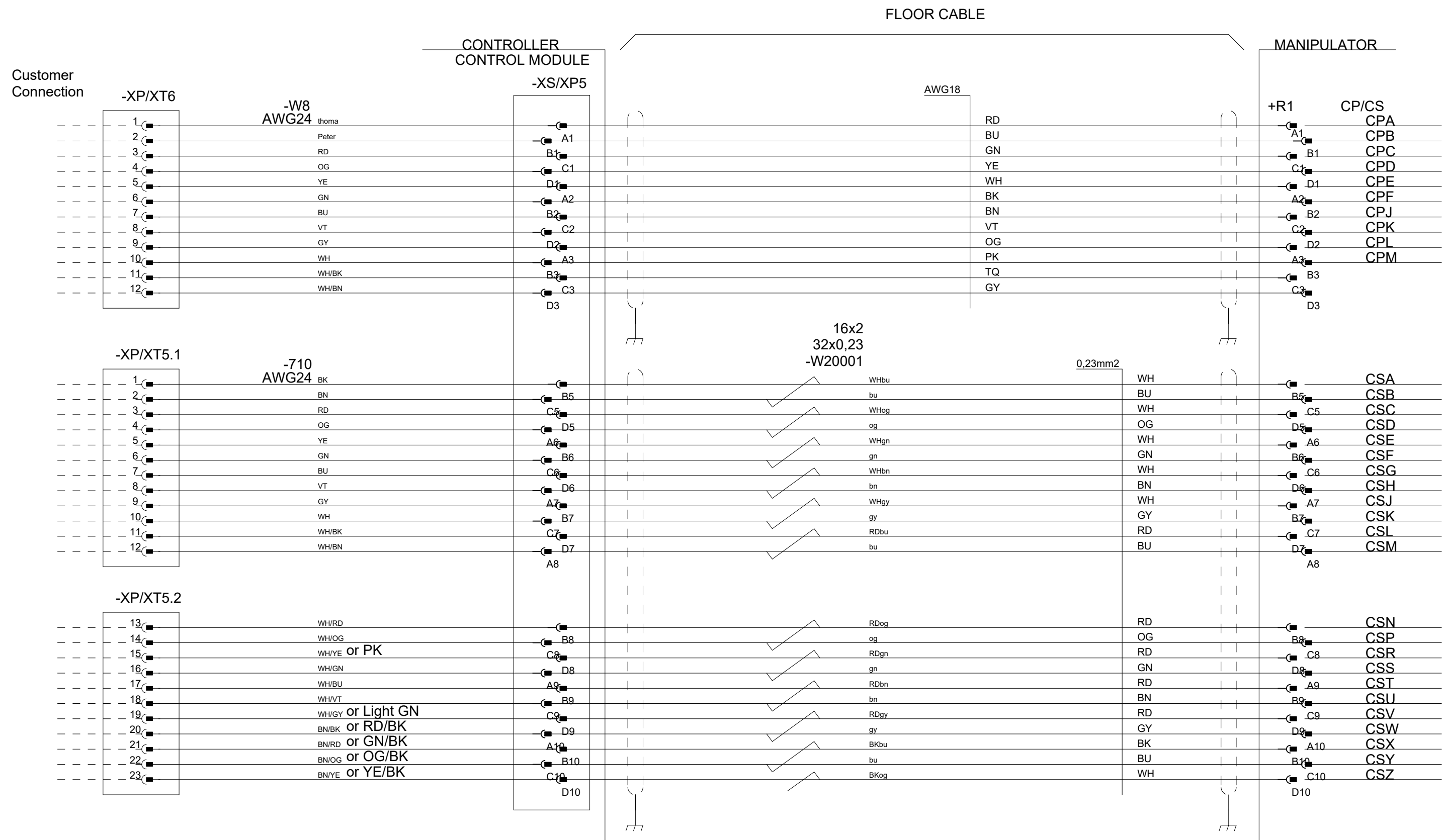
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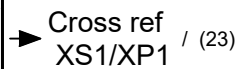
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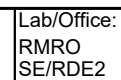


According to Manipulator diagram 3HAC9821-1





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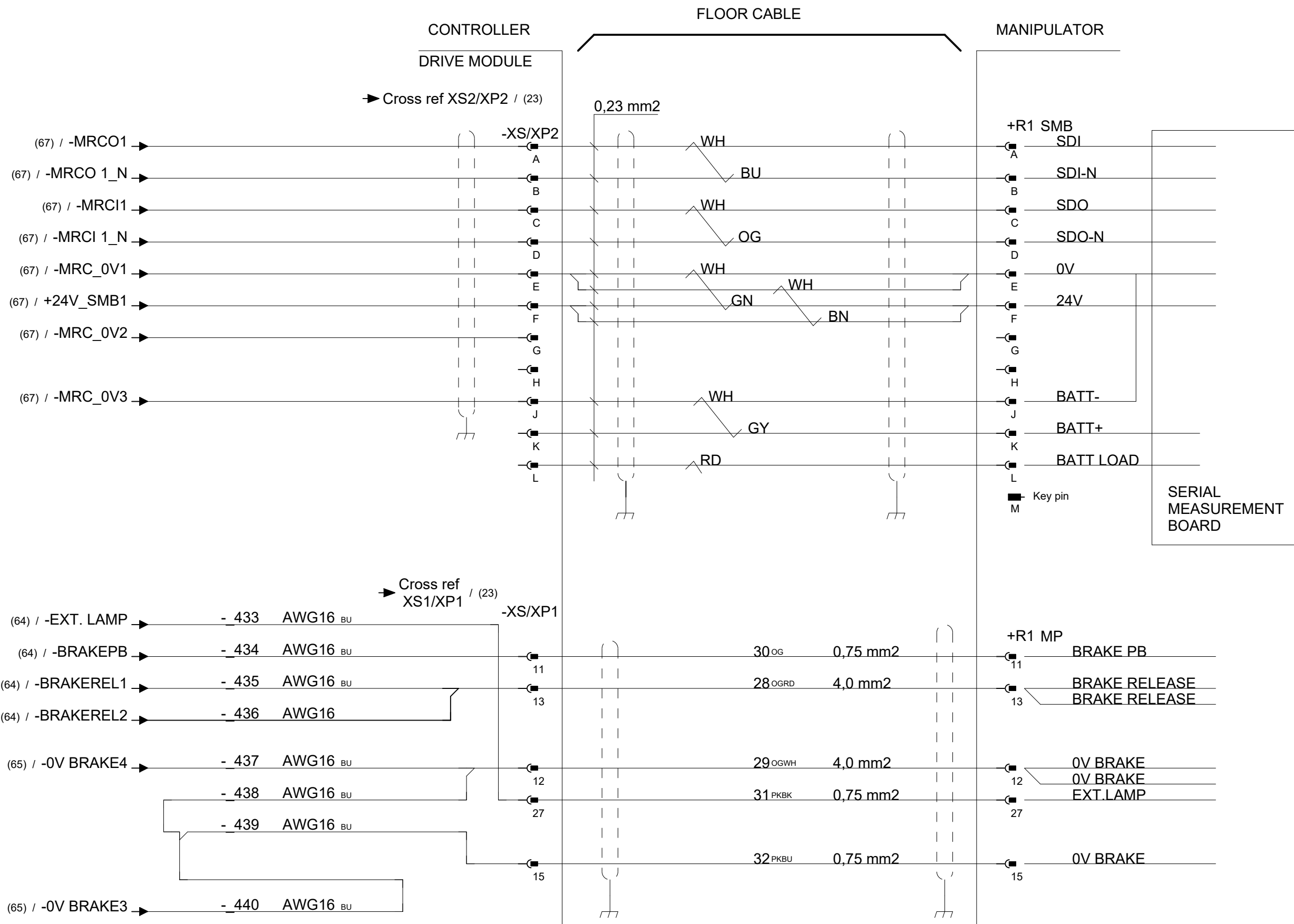
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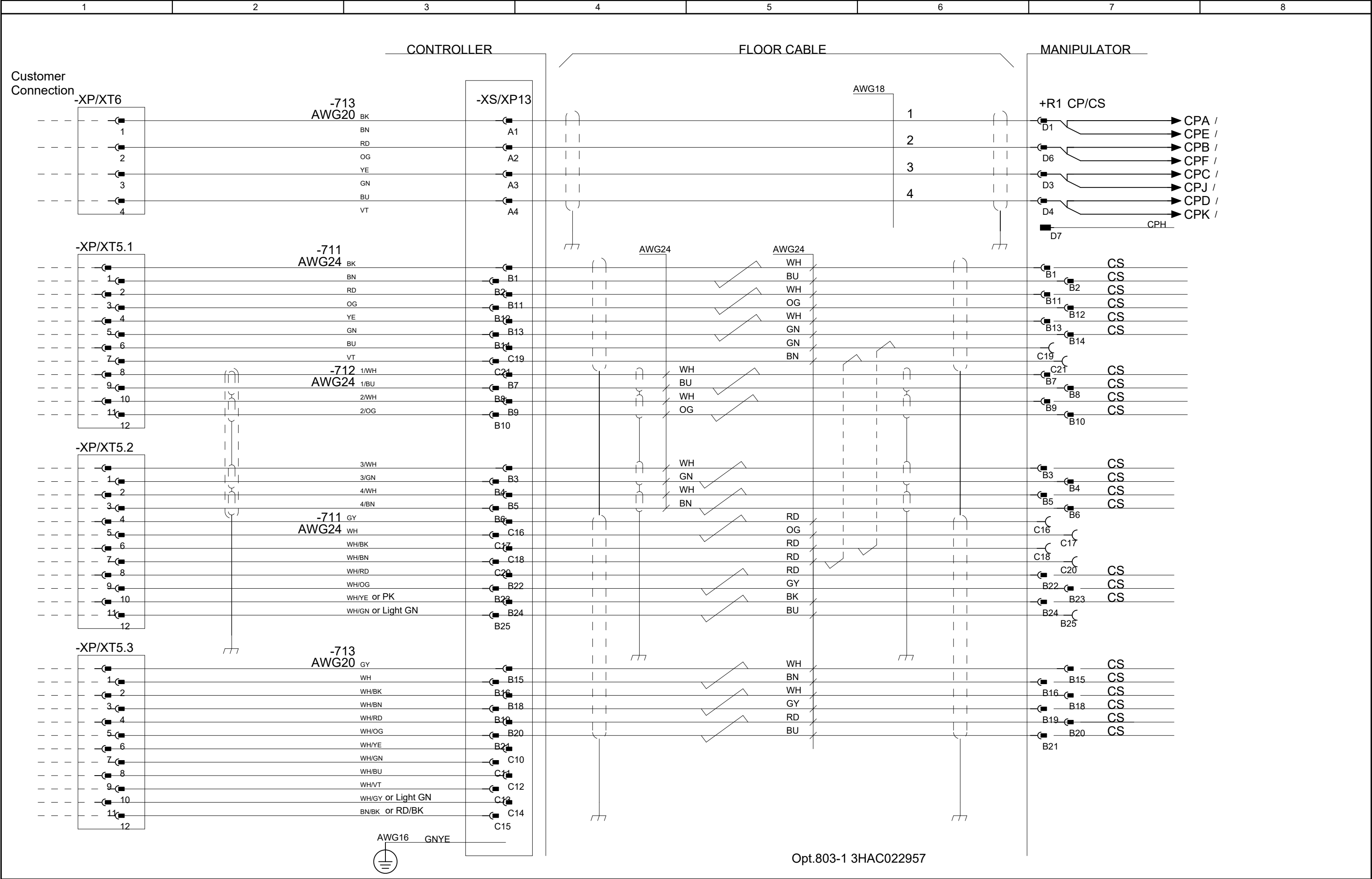
AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
XS40

CONTACTOR UNIT
A43-X5

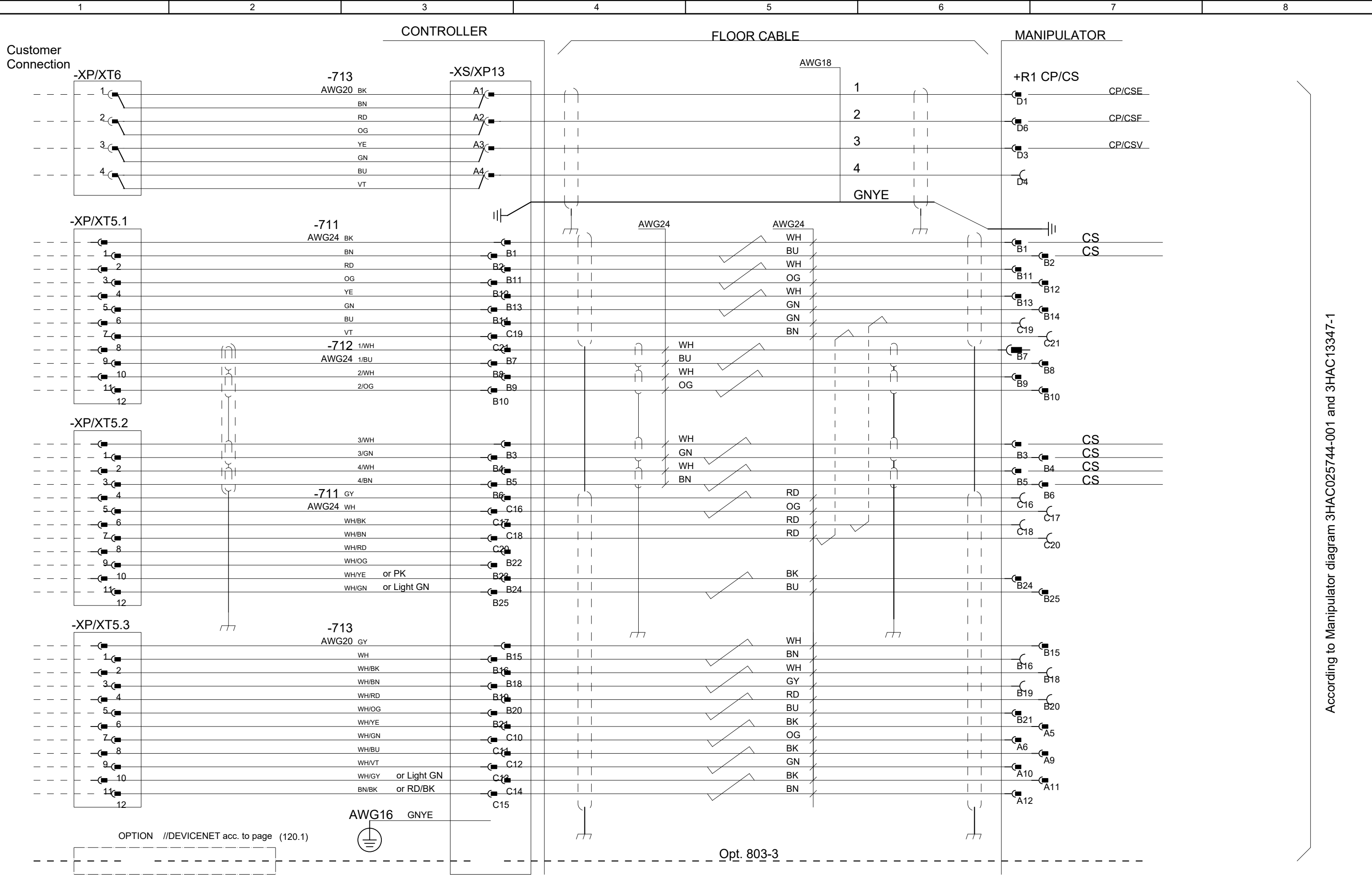


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Opt.803-1 3HAC022957

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According to Manipulator diagram 3HAC025744-001 and 3HAC13347-1

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IRC5 DESIGN 14 Rel: 18.2
CUSTOMER POWER/SIGNAL
DEVICE NET
IRB4600

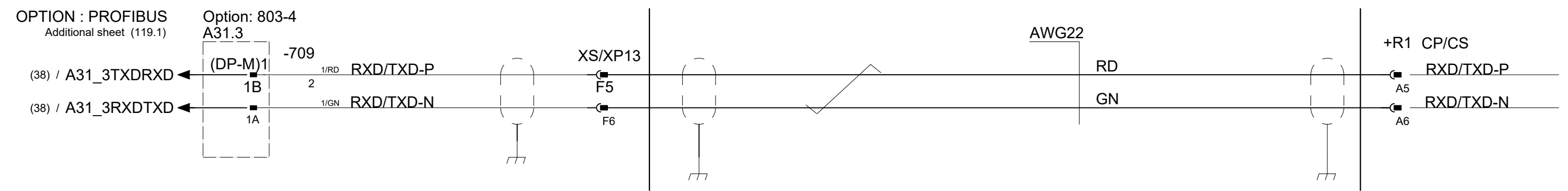
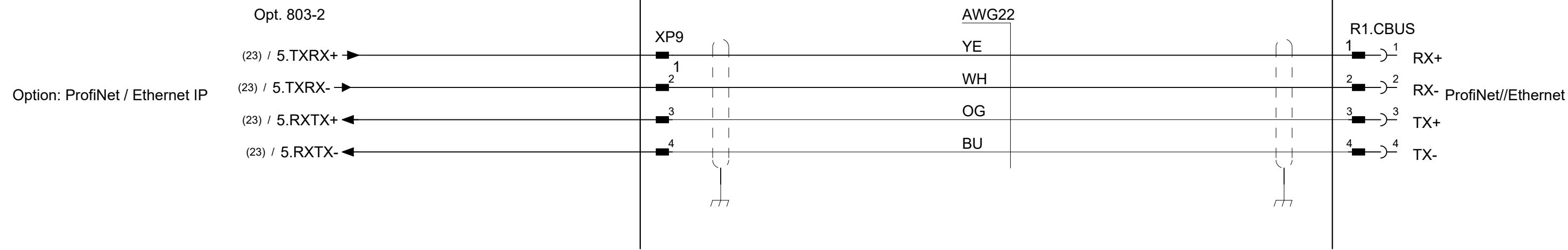
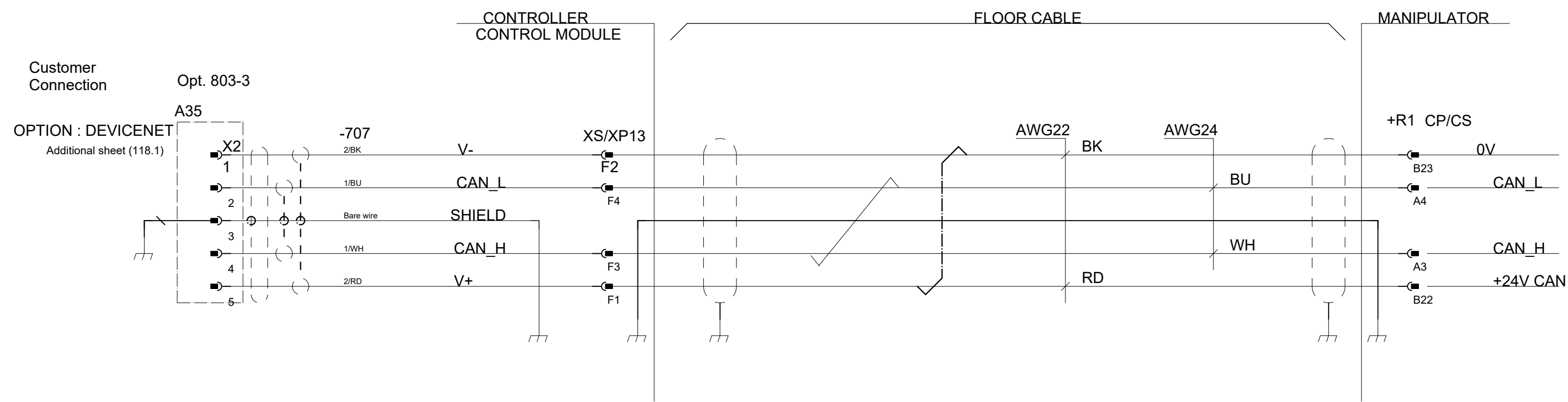
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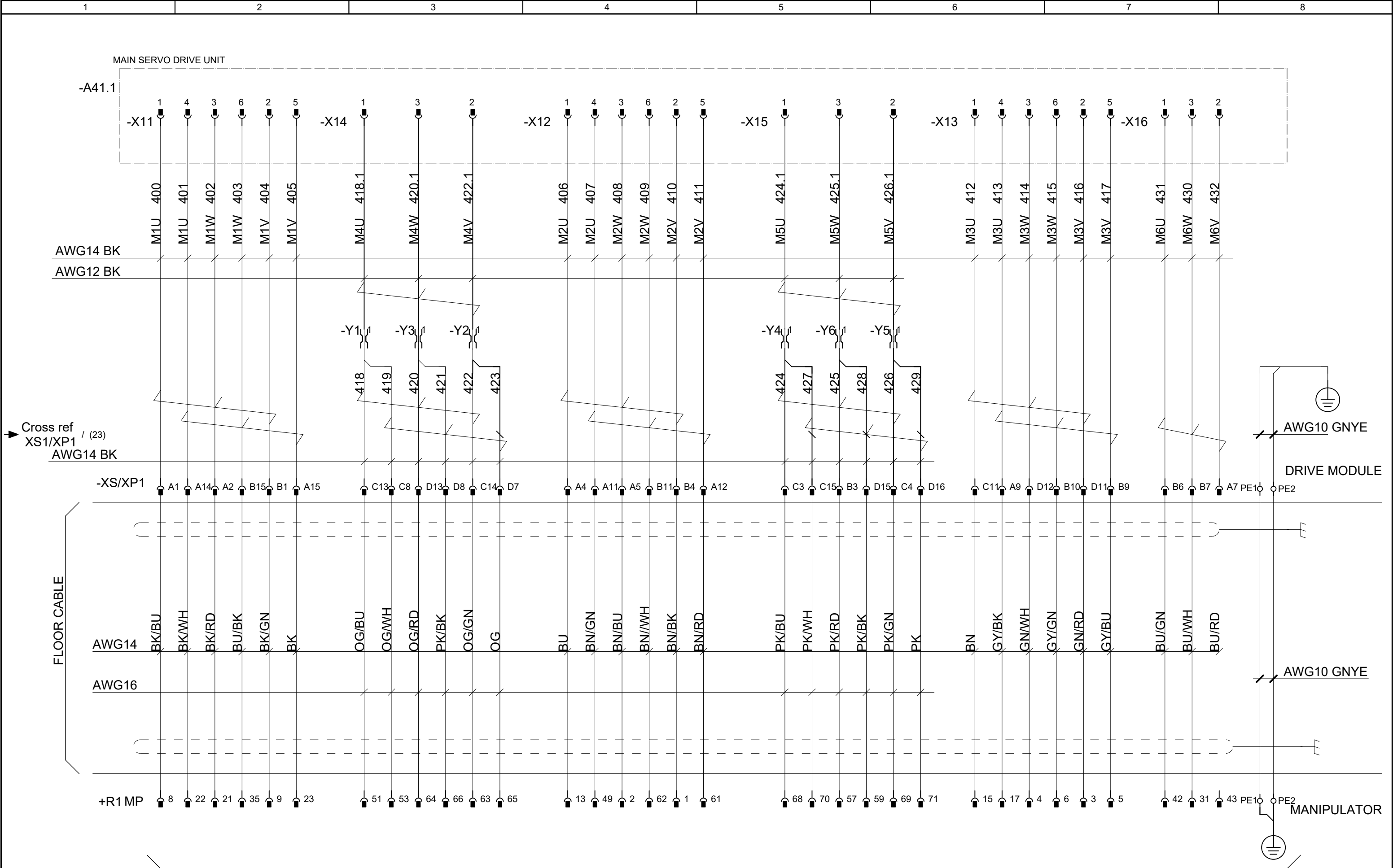
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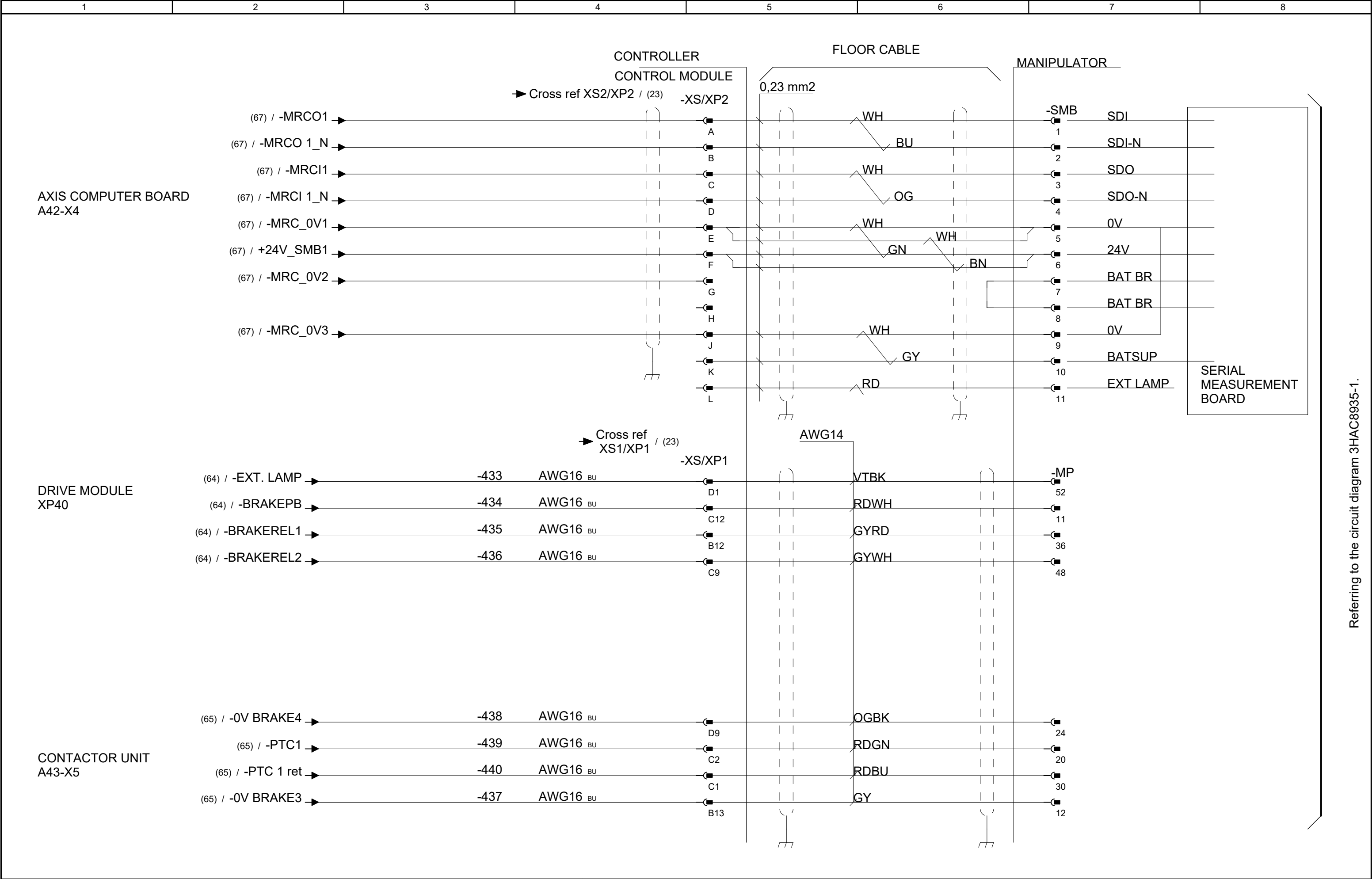
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Referring to the circuit diagram 3HAC8935-1.

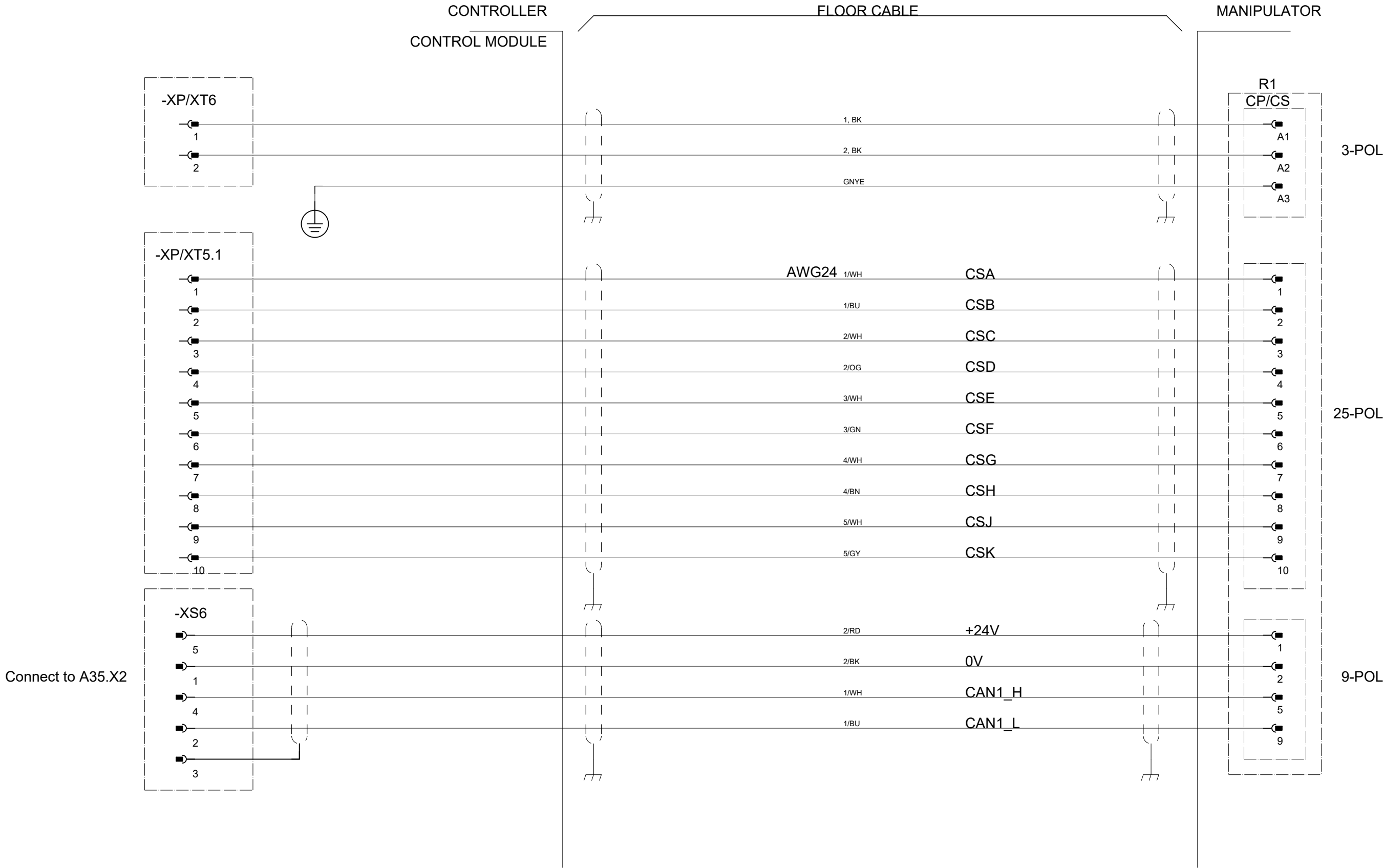
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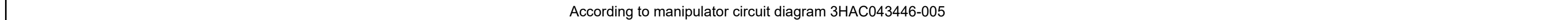


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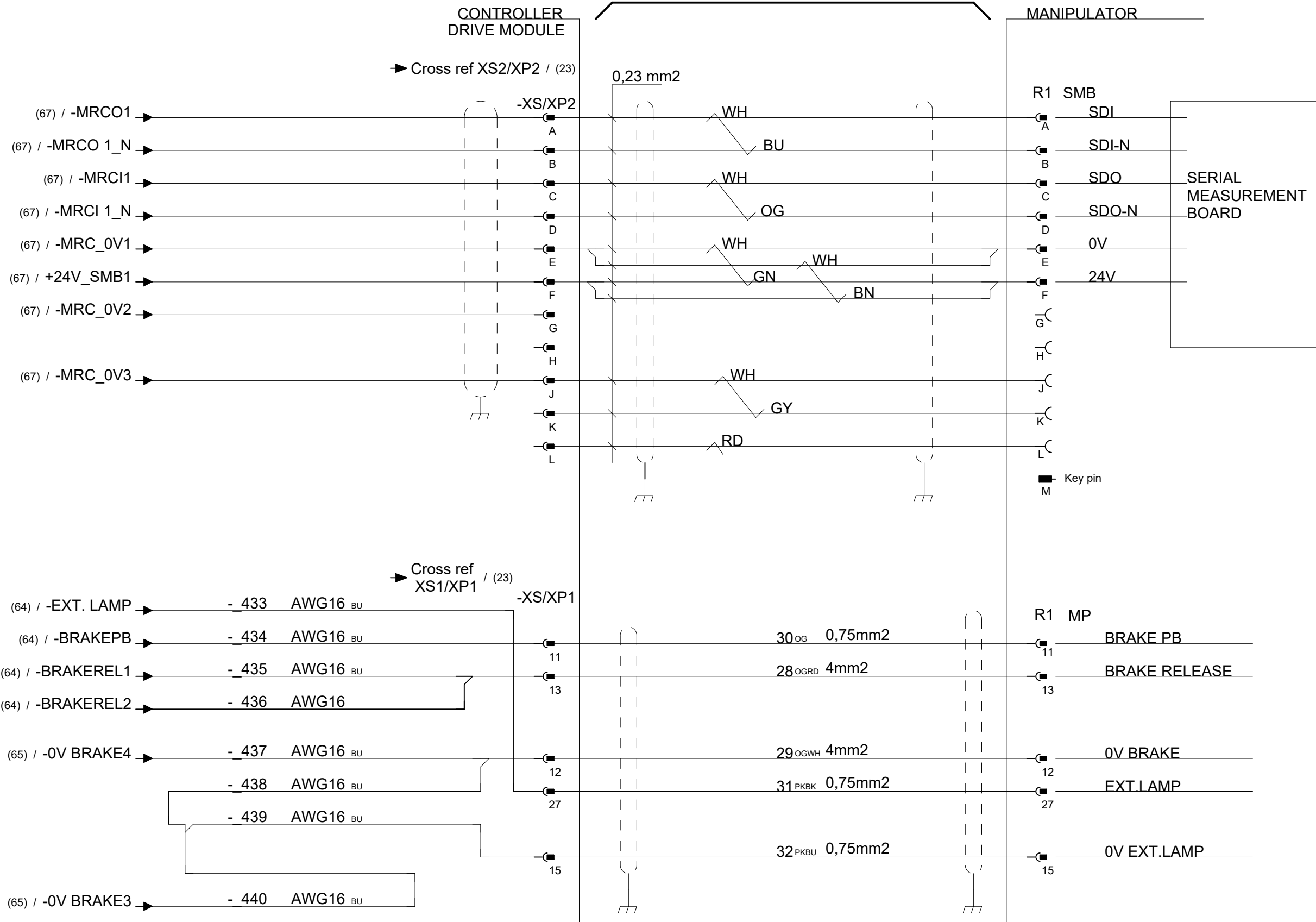


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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
XS40

CONTACTOR UNIT
A43-X5



According to manipulator circuit diagram 3HAC043446-005 r00

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IRC5 DESIGN 14 Rel: 18.2
CONTROL CABLE
IRB 6700

Status:
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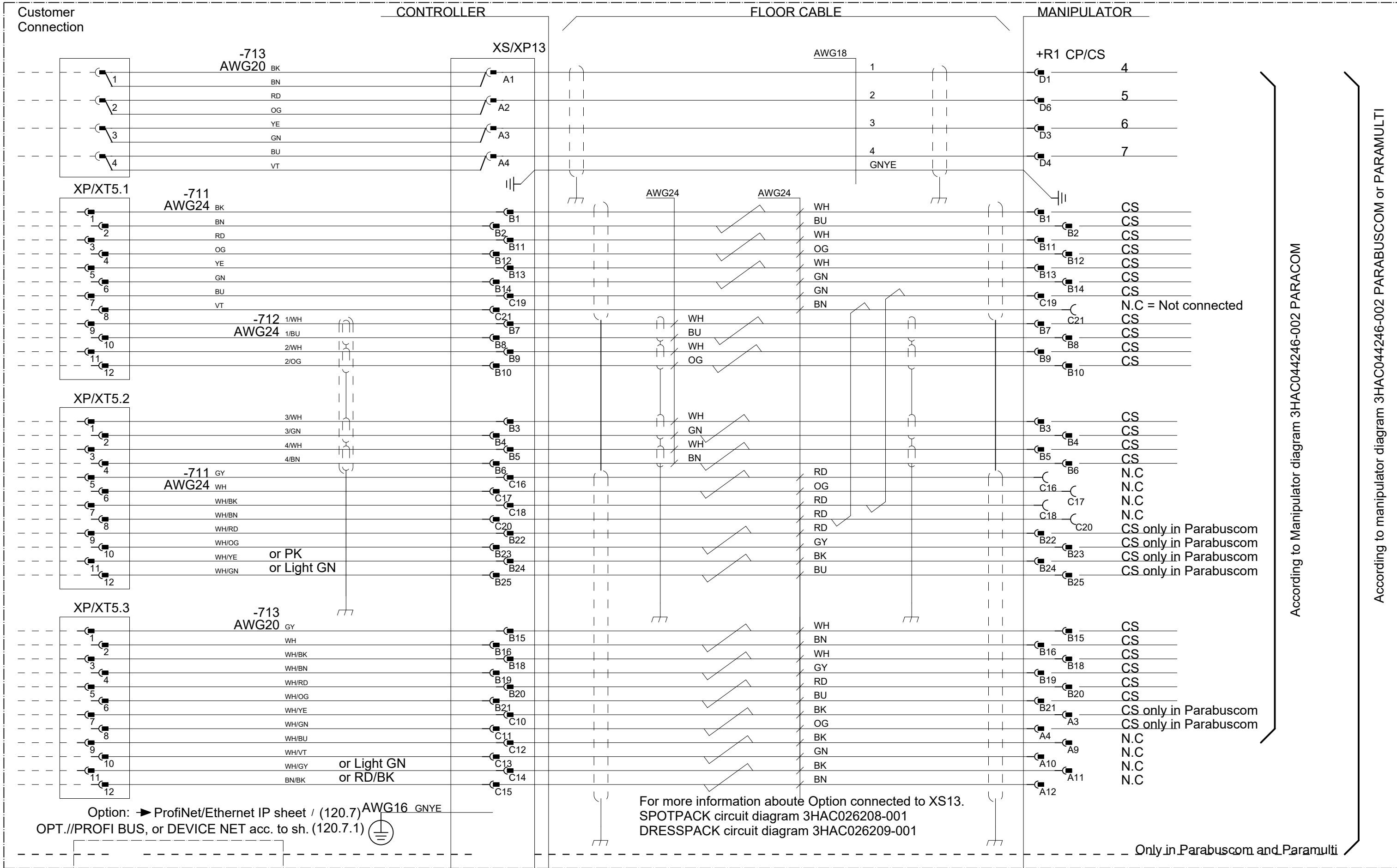
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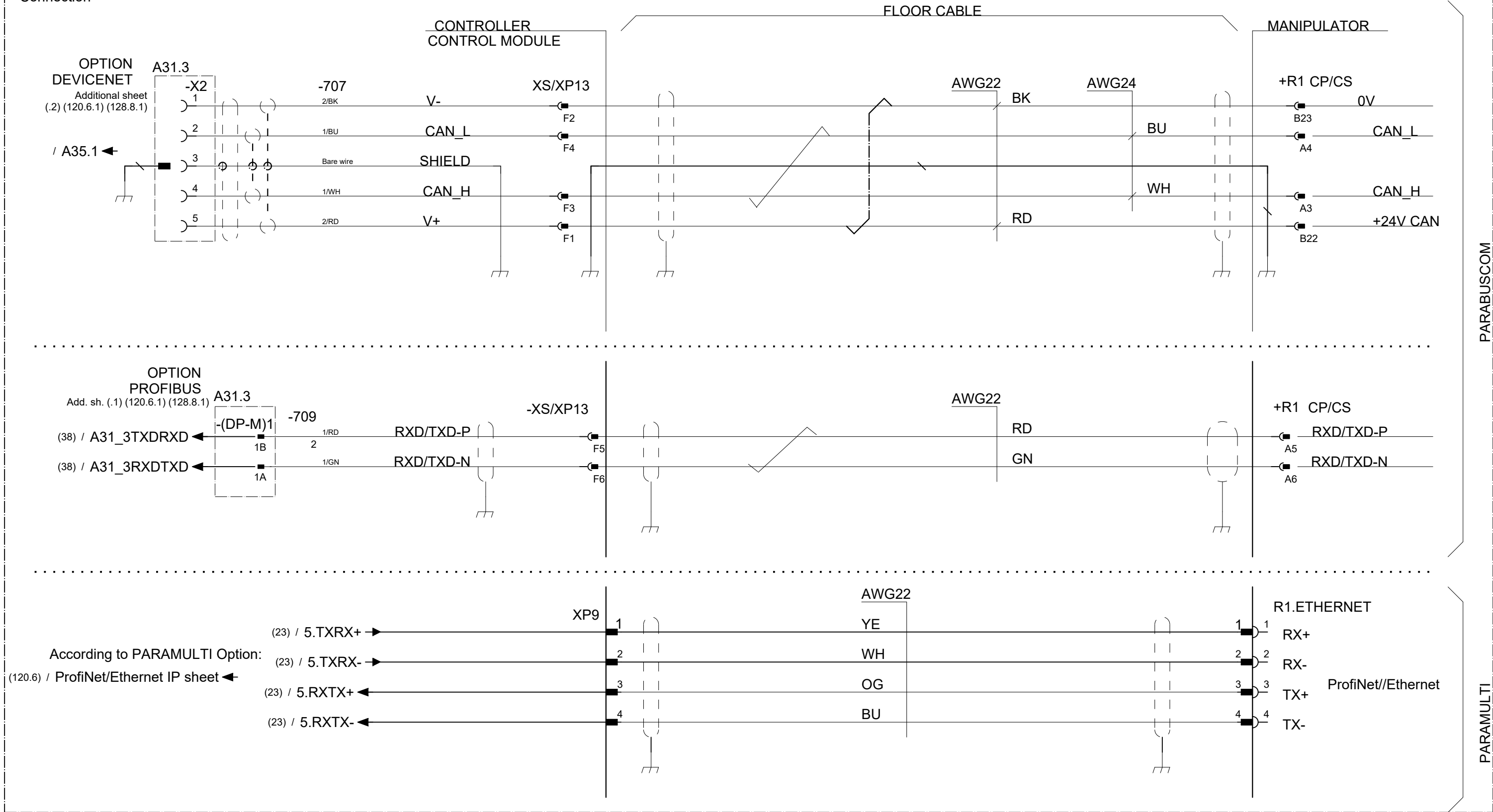
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Customer
Connection



PARAMUSCOM

PARAMULTI

According to Manipulator diagram 3HAC044246-002 r00

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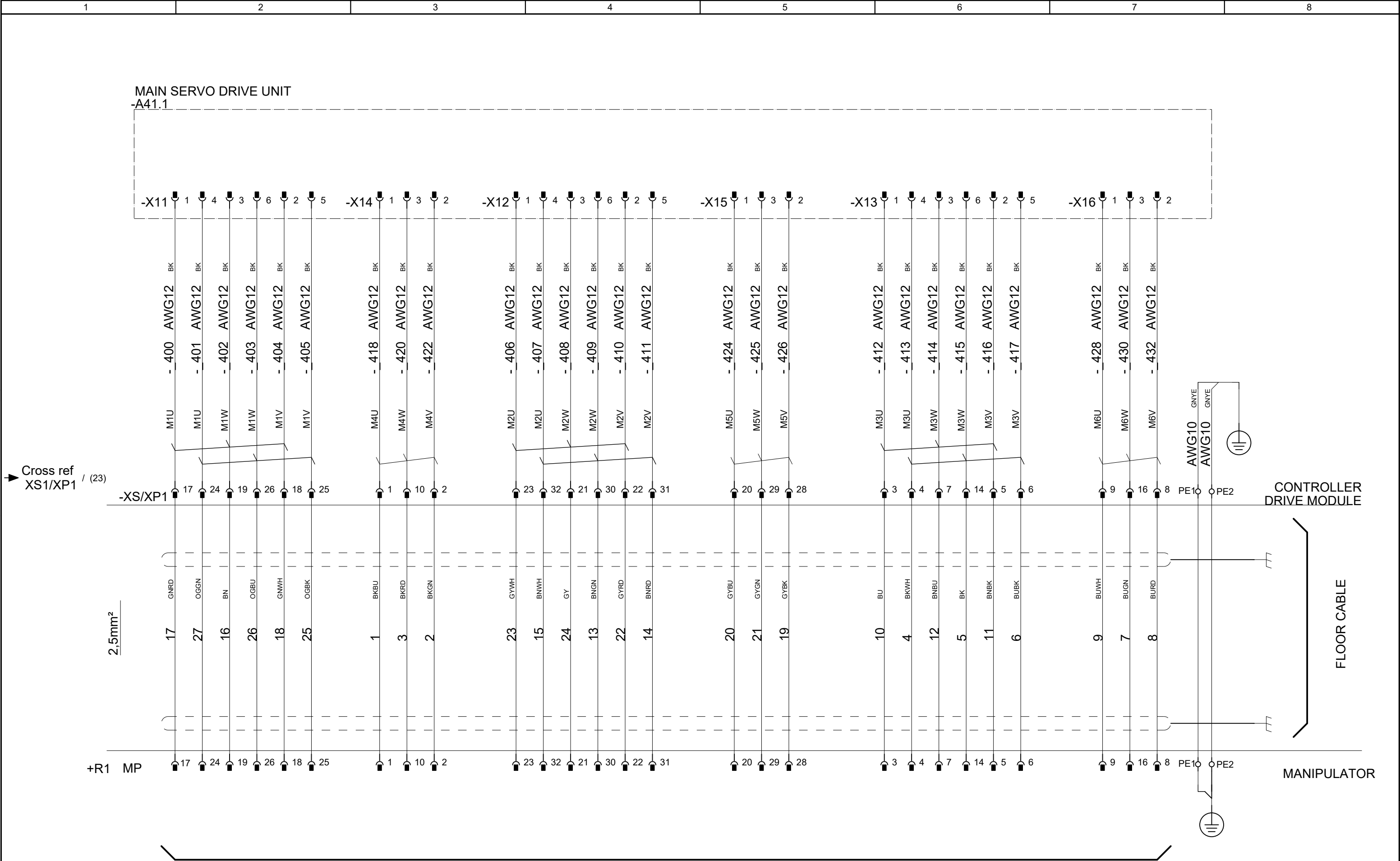


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IRC5 DESIGN 14 Rel: 18.2
DevNet//EtherNet//ProfiNet//PBUS ADDITION TO CP/CS
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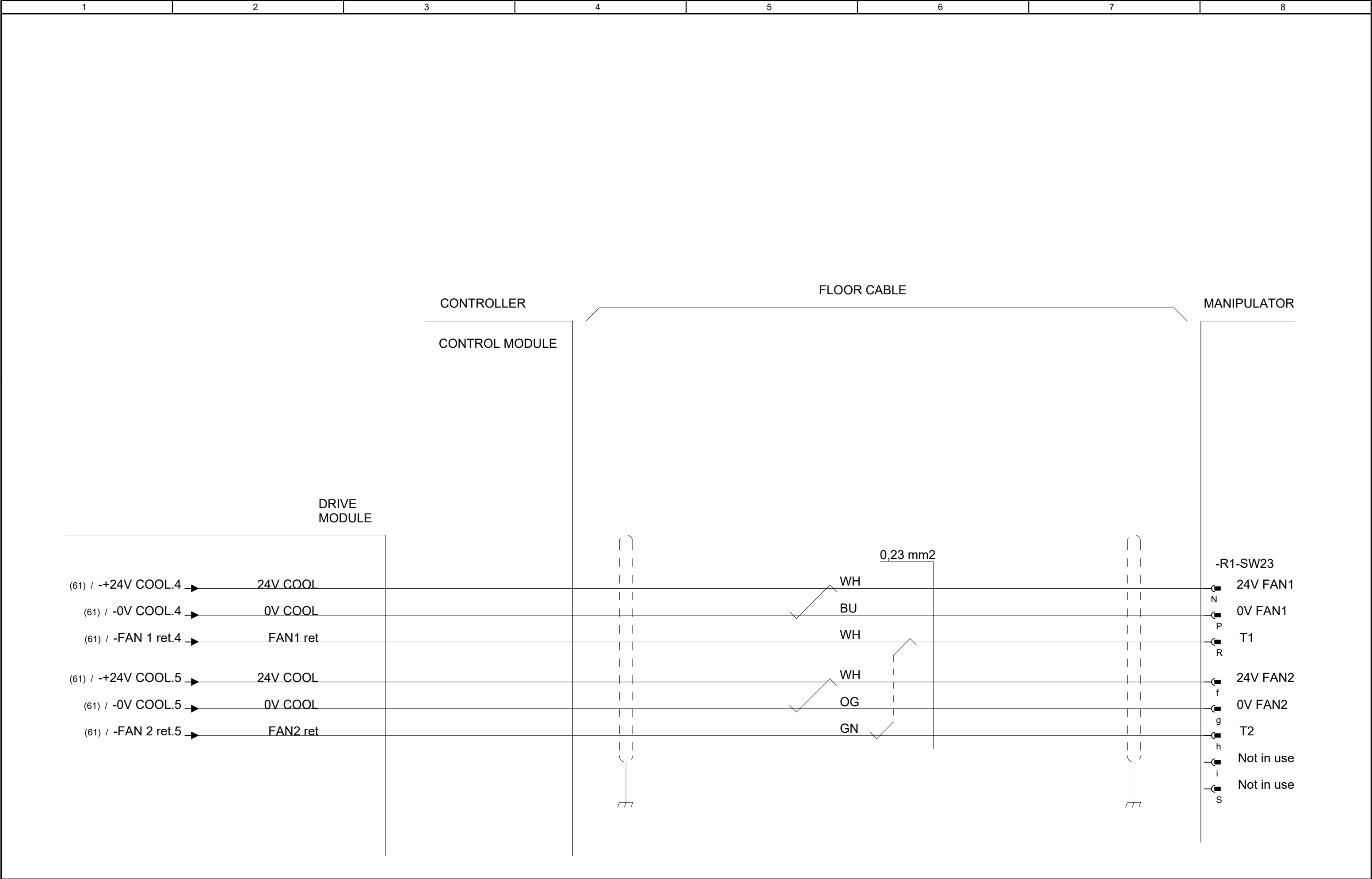


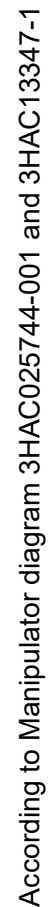
According to Manipulator IRB66XX - 76XX circuit diagram 3HAC025744-001

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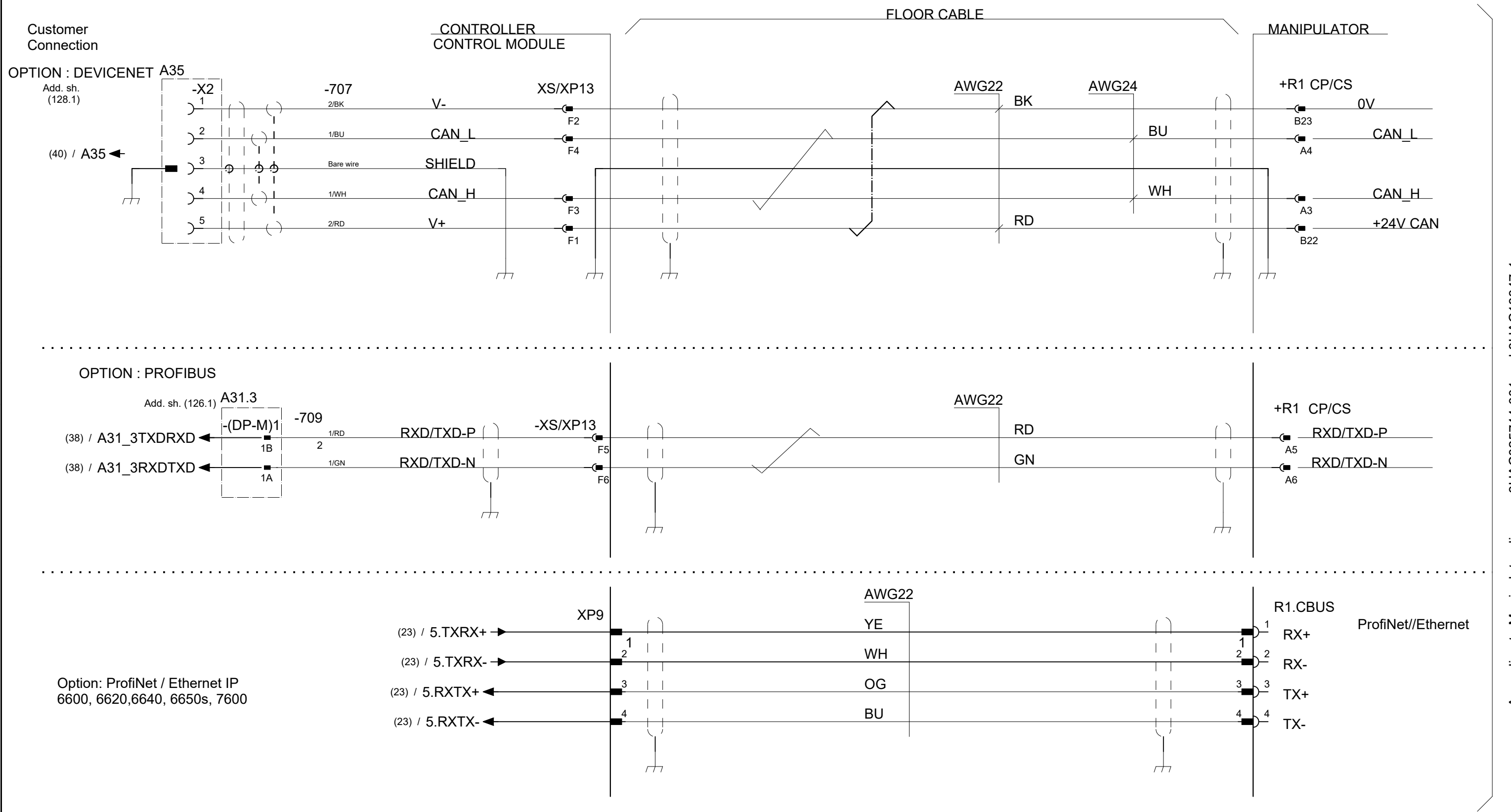


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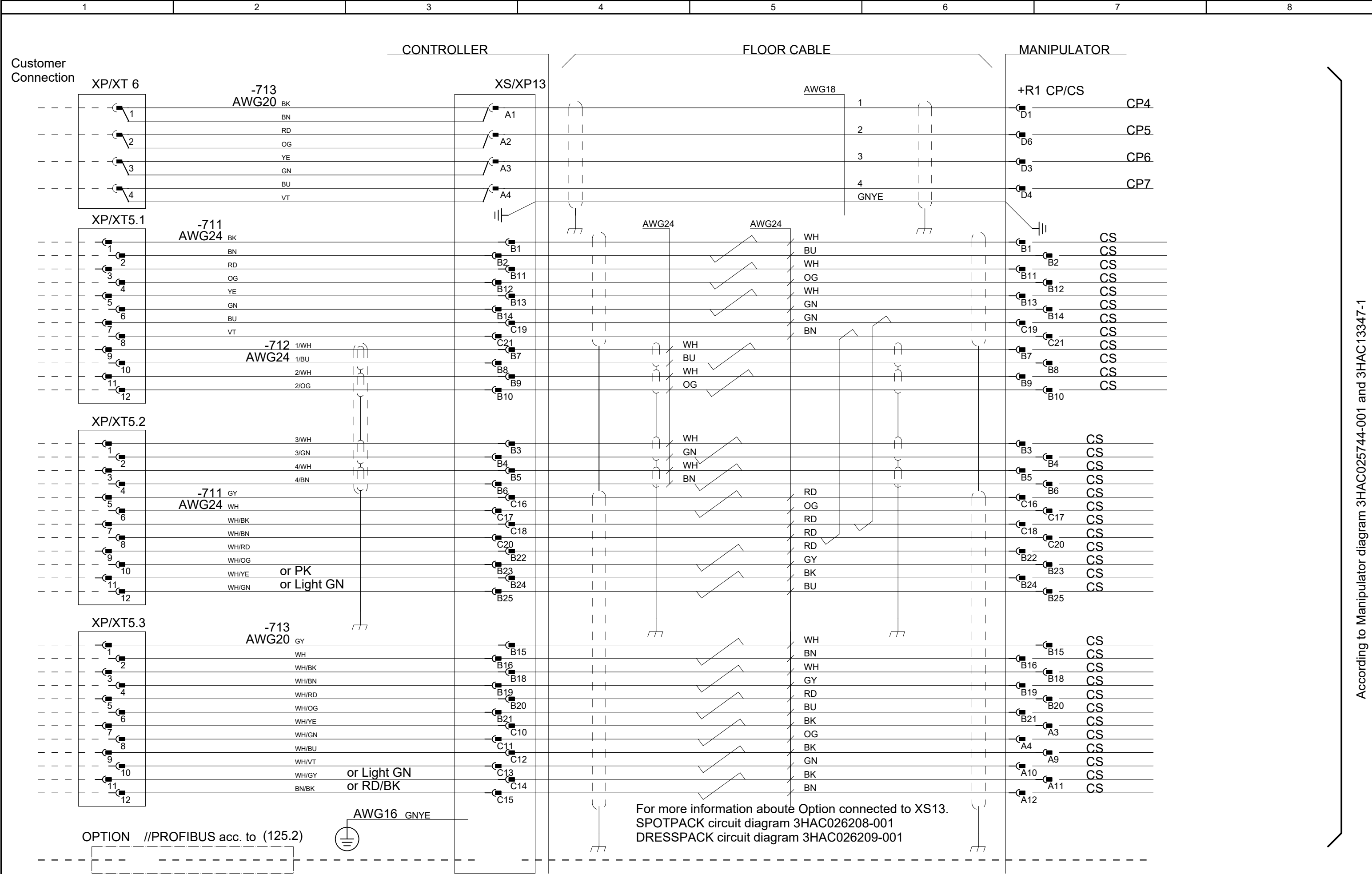


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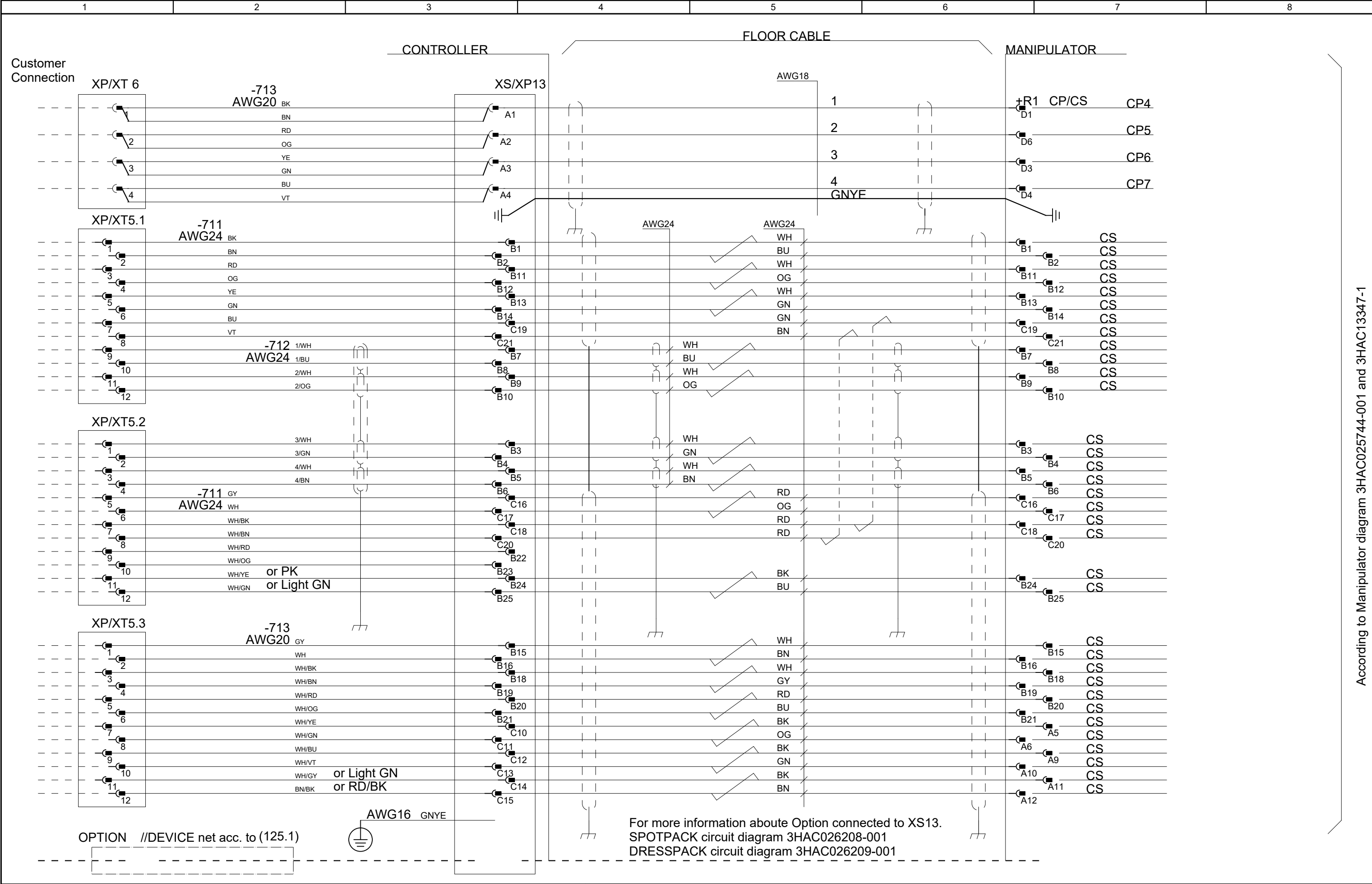
According to Manipulator diagram 3HAC025744-001 and 3HAC13347-1

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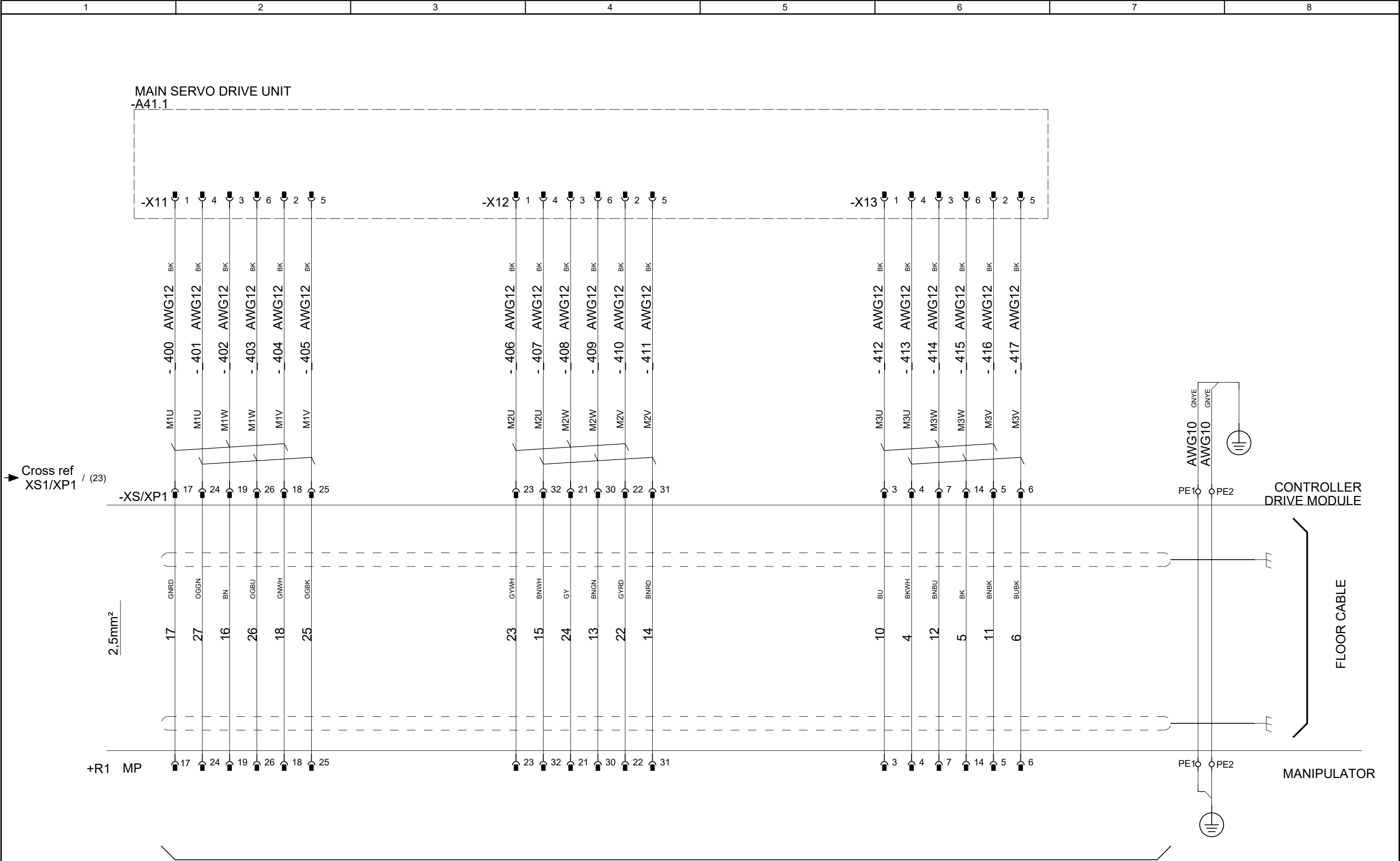
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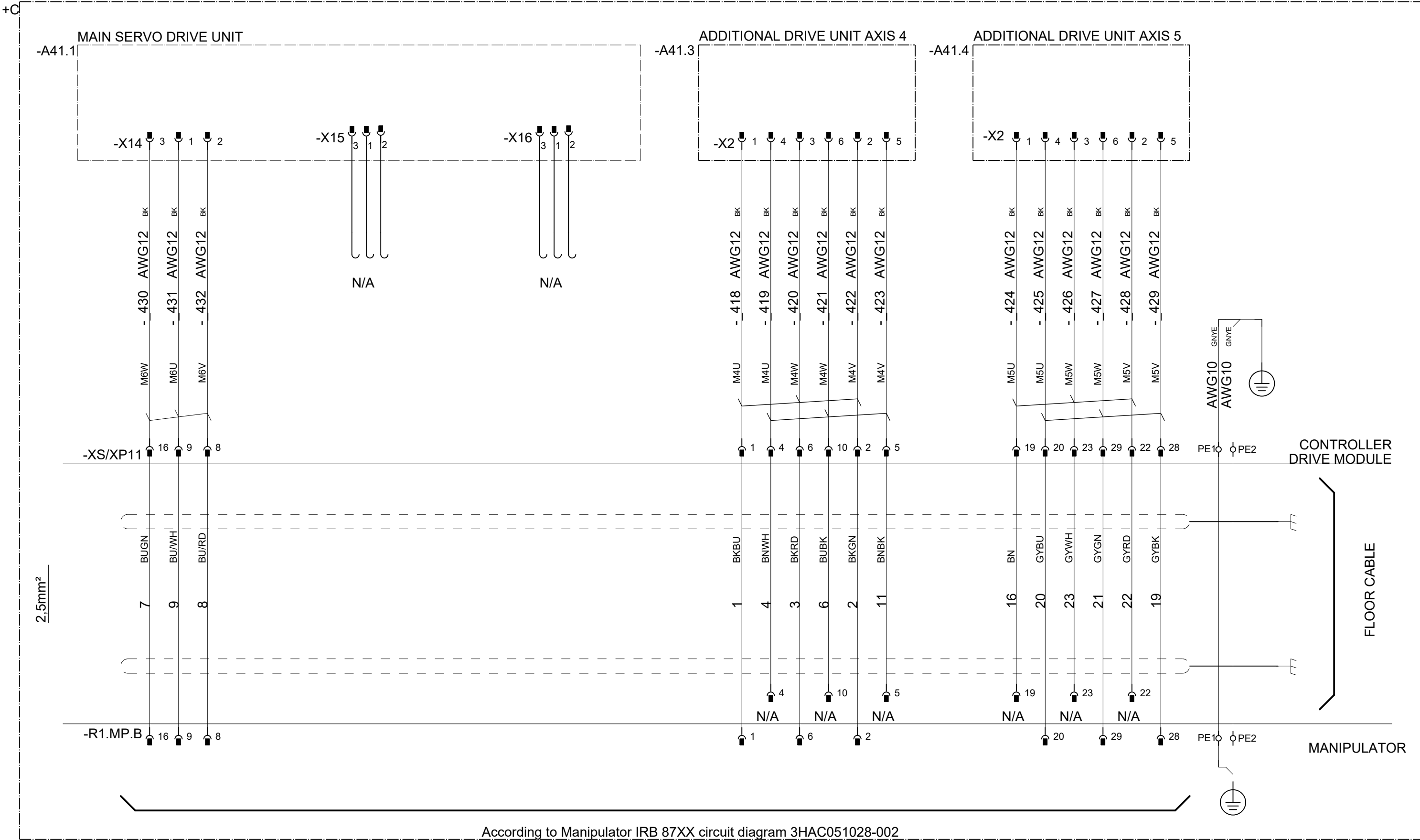


According to Manipulator IRB 87XX circuit diagram 3HAC051028-002

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Harness XP11-A41.1 3HAC050605
Harness XP1 and XP11- R1.MP_A and_B 3HAC026787



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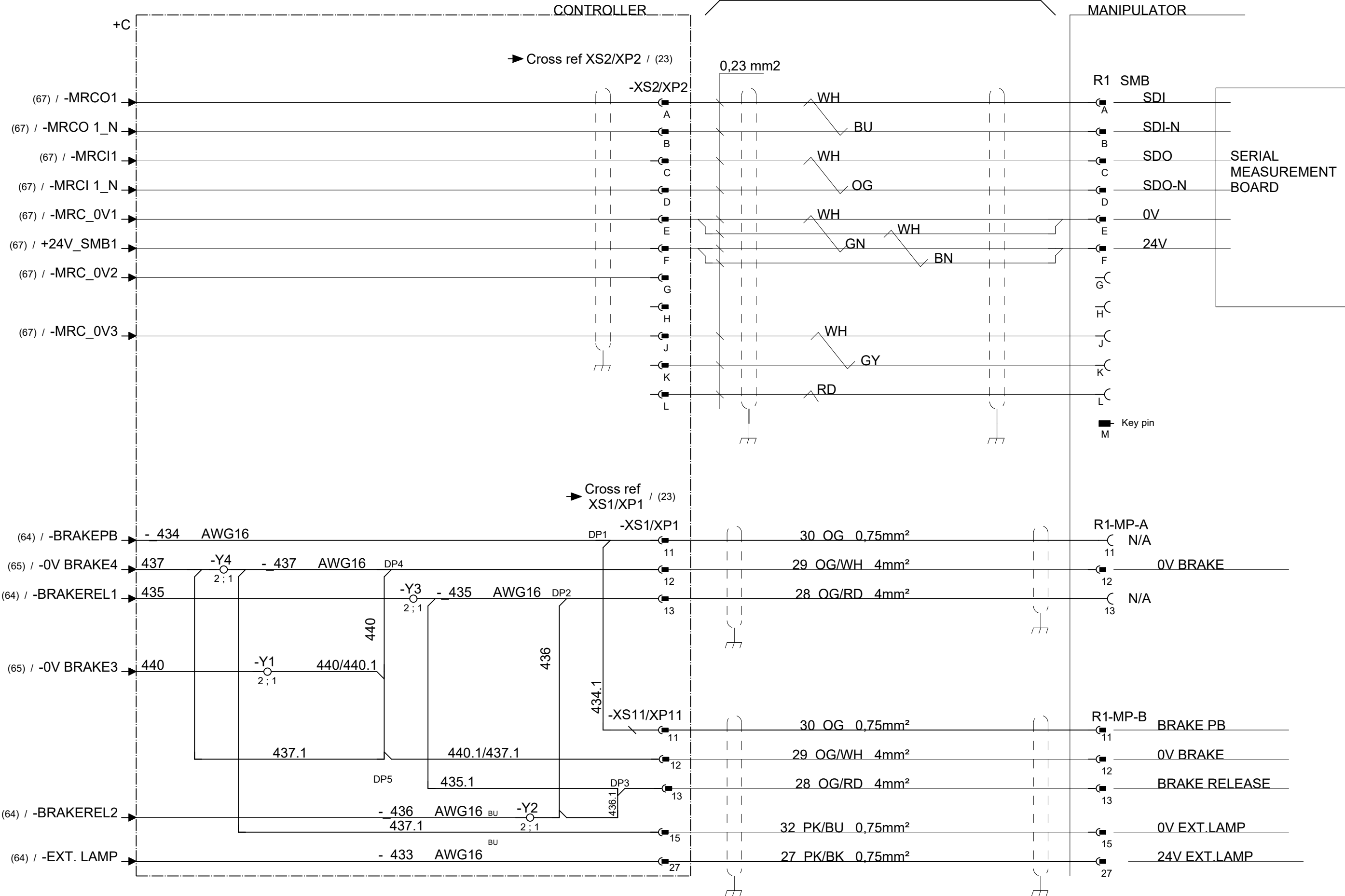
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AXIS COMPUTER BOARD
A42-X4

DRIVE MODULE
XS40

CONTACTOR UNIT
A43-X5



According to circuit diagram 3HAC051028-002

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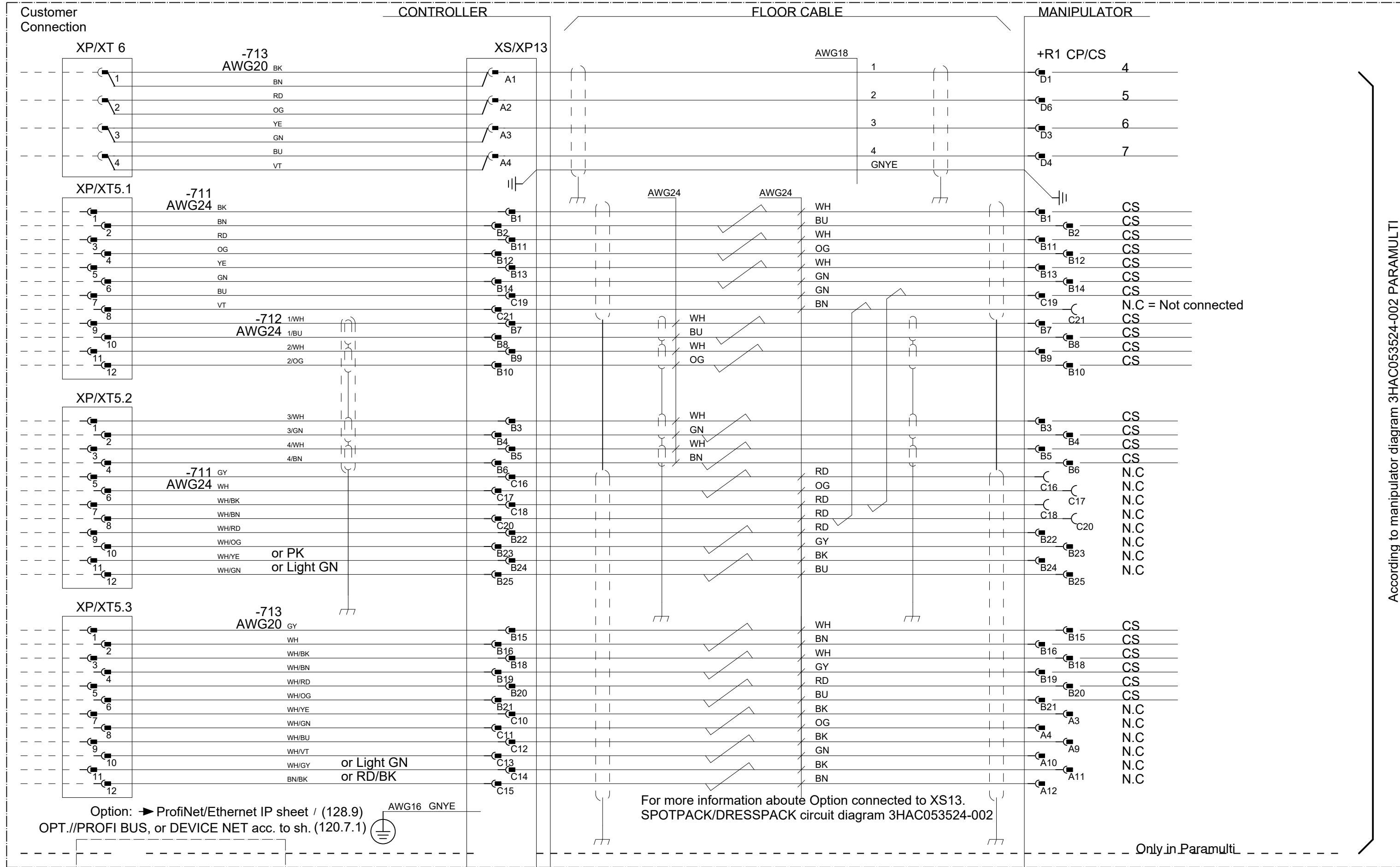
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CONTROL CABLE
IRB 87xx

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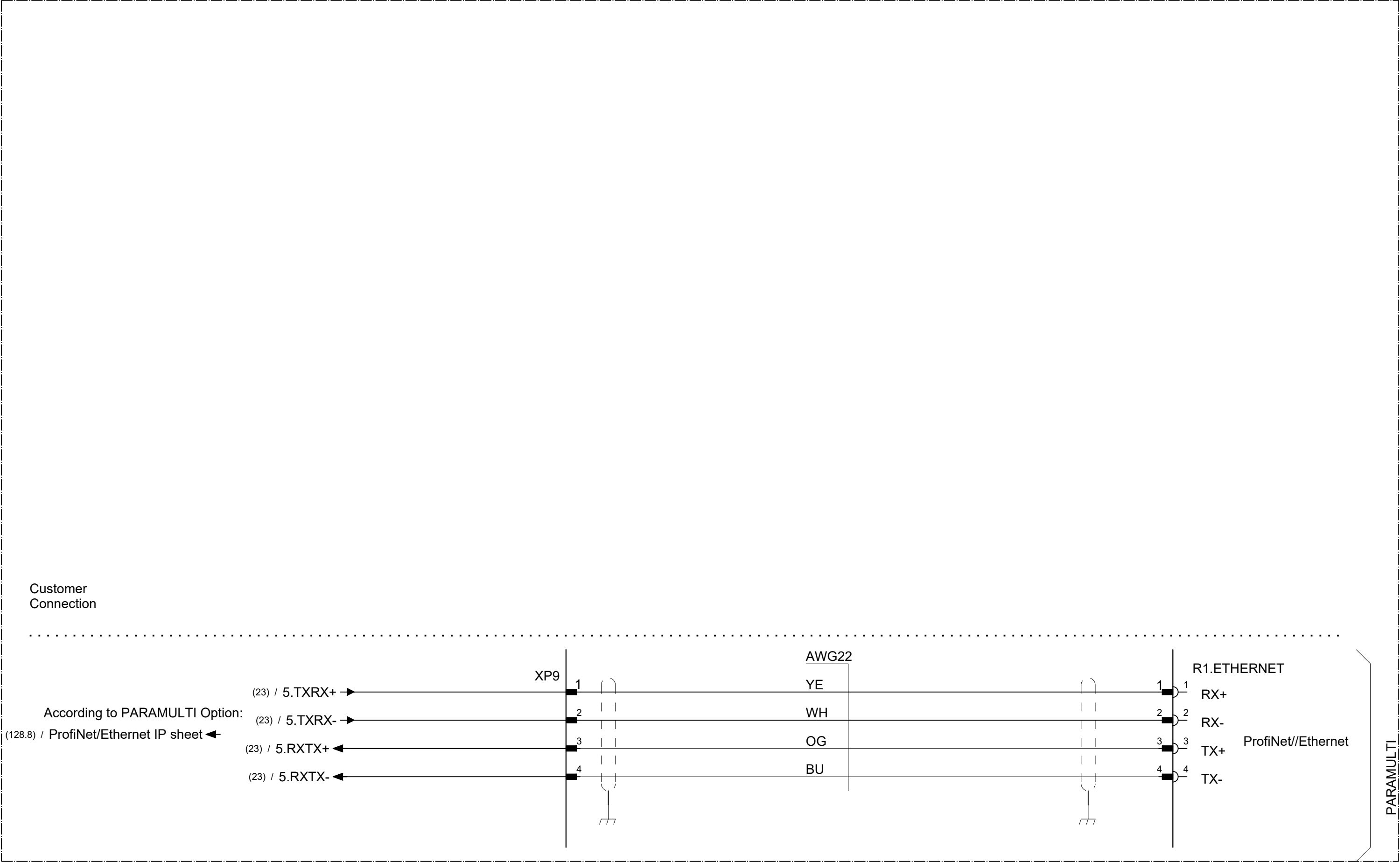
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According to manipulator diagram 3HAC053524-002 PARAMULTI

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IRC5 DESIGN 14 Rel: 18.2 DevNet//EtherNet//ProfiNet//PBUS ADDITION TO CP/CS PARAMULTI IRB 8700
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