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PMC DESIGN 14 Rel: 23D

Device list sorted by the Location name

Status: Approved 2023-10-30

Plant: =

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Revison 10 2019 03 Rel 19.A

Information: New release indentification 19.A, 19.B, 19.C, 19.D the releases is presented four times every year, instead of two times before.
Sh.10 Revision sheet updated for 19.a

34.2 wire number 787 , 785 , 786 added,
column 7//0V_INT1, +24V_INT1 0V_INT2, +24V_INT2
34.4 0V_INT, +24V_INT
34.6 0V_INT, +24V_INT
34.8 0V_INT, +24V_INT
42 X6 and x7 shifted location

Revison 11 2020 03 Rel 19.B--20.A

Sh. All The DRAFT text was removed from all sheets in column 5 in the frame.
Sh.10 Revision sheet updated for 19.B
Sh.12 Main computer DSQC1024 add.
Sh.20, 20.1, 21, 22, 22.1, 22.2, was updated Soft ware/Hard ware switch.
Sh.23 Main computer DSQC1024 add.
Sh.24 Main computer DSQC1024 add.
Sh.57.4, 57.5, 57.6 new sheet added.

Revison 12 2020 09 Rel 20.B

Structure update from IRC5 to PMC
Sh.7 Device list updated.
Sh.10 Revision sheet updated for 20.B
Sh.72 Profinet added to 460,660,760

Revison 13 2021 05 Rel 21.C

Sh.1 Copyright updated 2021
Sh.2 Table of contents updated
Sh.3 Table of contents updated

Sh.10 Revision sheet updated for 21.C
Sh.18 X5:3, :5, :9, :11 Jumper text add. Not connected. Ref to manual. Column 1.
Sh.19 Enable_1 and Enable_2 column 7 changed direction.

Revison 14 2023 10 Rel 23D

Sh. 17/18/19/20.1/24.5/48 Implementation of SafeMove.
Sh. 24.3 Misspelling of contact -S21 was -XP37
Sh. 15/37.1 Misspelling of contact -XP1 was -XP39
Sh. 68/80/86/92 Jumper added to PTC-circuit.
Sh. 71 Misspelling of contact -R1.CP/CS was -R1.SMB

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1	2	3	4	5	6	7	8

Stomme, ramverk/
Functional equipotential bonding

Stomme, ramverk/
Functional equipotential bonding

Jord, allmän symbol/
Earth , general symbol.

Störningsfri jord/
Functional earthing.

Skyddsjord/
Protective earthing.

Tvinnade ledare/
Twisted conductors.

Trippel tvinnade ledare/
Triple twisted conductors.

Fyrdubbelt tvinnade ledare/
Quadruple twisted conductors.

Part A

Part B

Tvinnade ledare part A med part B
Twisted conductors part A with part B

Skärm/
Shield.

Slutkontakt/
Make contact, general.

Handmanövrerad brytare, allmän/
Switch manually operated, general.

Styrning med spak/
Actuator (operated by lever).

Styrning genom vridning/
Actuator(operated by turning).

Styrning genom tryckning/
Actuator(operated by pushing).

Nödstopp (svamptryckknapp)/
Actuator, emergency.

Styrning, elektromagnetisk styrdon/
Actuator, by electromagnetic.

PAST DESIGN

Old component design.
Old circuit design.
Old phased out option.

Filter/
Filter.

Lampa/
Lamp.

Kontakthylsa hona/
Socket outlet female.

Kontaktstift hane/
Pin male.

Strömtransformator/
Current transformer.

Likström, DC /
Direct current, DC.

Växelström, AC /
Alternating current, AC.

Varistor/
Varistor

U

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.

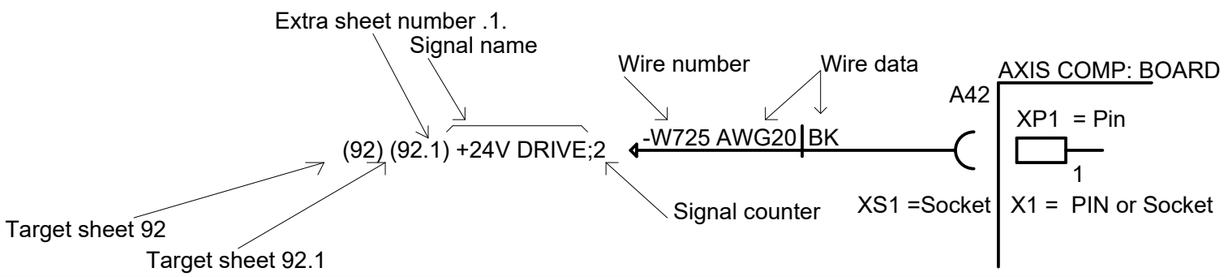
AWG28	0,093	AWG18	0,93
AWG26	0,15	AWG16	1,25
AWG24	0,25	AWG14	2,44
AWG22	0,34	AWG12	3,02
AWG20	0,56	AWG10	4,65

Run chain presentation starts at sheet 13.
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.

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



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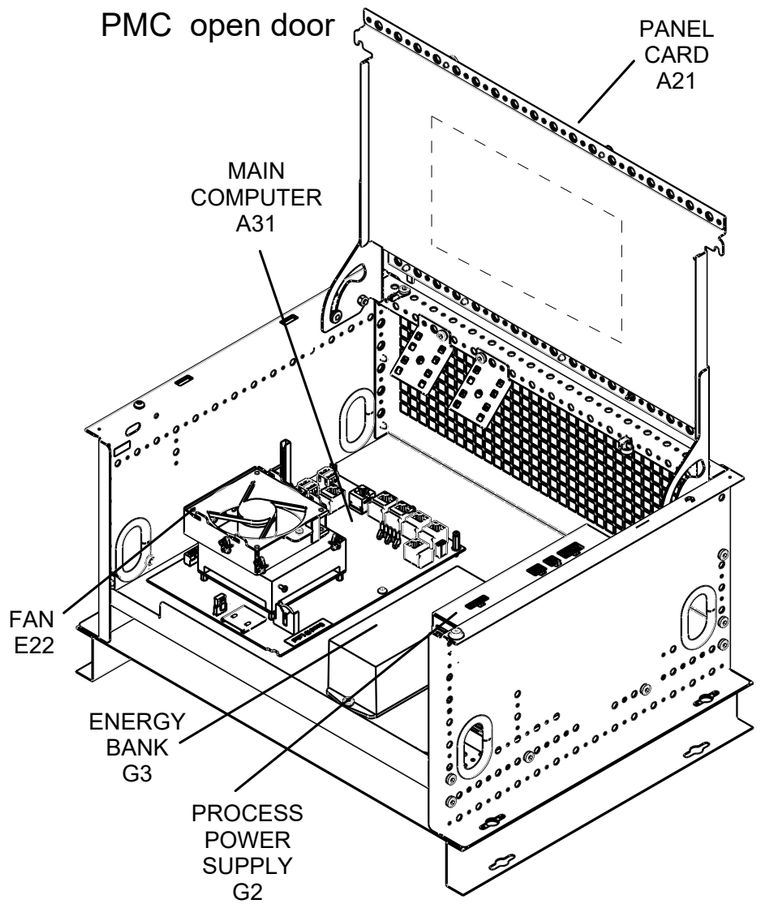
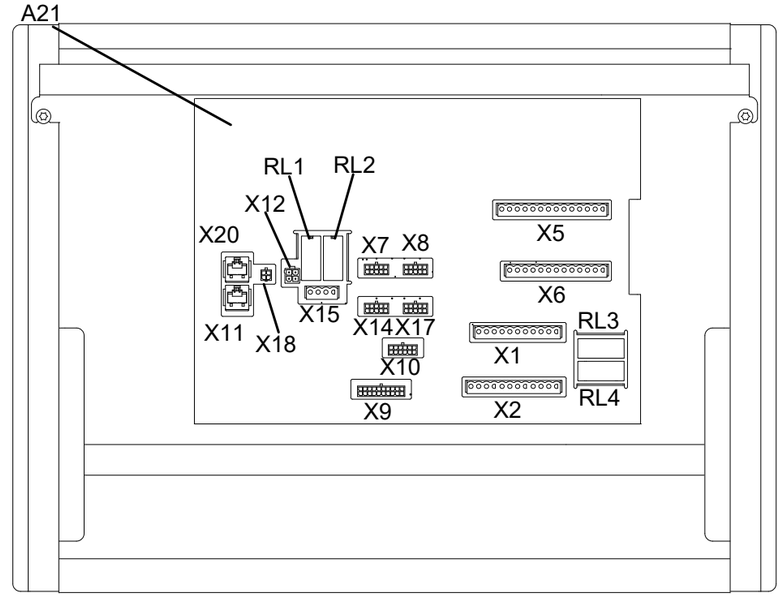
Main Computer Unit DSQC1000 Rel. 15.2 and earlier
Main Computer Unit DSQC1018 Rel. 16.1
Main Computer Unit DSQC1024 Rel. 20.A

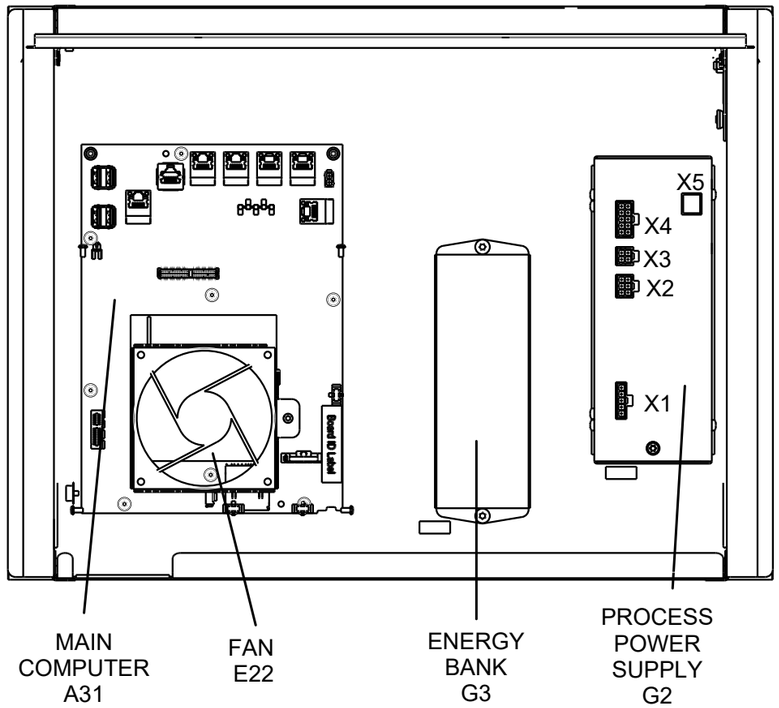
PMC open door



PMC top view



PMC bottom view



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Interface Board
Old: DSQC1001
New: DSQC1017
3HAC050354-001

POWER
Pin no 1 = 0V
Pin no 2 = 24V

A31.1

AXC
PANEL UNIT
WAN 10/100/1000
LAN 3 10/100/1000
LAN 2 10/100
LAN 1 10/100

USB 2/1 X10
USB 4/3 X11
X9
X7
X6
X5
X4
X3
X1
X2
SERVICE 10/100
POWER
DISC-Act
NS
MS
STATUS

X15
2, 4, 6..... ...78, 80
1, 3, 5..... ...77, 79
COM Express module
New DSQC1022/1026
Old DSQC1002

X16
X12
X20
Battery BT1
DSQC1017
BT1
Old: Battery
in DSQC1001

Pin 3 = 0V
Pin 2 = Tacho
Pin 1 = 24V
X19
Fan power
X13
SD card 2GB
DSQC1008

A31.3
PROFIBUS M PCI
DSQC1005

A31.2
DeviceNet M/S PCI
DSQC1006

AnybusCC/RS232
Expansion Board
DSQC1003
Console
Com1
Back side 80,78... ....6, 4, 2
Front side 79,77... ....5, 3, 1

Profibus/S A32.4
ProfiNet/S A32.3
Ethernet /IP/S A32.1
DeviceNet/S A32.2
DSQC1004

A32
3HAC046408-001
X2
Front side
X1
X3

A31.4 PROFIBUS M PCI
DSQC1005

A31.4 Safety board
DSQC1015

New: DSQC2000 Opt.1551-1
3HNA027579-001

A67 CONVEYOR TRACKING CMT

X11--X13
X1
X3
X7 WAN
X6 LAN
X5 LAN
X22
X21--X28
X20

BAR-CODE AREA
CTM-01
Art. No.: 3HNA027579-001
Rev. No.: rr
Ser. No.: SSSSSS#YYWWNNNN
DSQC 2000
CTM-01
ABB
ABB AB, Robotics

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D INTERFACE BOARD, ANYBUS
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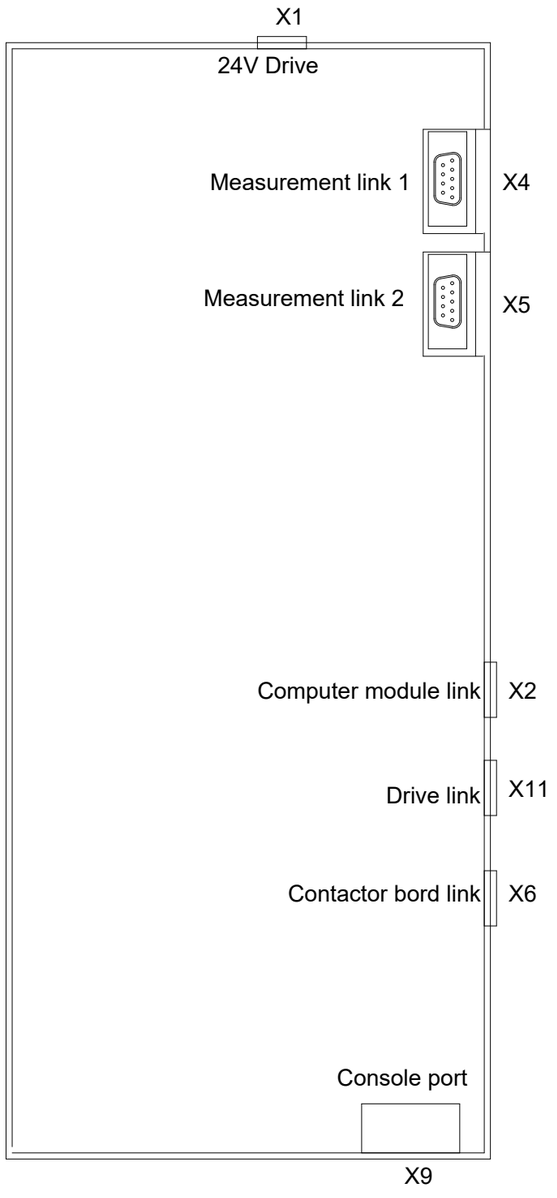
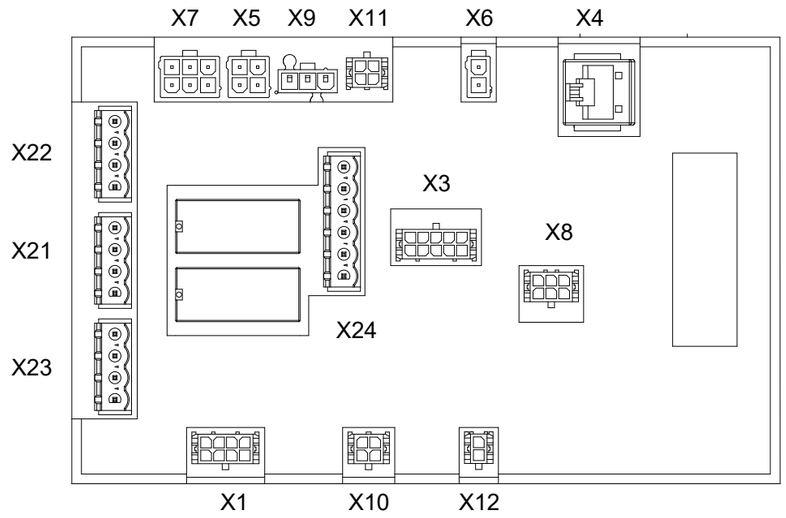
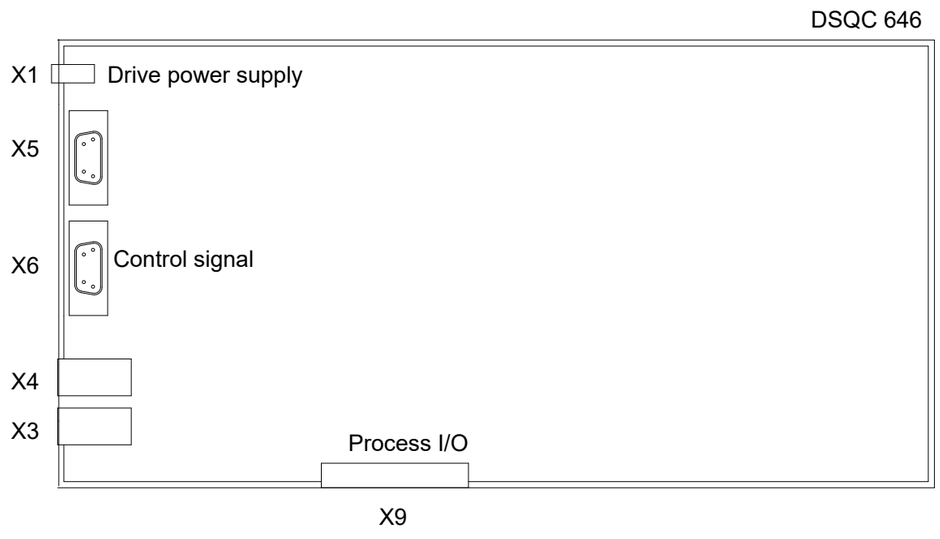
A42 Axis computer unit



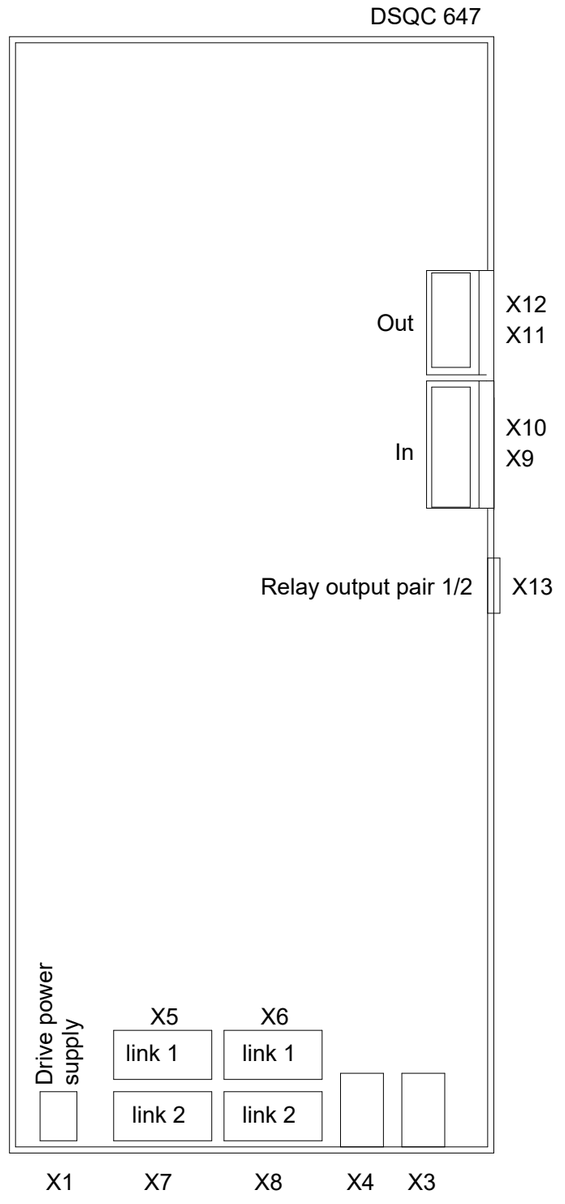
A43 Contactor unit



A44 EPS unit



A44 Safe move



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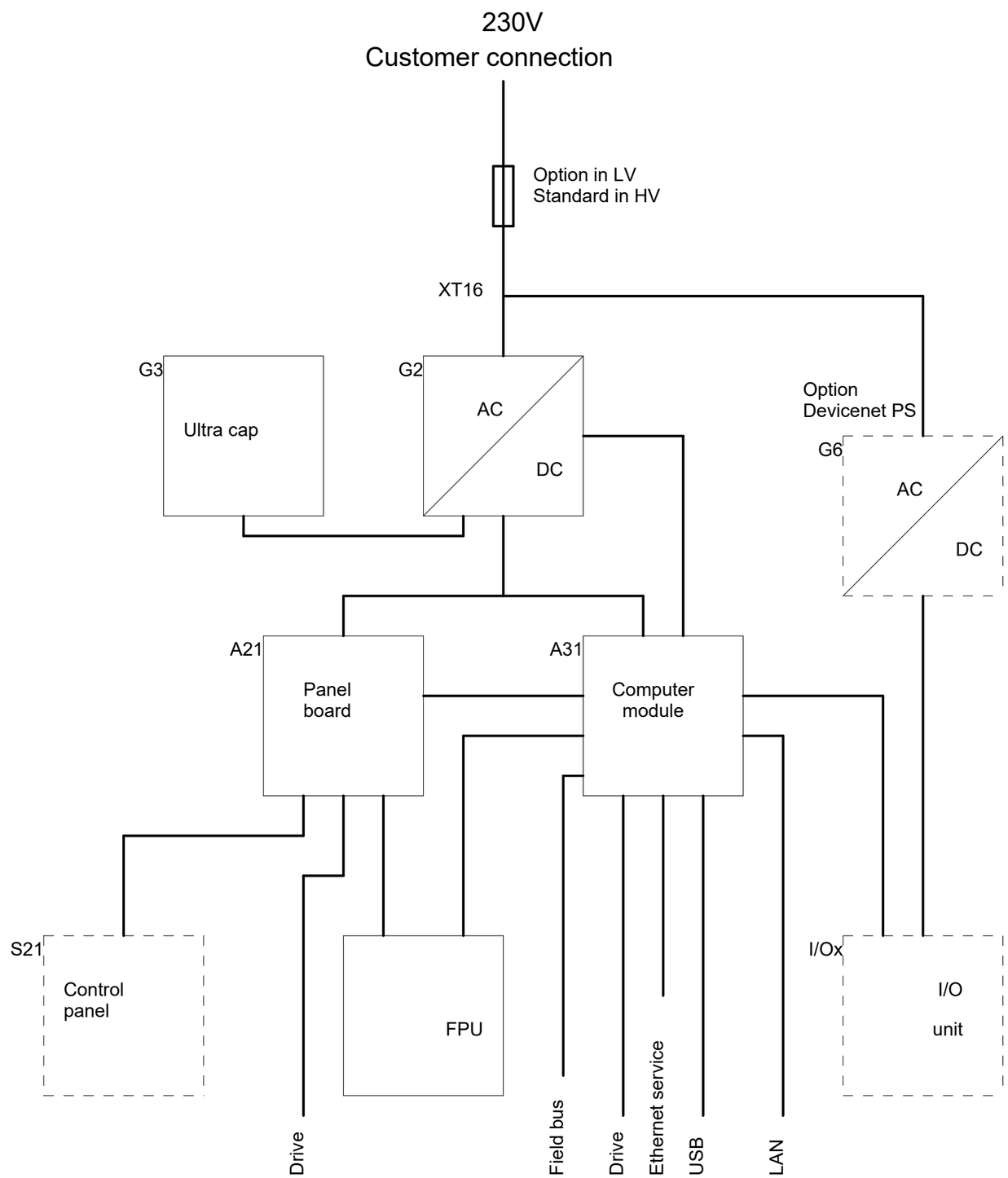

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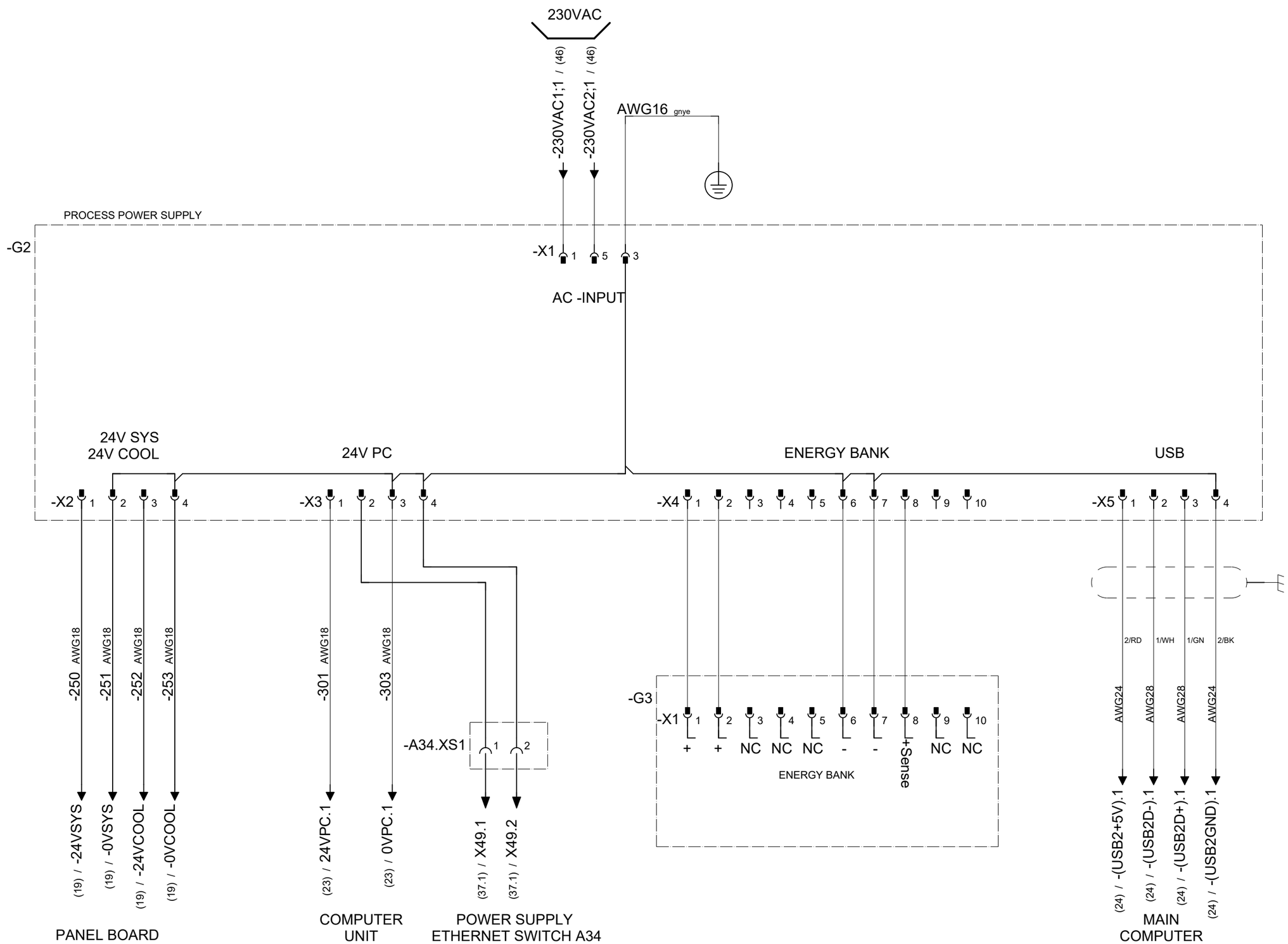

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D PROCESS POWER SUPPLY	Status: Approved	Plant: = Location: + Sublocation:+
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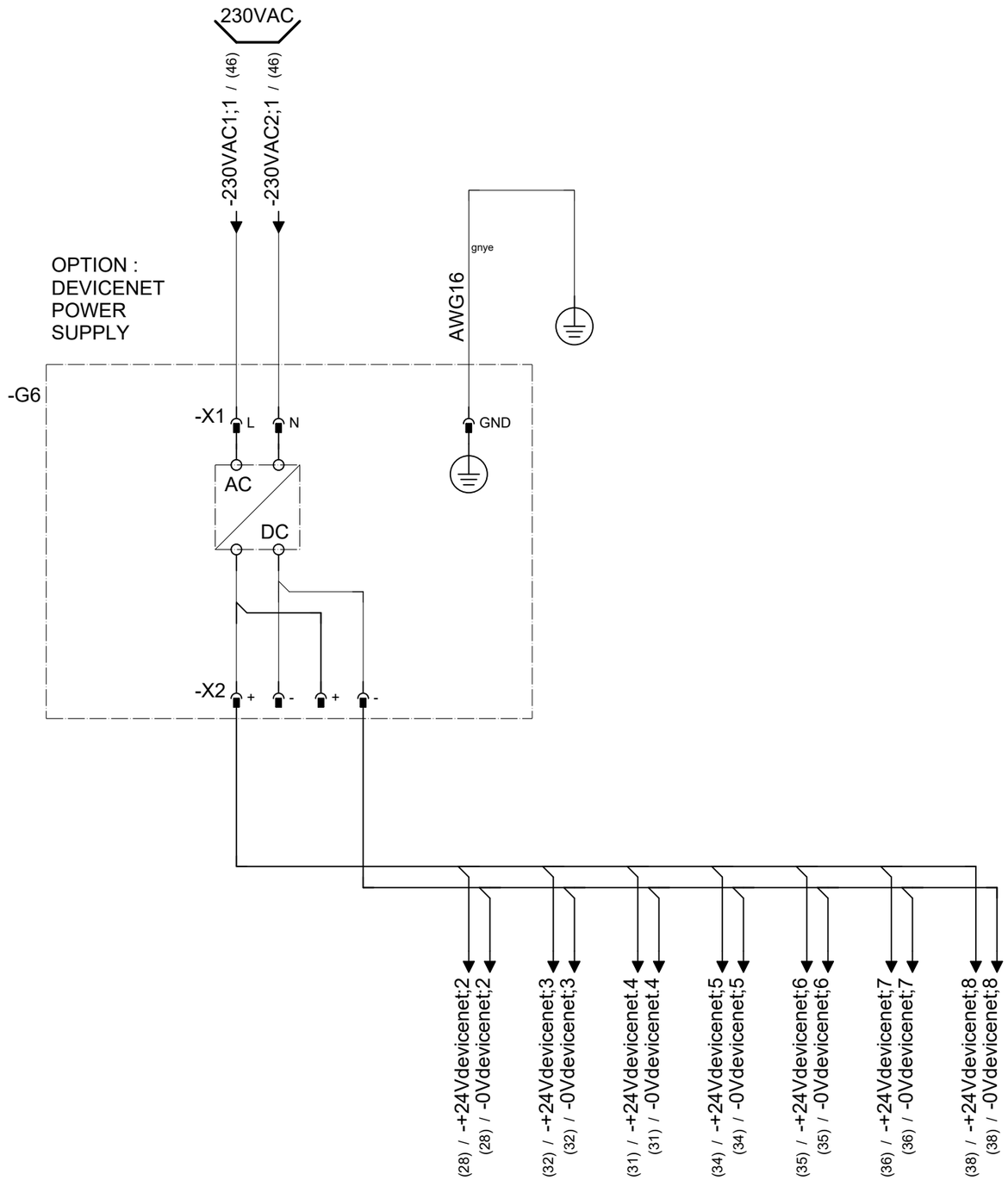

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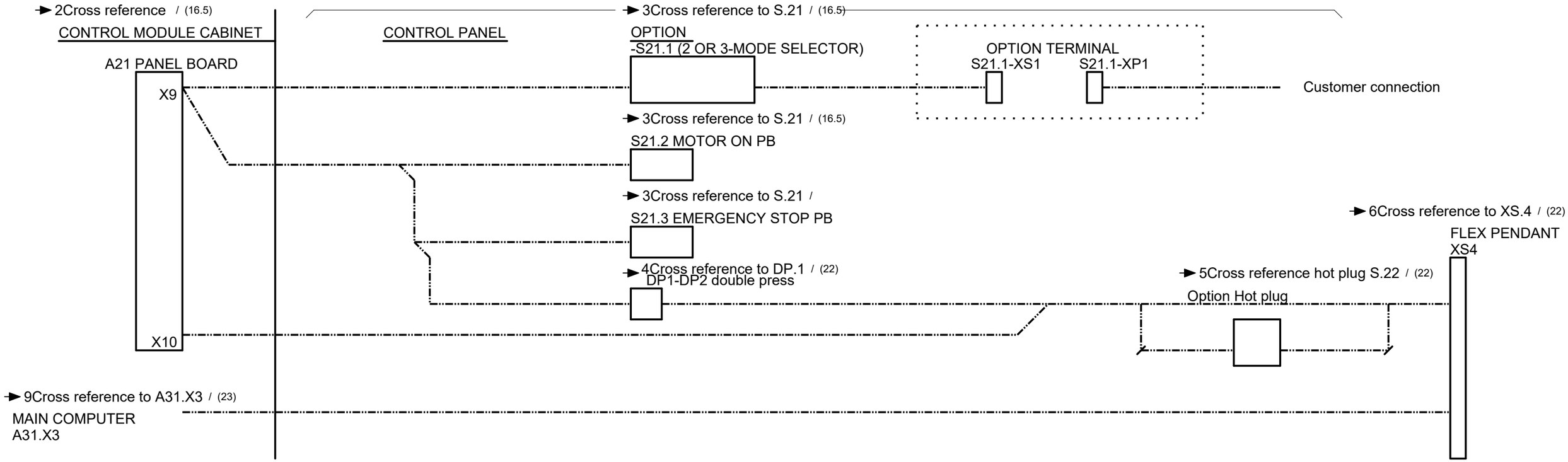
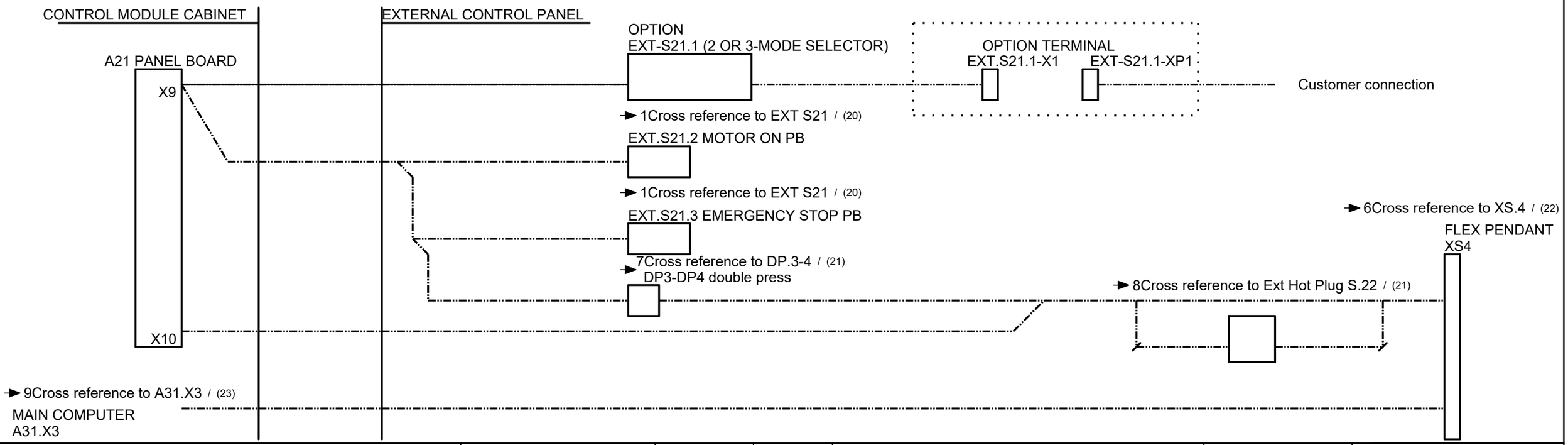
Block diagram for the Run chain in A21 Panel board and S21 Control Panel with Options.



Block diagram for the Run chain and External Control Panel with Options.



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PANEL BOARD

-A21

FPU

Software based Mode Selector internal safety

A21X1.1 / (24.5)
A21X2.1 / (24.5)
A21X2.2 / (24.5)
A21X1.2 / (24.5)

EXTERNAL EMERGENCY STOP PB

-X1
-X2

ES1 top → RCH1.2 / (19)
ES2 top → RCH2.2 / (19)

JUMPER
JUMPER

0V → 0V
24V Panel → 24V PANEL

Run CH1 top
Run CH2 top

EMERGENCY STOP OUTPUT 1
ES1OUT:A
ES2 OUT:A

EMERGENCY STOP OUTPUT 2
ES2 OUT:B
ES1OUT:B

Sep ES2:A
Sep ES1:A

-ES1
-ES2

JUMPER
JUMPER

Sep ES1:B
Sep ES2:B

EXTERNAL SUPPLY

ES2 bottom
ES1 bottom
0V
24V Panel

JUMPER
JUMPER

RunCh+
24V PANEL

SOFT_ESO
SOFT_ESI

0V

EMERGENCY STOP RELAY SIGNALS

ES1:int
ES2:int

ES1
ES2

EXTERNAL CONTROL PANEL EM. PB

RunCh_0V.1 (19)
RunCh+.1 / (19)

RunCh+

(18) / -RunCh+
(18) / -RunCh_0V
(18) / -RCH2
(18) / -RCH1

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PANEL BOARD

CONTROL MODULE

(17.3)
-A21

(19) / -SPEED

A21.X5:11
Not connected.
Ref to manual.

A21.X5:5 and 9
Not connected.
Ref to manual.

A21.X5:3
Not connected.
Ref to manual.

AUTO STOP

GENERAL STOP

SUPERIOR STOP

-X5
JUMPER
JUMPER
JUMPER
JUMPER
12
6
7
1
24V PANEL
24V PANEL
0V
0V
24V PANEL

AS1+
11
AS1
AS1-
AS2+
9
5
AS2
AS2-
GS1+
3
10
GS1
GS1-
GS2+
8
4
GS2
GS2-
2

-MAN2 / (19)
-MAN1 / (19)
-EN2 / (19)
-EN1 / (19)
-RunCh_0V / (17)
-RunCh+ / (17)
-RCH2 / (17)
-RCH1 / (17)

SOFT AS
SOFT GS
SOFT SS

&

CH2
CH1

-X6
JUMPER
JUMPER
6
24V PANEL
0V
SS1+
1
4
SS1
SS1-
SS2+
2
5
SS2
SS2-
3
7
8
9
10

(24.5) / -A21X6.4 290 AWG BU
(24.5) / -A21X6.2 291
(24.5) / -A21X6.5 292
(24.5) / -A21X6.3 293

Software based
Mode Selector
internal safety

EXTERNAL ENABLE DEVICE
EN1_1A
EN1_1B
EN2_1B
EN2_1A

EN1_1A.1 / (19)
EN2_1A.1 / (19)

-X7
1
2
4
3
5
6
7
8
9
10
0V
24V PANEL
RUN CH1
RUN CH1Ret
RUN CH2Ret
RUN CH2
SPEED
0V
ENABLE2_1
ENABLE2_1Ret
AC_ON1
0V

-RUN_CH1 / (47)
-RUN_CH1Ret / (47)
-RUN_CH2Ret / (47)
-RUN_CH2 / (47)
-SPEED.1 / (47)
-0V / (37.2)
-ENABLE2_1 / (47)
-ENABLE2_1Ret / (47)

Drive module1
A43.X1

-X8
-X14
-X17

RUN CH1
RUN CH1Ret
RUN CH2Ret
RUN CH2
SPEED
0V
ENABLE2_2
ENABLE2_2Ret
ENABLE2_3
ENABLE2_3Ret
ENABLE2_4
ENABLE2_4Ret
AC_ON1
0V

BU

if not used

Drive module2 A43.X1
Drive module3 A43.X1
Drive module4 A43.X1

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(15) / -24VSYS
(15) / -0VSYS
(15) / -24VCOOL
(15) / -0VCOOL

PANEL BOARD
A21

CONTROL MODULE

X9 and X10 → 2Cross reference / to board A21 blockdiagram.

36xAWG20

(18) / -SPEED ← ≥1

-X9

(18) / -EN2
(18) / -MAN2
(18) / -EN1
(18) / -MAN1
(17) / RunCh_0V.1
(17) RunCh+.1 /

BK	24V PANEL	A21X9:1 / (20)	
BN	AUTO2	A21X9:2 / (20) (24.5)	
RD	MAN2	A21X9:3 / (20) (24.5)	
OG	MAN FS2	A21X9:4 / (20) (24.5)	
YE	0V	A21X9:5 / (20)	
GN	AUTO1	A21X9:6 / (20) (24.5)	
BU	MAN1	A21X9:7 / (20) (24.5)	
VT	MAN FS1	A21X9:8 / (20) (24.5)	
GY	24V PANEL	A21X9:9 / (20)	
WH	MOTON	A21X9:10 / (20)	
WH/BN	ES PANEL 2B	A21X9:11 / (20)	
WH/RD	ES PANEL 2B	A21X9:12 / (20)	
WH/OG	ES FPU2A	A21X9:13 / (21)	Connected when internal Control Panel
WH/YE	ES FPU2A	A21X9:14 / (21)	
WH/GN	ES PANEL 1B	A21X9:15 / (20)	
WH/BU	ES PANEL 1B	A21X9:16 / (20)	
WH/VT	ES FPU1A	A21X9:17 / (21)	Connected when internal Control Panel
WH/GY	ES FPU1A	A21X9:18 / (21)	
WH/BK	MONLMP	A21X9:19 / (20)	
GN/BN	EARTH	GN/YE	
GN/WH	EARTH		

-A21.X12 1 2 3 4
Y1 Y2
-A21.X21.1 1 2 3 4
Connection alt. 1 Standard
596 AWG20 BU
595 AWG20 BU
597 AWG16 BU
598 AWG16 BU
599 AWG16 BU
600 AWG16 BU
Connection alt. 2 Opt. Safety module DSQC1015

-X12
1 24V SYS
2 0V SYS
3
4
24V FPU POWER
24V PANEL

(24.5) / A31.4X1.1
(24.5) / A31.4X1.2

-X10

BN/BK	24V FPU	24VFPUPOWER / (21) (22)	
BN/RD	0V	0VPANELB / (21) (22)	
BN/OG	EN1_1	EN1_1 / (21) (22)	
BN/YE	EN2_1	EN2_1 / (21) (22)	
YE		-ESFPU1:A /	Connected only with option External Control Panel.
GN		-ESFPU1:B /	
BU		-ESFPU2:A /	
VT		-ESFPU2:B /	

(18) / EN1_1A.1
(18) / EN2_1A.1
(17) RCH1.2 /
(17) RCH2.2 /
Jumper removed when option External Control Panel
AWG 20 Bu

AWG24

-X11

WHGN	24V_Sig.ref.1 / (23)	
BU	-RS485+.1 / (23)	MAIN COMPUTER
WHBU	-RS485-.1 / (23)	
WHBN	-0V_Sig.ref.1 / (23)	

Not connected

-X15
OP_COM 1
OP_MAN 3
OP_AUTO 2
OP_MAN_FS 4
24V PANEL
24V PANEL

-X20
1
2 RS485+
4 RS485-
5 24V DC
3
6
7 0V
8

-X18
24V COOL 2
TACHO 3 EXTERNAL COMPUTER FAN
FAN 0V 1

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D RUN CHAIN and PANEL BOARD A21 Sh. 3 of 3	Status: Approved Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020 Rev. Ind 14 Page 19 Next 20 Total 125

1Cross reference to EXT S21 / (16.5) (16.5) (16.5)

Ext.Controll Panel Box Sh.1 of 2
-EXT-S21

2 Mode selector, Option for Run chain Ext.Operating.

2 and 3 Mode selector is not used with software switch.

(19) / A21X9:3 — RD — -222 AWG20
(19) / A21X9:2 — BN — -221 AWG20
(19) / A21X9:7 — BU — -226 AWG20
(19) / A21X9:6 — GN — -225 AWG20

2-MODE SELECTOR
-EXT-S21.1
AUTO MAN AUTO MAN
1 3 5 7
2 6

Option: Extended 2 Mode Selector see sheet. ◄ Ext_Extended_2_Mode / (20.1) (20.1)

(19) / A21X9:5 — YE — -224 AWG20
(19) / A21X9:1 — BK — -220 AWG20

3 Mode selector is optional for Run chain Operating.

(19) / A21X9:8 — VT — -227AWG20
(19) / A21X9:4 — OG — -223AWG20

3-MODE SELECTOR
-EXT-S21.1
AUTO MAN MAN 100% AUTO MAN MAN 100%
6 12 10 2 4 8
5 1

Option: Extended 3 Mode Selector see sheet. ◄ Ext_Extended_3_Mode / (20.1) (20.1)

MOTOR ON PB
-EXT-S21.2
14 13
X2 X1

(19) / A21X9:10 — WH — -229 AWG20
(19) / A21X9:19 — WH/BK — -230 AWG20
(19) / A21X9:9 — GY — -228 AWG20

EMERGENCY PB
-EXT-S21.3
21 22
11 12

DP6 / (21) — -DP6 — -237 AWG20 ES panel 1:A / -238 AWG20 ES panel 1:A
DP5 / (21) — -DP5 — -233 AWG20 ES panel 2:A / -234 AWG20 ES panel 2:A

(19) / A21X9:11 — WH/BN — -231 AWG20 ES panel 2:B
(19) / A21X9:12 — WH/RD — -232 AWG20 ES panel 2:B
(19) / A21X9:15 — WH/GN — -235 AWG20 ES panel 1:B
(19) / A21X9:16 — WH/BU — -236 AWG20 ES panel 1:B

-PE1 — GN/YE — GN/BN / GN/WH — GN/YE — -PE1

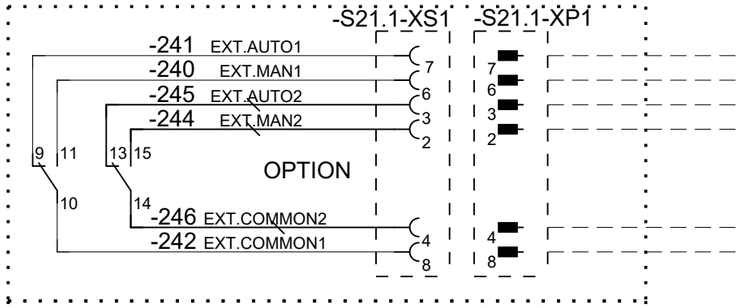
Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D RUN CHAIN A21 EXTERNAL CONTROLL PANEL/BOX , 2 & 3 MODE SELECTOR, EM.STOP	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14

EXTERNAL CONTROL PANEL/BOX Sh.2

-EXT-S21

Option: Extended 2 Mode Selector
Run chain Operating

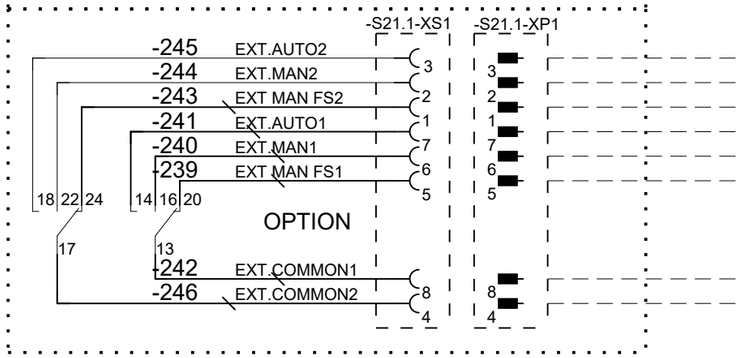
(20) / Ext_Extended_2_Mode ◄



Customer connection

Option: Extended 3 Mode Selector
Run chain Operating

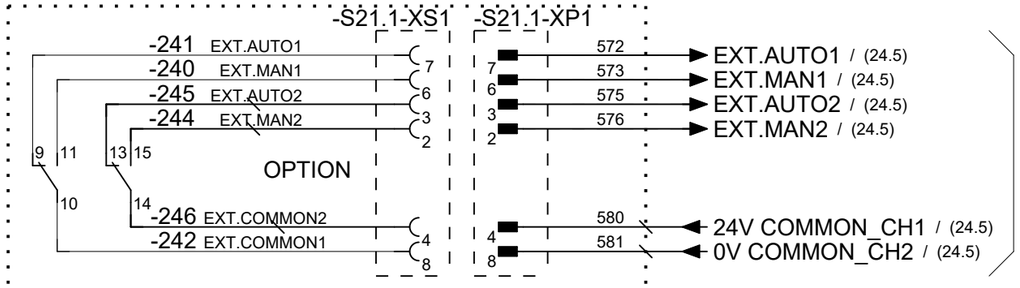
(20) / Ext_Extended_3_Mode ◄



Customer connection

Option:With Safety board
Run chain Operating,
Extended 2 Mode Selector

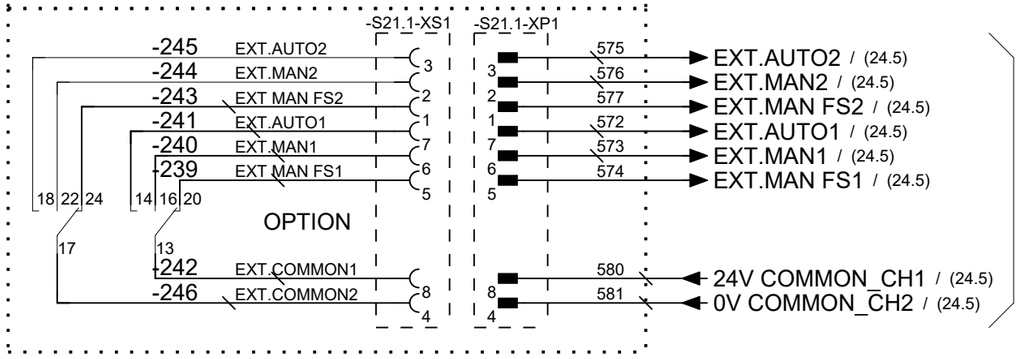
(20) / Ext_Extended_2_Mode ◄



Hardware based Mode switch

Option:With Safety board
Run chain Operating,
Extended 3 Mode Selector

(20) / Ext_Extended_3_Mode ◄



Hardware based Mode switch

Latest revision:			Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D EXTERNAL CONTROLL PANEL/BOX RUN CHAIN EXT.S21, 2 & 3 MODE SELECTOR	Status: Approved	Plant: = Location: + Sublocation:+	
Prepared by, date:A Hägglund	Approved by, date:S Hällgren	2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14	Page20.1 Next 21 Total 125

8Cross reference to Ext Hot Plug S.22 / (16.5)

Option:Hot plug from Rel.11.1

7Cross reference to DP.3-4 / (16.5)

Ext.Controll Panel Sh2 of 2
-EXT-S21

Option HOT PLUG
-S22

SIGNAL LAMP
-H1
W529
64 63 x1 x2 213

W525/BU 14 13 W526
W527/BU 53 54 W528
W521 22 21 W522
W523 42 41 W524

XP100
-EXT-S21-XS100

521 AWG20 BU
523 AWG20 BU
Without hot plug
-XP100

-496 AWG20 BU
-495 AWG20 BU
-497 AWG20 BU
-500 AWG20 BU

AWG20
AWG20

-DP1
-DP2

(19) / 24VFPUPOWER BN/BK
(19) / 0VPANELB BN/RD

24V FPU_POWER 205 BU
24V FPU_POWER 205 BU
0VPANELB 206 BU
0VPANELB 206 BU

-XS4
1
12
2
8

2.24VFPUPOWER / (22.1)
2.0VPANELB / (22.1)

A21 PANEL BOARD

(19) / EN1_1 BN/OG
(19) / EN2_1 BN/YE
(19) / A21X9:17 WH/VT
(19) / A21X9:18 WH/GY
(19) / A21X9:13 WH/OG
(19) / A21X9:14 WH/YE

-DP4
DP3

(20) / DP6
(20) / DP5

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

7
17
3
4
5
6

2.EN1.1 / (22.1)
2.EN2.1 / (22.1)
2.ESFPU1.A / (22.1)
2.ESFPU1.B / (22.1)
2.ESFPU2.A / (22.1)
2.ESFPU2.B / (22.1)

MAIN COMPUTER
A31.X3

AWG24 4x2 SFTP

(23) / TD+ BN
(23) / TD- WHOG
(23) / RD+ GN
(23) / RD- BNWH

TD+
TD-
RD+
RD-

13
14
15
16

2.TD+ / (22.1)
2.TD- / (22.1)
2.RD+ / (22.1)
2.RD- / (22.1)

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D RUN CHAIN EXT A21 OPERATING WITH OPT: HOT PLUG rel 11.1	Status: Approved	Plant: = Location: + Sublocation:+
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page21 / Next 22 / Total 125

4Cross reference to DP.1 / (16.5)
5Cross reference hot plug S.22 / (16.5)
6Cross reference to XS.4 / (16.5) (16.5)

Option with HOT PLUG

-S22

-H1
SIGNAL LAMP

BU1

CONTROLLER

(22) / 1.-ESFPU1:A YE
(22) / 1.-ESFPU2:A BU
(22) / 1.-ESFPU2:B VT
(22) / 1.-ESFPU1:B GN
(19) / -EN1_1 RD
(19) / -EN2_1 OG

-209 BU
-211 BU
-212 BU
-210 BU
-207 BU
-208 BU

Without hot plug.

(19) / -24VFPUPOWER BK
(19) / -0VPANELB BN

-Y.1
-Y.2
205
206

PANEL BOARD A21-X10

MAIN COMPUTER A31.X3

(23) / -TD+ AWG24 4x2 SFTP OG
(23) / -TD- WHOG
(23) / -RD+ GN
(23) / -RD- WHGN

-XS4

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

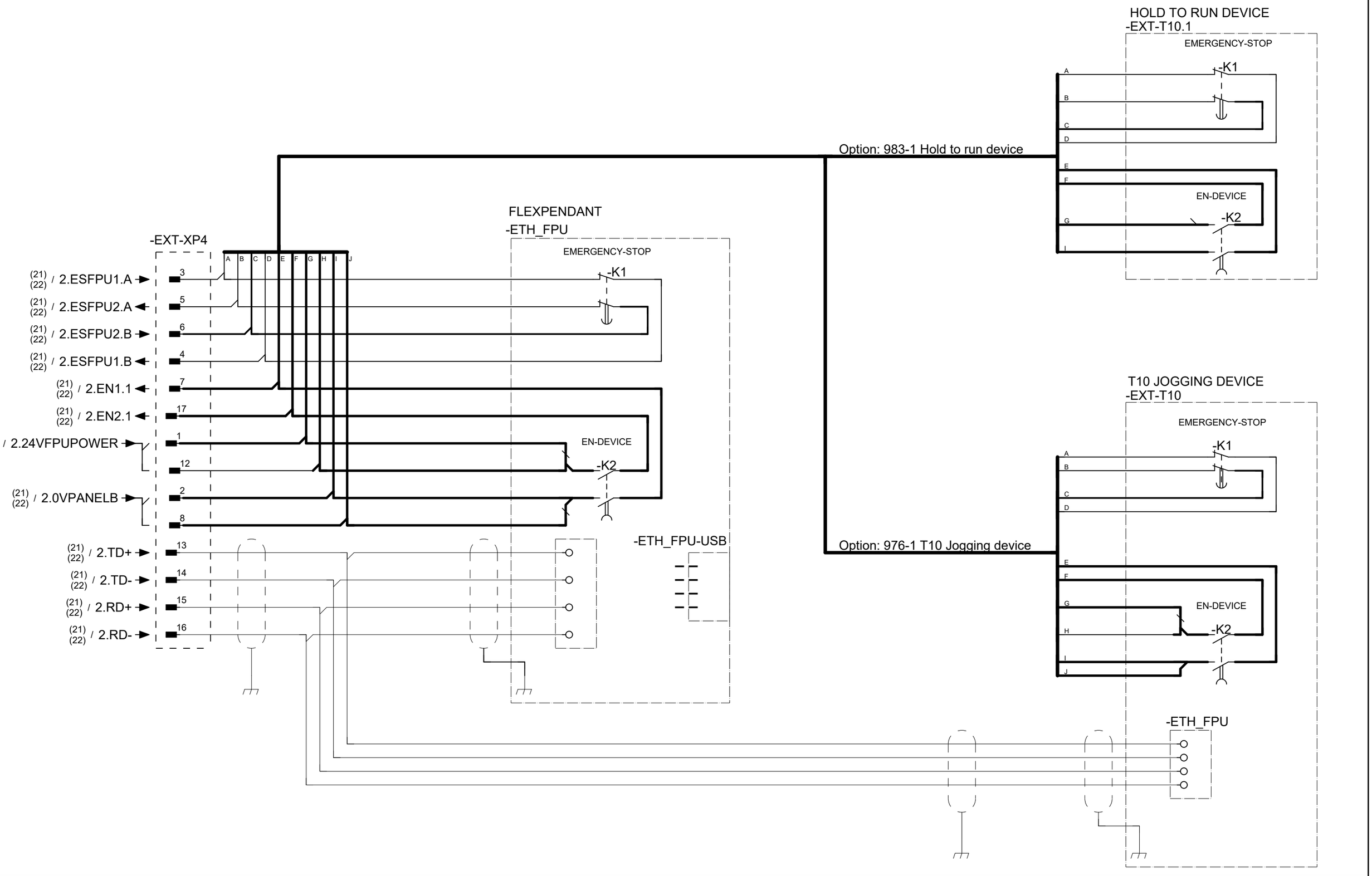
-XP4

RunCh1
RunCh0V

2) If option With Standard flexpendant cable

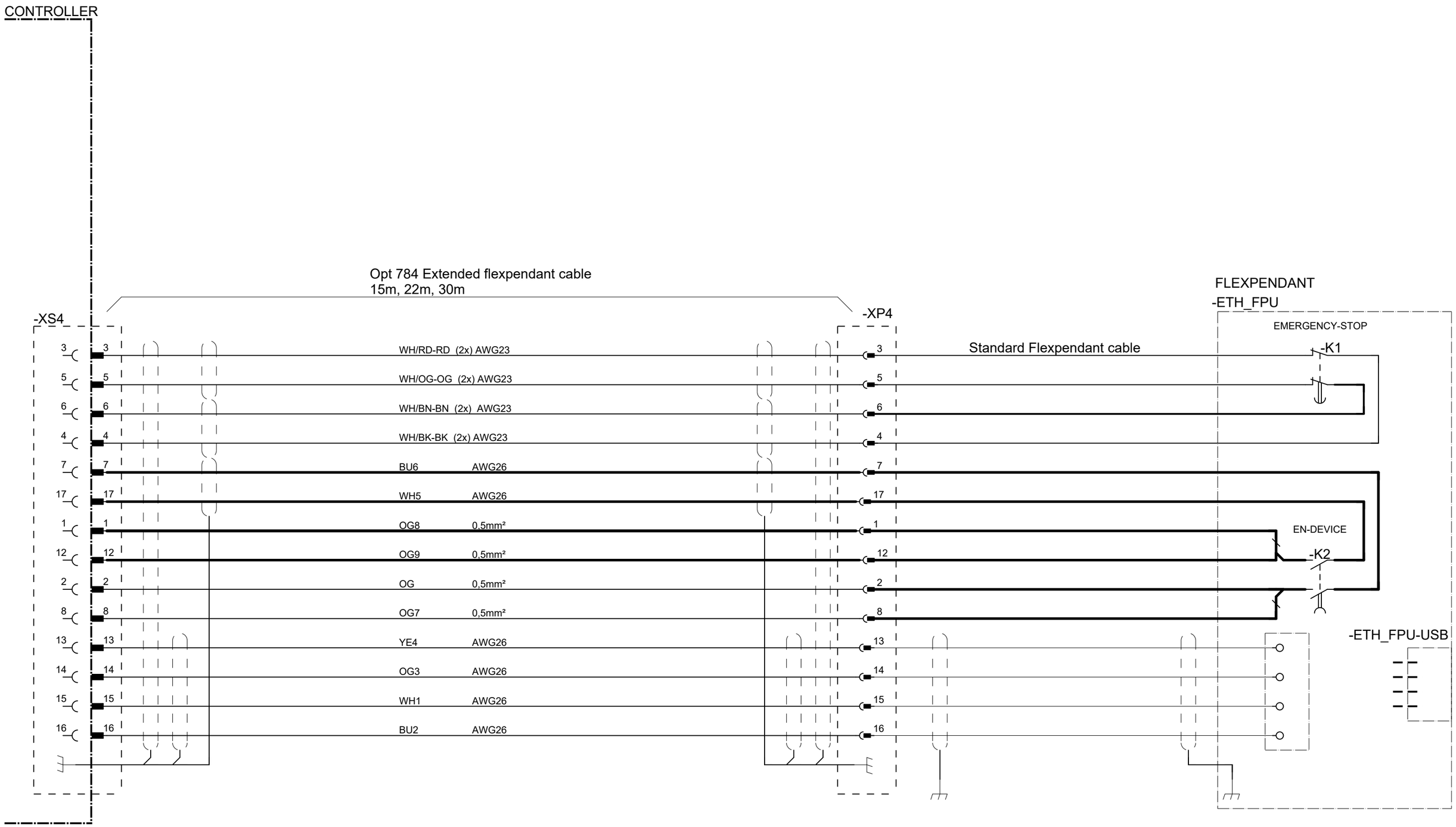
2.ESFPU1.A / (22.1)
2.ESFPU2.A / (22.1)
2.ESFPU2.B / (22.1)
2.ESFPU1.B / (22.1)
2.EN1.1 / (22.1)
2.EN2.1 / (22.1)
2.24VFPUPOWER / (22.1)
2.0VPANELB / (22.1)
2.TD+ / (22.1)
2.TD- / (22.1)
2.RD+ / (22.1)
2.RD- / (22.1)

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D FPU, FLEXPENDANT and option HOT PLUG	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page22 Next 22.1 Total 125



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D FPU, FLEXPENDANT and Opt. HOLD TO RUN DEVICE T10 JOGGING DEVICE	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14

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



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D FPU, Extended FLEXPENDANT cable 15 - 30 m	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
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9Cross reference to A31.X3 / (16.5) (16.5)

M.Computer: DSQC 1000 15.2 and erlier
M.Computer: DSQC1018 16.1
M.Computer: DSQC1024 20.A

MAIN COMPUTER
A31

PROCESS POWER SUPPLY

-X1
(15) / 24VPC.1 — 2
(15) / -0VPC.1 — 1

POWER (GREEN)
DISC-ACT (YELLOW)
STATUS (GREEN-RED)
NS (GREEN-RED)
MS (GREEN/RED)

YELLOW LABEL
ETH_SERVICE

-X2
TX+ 1 — 1.TXRX+ /
TX- 2 — 1.TXRX- /
RX+ 3 — 1.RXTX+ /
RX- 6 — 1.RXTX- /

opt. 901-1
A62.X1
or
A61:X10
REMOTE SERVICE
or
A64.X1

GREEN LABEL
TPU

-X3
1 — RD+ / (21) (22)
2 — RD- / (21) (22)
3 — TD+ / (21) (22)
6 — TD- / (21) (22)

FLEXPENDANT

LAN -X4
TX+ 1 — 2.BI_DA+ / (24)
TX- 2 — 2.BI_DA- / (24)
RX+ 3 — 2.BI_DB+ / (24)
RX- 6 — 2.BI_DB- / (24)

5.TXRX+ / (34.2)
5.TXRX- / (34.2)
5.RXTX+ / (34.2)
5.RXTX- / (34.2)

Dig I/O Base

BLUE LABEL
PANEL UNIT
RS 485

-X7
AWG24
WHGN — 24V_Sig.ref.1 / (19)
BU — -RS485+.1 / (19)
WHBU — -RS485-.1 / (19)
-0V_Sig.ref.1 / (19)

PANEL BOARD

CHASSIS BLOWER
-E22
M

-X19
AWG24
1 GND BK
2 +24V RD
3 FAN_TACH YE

RED LABEL
AXC1
ETH_DRIVE

-X9
TX+ 1 — -TXRX+.2 / (49)
TX- 2 — -TXRX-.2 / (49)
RX+ 3 — -RXTX+.2 / (49)
RX- 6 — -RXTX-.2 / (49)

8.TXRX+ / (37.1)
8.TXRX- / (37.1)
8.RXTX+ / (37.1)
8.RXTX- / (37.1)

DRIVE MODULE AXIS COMPUTER

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D MAIN COMPUTER DSQC1000/1018/1024	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page23 / Next 24 / Total 125

DSQC1000 15.2 and earlier
MAIN COMP.DSQC1018 16.1
MAIN COMP.DSQC1024 20.A

A31

OPTION: Expansion board SERIE DSQC1003

-A32

-X3 COM1

1	COM1_DCD
2	COM1_RXD
3	COM1_TXD
4	COM1_DTR
5	0V
6	COM1_DSR
7	COM1_RTS-N
8	COM1_CTS-N
9	COM1_RI

-X3 CONSOLE

1	CONSOLE_DCD
2	CONSOLE_RXD
3	CONSOLE_TXD
4	CONSOLE_DTR
5	GND
6	CONSOLE_DSR
7	CONSOLE_RTS-N
8	CONSOLE_CTS-N
9	CONSOLE_RI

-X2 / -X15

-X2	-X15
1	1
2	2
3	3
4	4
5	5
76	76
77	77
78	78
79	79
80	80

LAN -X5

MX1+	1	2.BI_DA+ / (23)
MX1-	2	2.BI_DA- / (23)
MX2+	3	2.BI_DB+ / (23)
MX2-	6	2.BI_DB- / (23)
	4	1.MX1.RX+ / (37)
	5	1.MX1.RX- / (37)
	7	1.RXMX2.+ / (37)
	8	1.RXMX2.- / (37)

Ethernet

IF OPT. 941-1
A65.X5

		-A31.X5.TX3+ / (38.5)
		-A31.X5.TX3- / (38.5)
		-A31.X5.RX3+ / (38.5)
		-A31.X5.RX3- / (38.5)

IF OPT. 1550-1 AND
NOT OPT. 941-1
CTM.X7

WHITE LABEL
A31.X6

WAN -X6

MX1+	1	1.XP28.1 /
MX1-	2	1.XP28.2 /
MX2+	3	1.XP28.3 /
MX2-	6	1.XP28.6 /

OPTION:
EXTERNAL
WAN

-X10.USB 1

3	
2	
4	
1	

-X10.USB 2

3	AWG28	GN	-(USB2D+).1 / (15)
2	AWG28	WH	-(USB2D-).1 / (15)
4	AWG24	BK	-(USB2GND).1 / (15)
1	AWG24	RD	-(USB2+5V).1 / (15)

-X11.USB 3

3	
2	
4	
1	

-X11.USB4

3	
2	
4	
1	

PROCESS
POWER
SUPPLY

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D MAIN COMPUTER DSQC1000/1018/1024	Status: Approved
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Plant: = Location: + Sublocation:+
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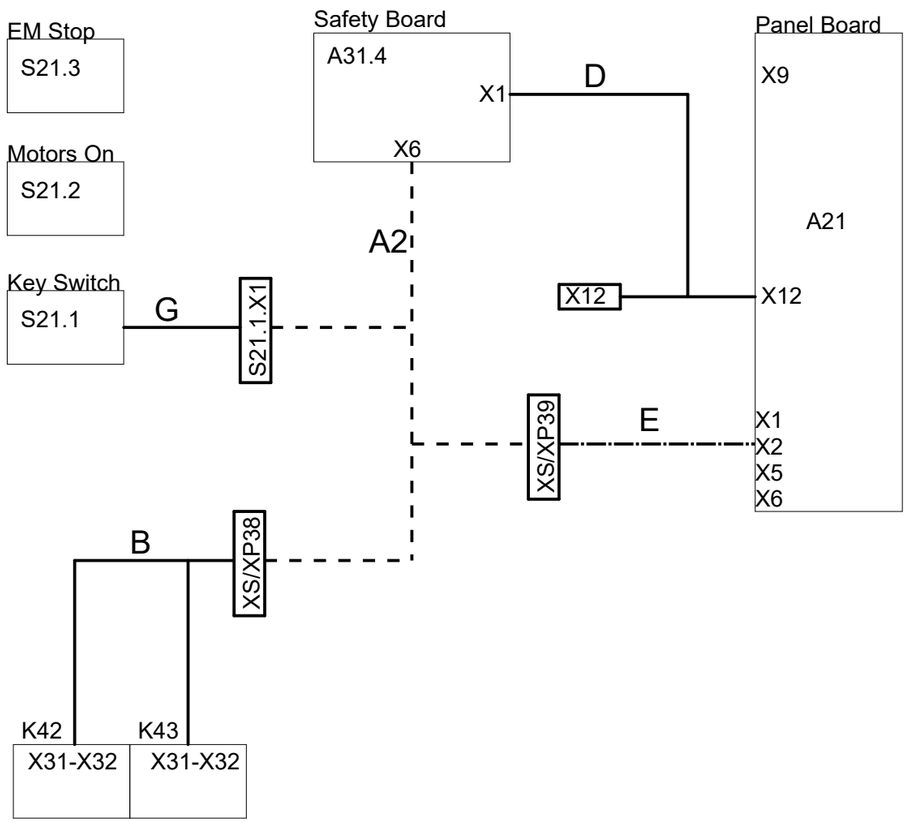
					Page24 Next 24.3 Total 125

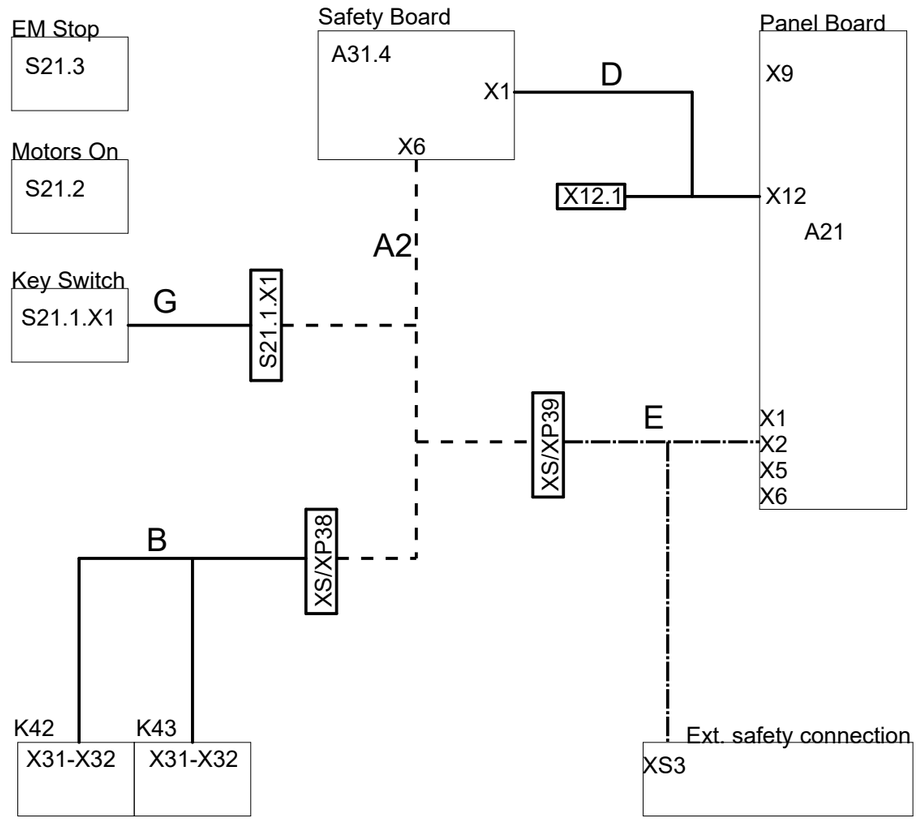
Options:
996-1 Safety Module.
AND
735-1 Add. Contacts, 3 modes OR
735-2 Add. Contacts, 2 modes
AND
731-1 Safety internal connection.

Internal-Hardware Safety switch conn.



Options:
996-1 Safety Module.
AND
735-1 Add. Contacts, 3 modes OR
735-2 Add. Contacts, 2 modes
AND
731-2 Safety external connection.

External-Hardware Safety switch conn.



A = Re-designed Safety harness for Key-less	3HAC056648-001
A2 = Safety harness for hard Key switch	3HAC057150-001
B = Main Contactor supervision harness.	3HAC055642-001
C= Emergency Stop harness.	3HAC056527-001
D= +24V and 0V supply.	3HAC055633-001
E = Internal Safety Conn. harness. New design.	3HAC056638-001
F = External Safety Conn. New design.	3HAC056622-001
G = Extended Key switch harness.	3HAC023476-001

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SAFETY BOARD A31.4 HARDWARE SWITCH	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page 24.3 / Next 24.4 / Total 125

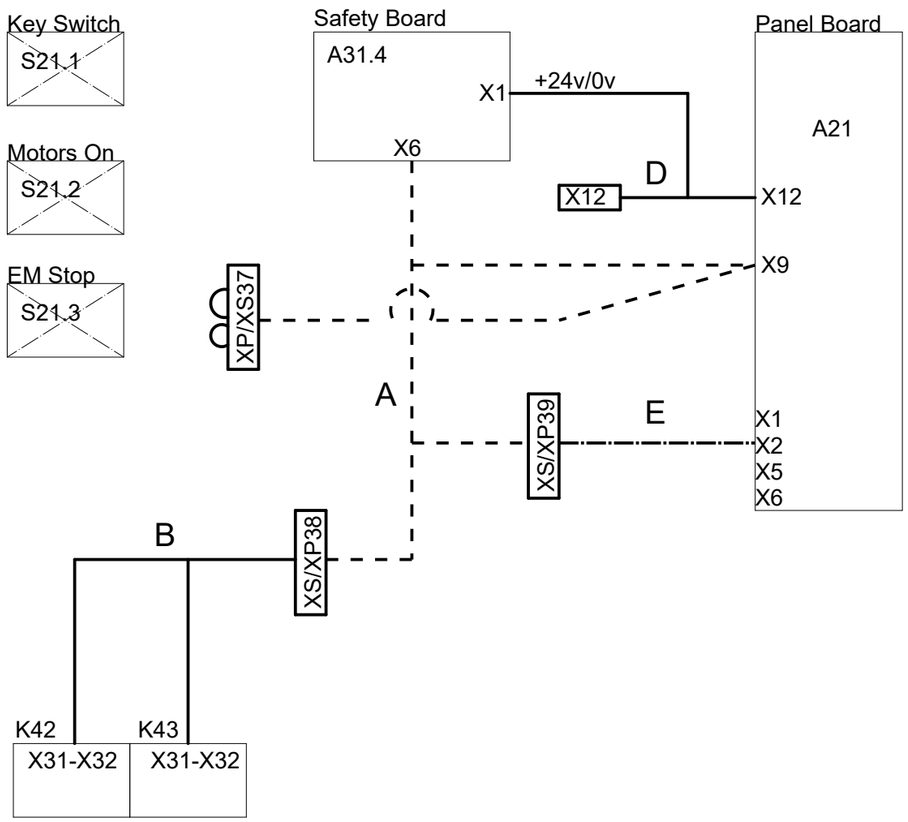
Options:

With harness connection
996-1 Safety Module ——————
AND

735-7 Keyless Selector 3 modes OR - - - - - -
735-8 Keyless Selector 2 modes
AND

731-1 Safety internal connection. —·—·—·—·—

Software Internal Safety connection



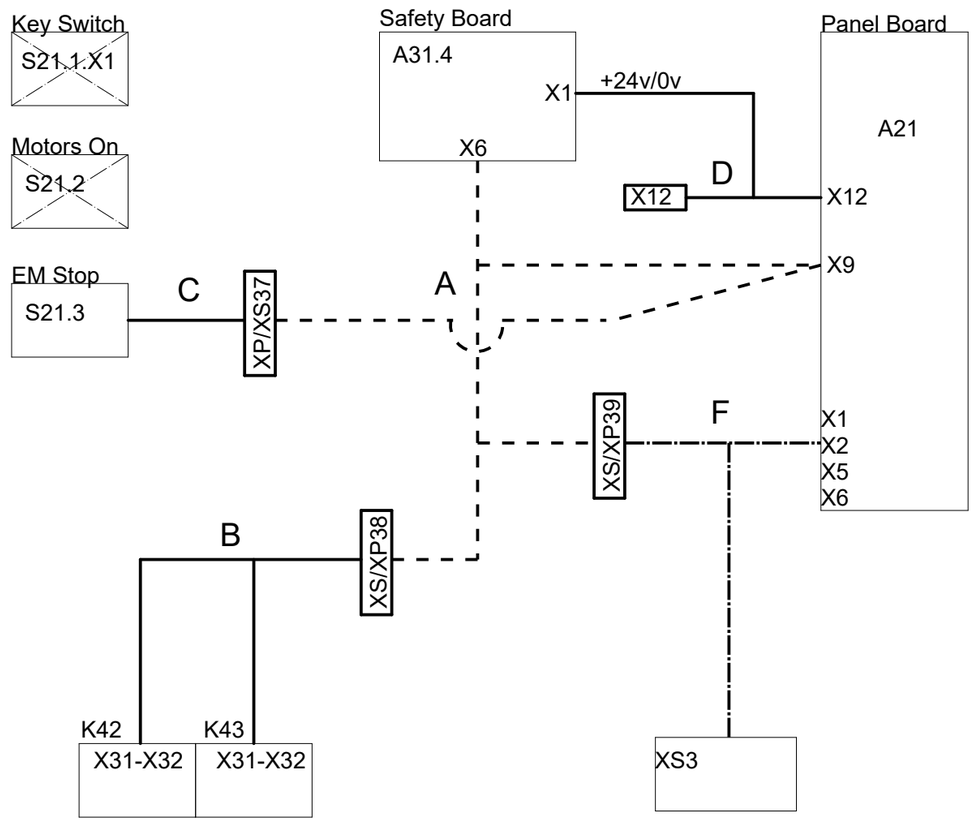
Options:

With harness connection
996-1 Safety Module ——————
AND

735-7 Keyless Selector 3 modes OR - - - - - -
735-8 Keyless Selector 2 modes
AND

731-2 Safety External connection. —·—·—·—·—

Software External Safety connection



A = Re-designed Safety harness for Key-less 3HAC056648-001
B = Main Contactor supervision harness. 3HAC055642-001
C = Emergency Stop harness. 3HAC056527-001
D= +24V and 0V supply harness. 3HAC055633-001
E = Internal Safety Conn. New design. 3HAC056638-001
F = External Safety Conn. New design. 3HAC056622-001

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SAFETY BOARD A31.4 SOFTWARE SWITCH	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				Page 24.4 Next 24.5 Total 125

-A31.4 Safety Board DSQC1015

X20

PCIe

-X1

1 -595 AWG20 BU → -A31.4X1.1 / (19)

2 -596 AWG20 BU → -A31.4X1.2 / (19)

Software based Mode Switch

Hardware based Mode Switch

-X6

3 -578 AWG24 BU

4 -579 AWG24 BU

8 24V_CONFIG_LO_CH2

6 24V_CONFIG_LO_CH2

-X6

3. 578 AWG24 BU

4 579 AWG24 BU

8

5

-S21.1-X1

CUSTOMER CONNECTION IF NO SAFETY BOARD DSQC1015

3 ← EXT.AUTO1 / (20.1) (20.1)

2 ← EXT.MAN1 / (20.1) (20.1)

1 ← EXT.MAN FS1 / (20.1) Only in 3 mode selector

4 → 24V COMMON_CH1 / (20.1) (20.1)

7 ← EXT.AUTO2 / (20.1) (20.1)

6 ← EXT.MAN2 / (20.1) (20.1)

5 ← EXT.MAN FS2 / (20.1) Only in 3 mode selector

8 → 0V COMMON_CH2 / (20.1) (20.1)

Hardware based Mode Switch

Software based Mode Switch

17 -575 AWG24 BU — AUTO1 → A21X9:6 / (19)

15 -576 AWG24 BU — MAN1 → A21X9:7 / (19)

13 -577 AWG24 BU — MANFS1 → A21X9:8 / (19)

18 -580 AWG24 BU

23 -572 AWG24 BU — AUTO2 → A21X9:2 / (19)

21 -573 AWG24 BU — MAN2 → A21X9:3 / (19)

19 -574 AWG24 BU — MANFS2 → A21X9:4 / (19)

20 -581 AWG24 BU

-XS/XP38

12	-570 AWG24 BU		24VDC_B	-773 AWG20 BU	→	-K42.31 / (48)
7	-568 AWG24 BU	3	24V_INPUT_HI_CH1_4	-771 AWG20 BU	←	-K42.32 / (48)
16	-571 AWG24 BU	1	IOGND	-774 AWG20 BU	→	-K43.31 / (48)
11	-569 AWG24 BU	4	24V_INPUT_LO_CH2_4	-772 AWG20 BU	←	-K43.32 / (48)
		2				

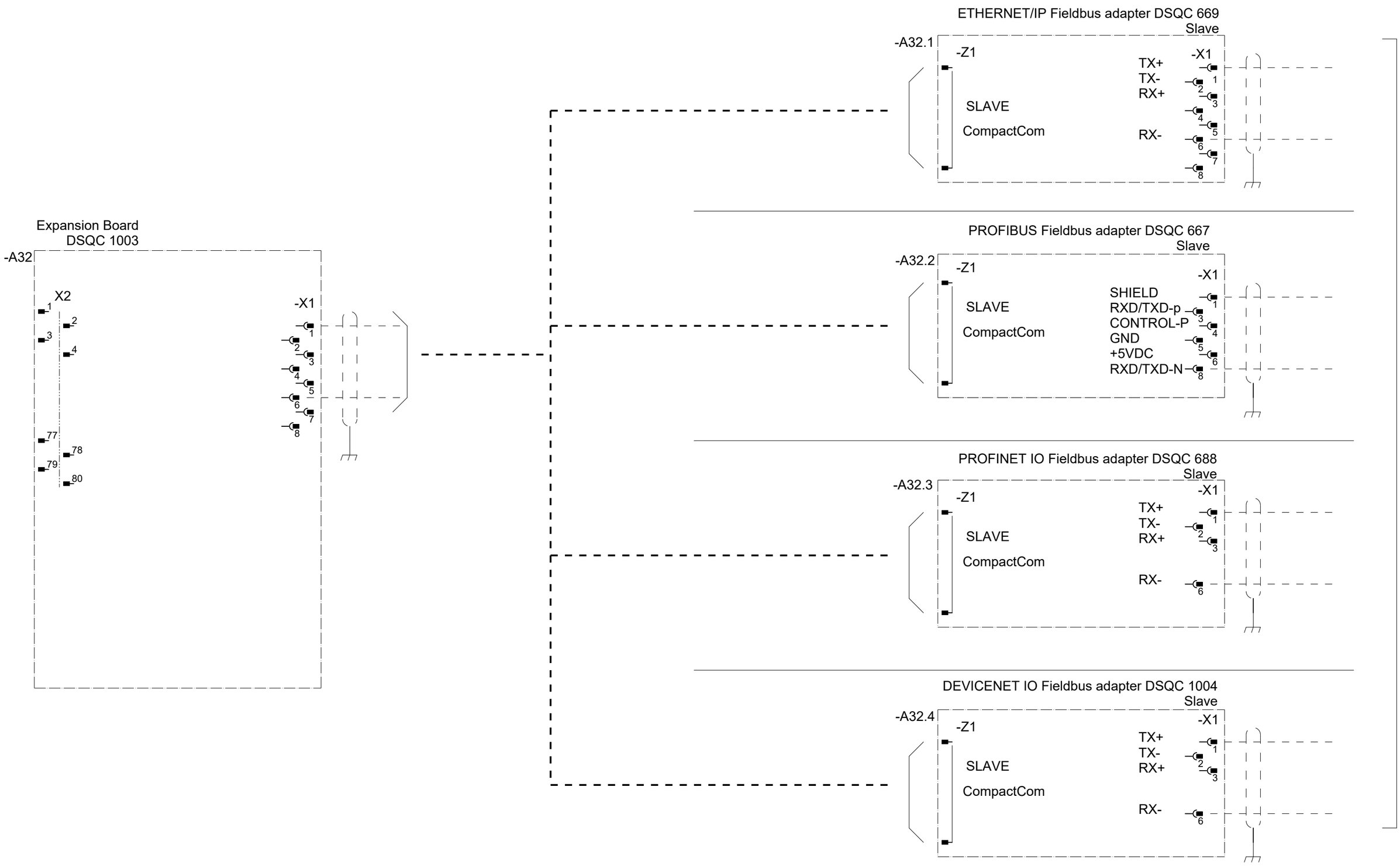
-XS/XP39

10	-564 AWG24 BU		ES1out_A	-284 AWG20 BU	→	A21X1.1 / (17)	→ A21X1:1 /
5	-565 AWG24 BU	1	ES1out_B	-285 AWG20 BU	←	A21X1.2 / (17)	← A21X1:2 /
14	-566 AWG24 BU	2	ES2out_A	-286 AWG20 BU	→	A21X2.1 / (17)	→ A21X2:1 /
9	-567 AWG24 BU	3	ES2out_B	-287 AWG20 BU	←	A21X2.2 / (17)	← A21X2:2 /
		4					
22	-560 AWG24 BU		SS1-	-291 AWG20 BU	←	A21X6.2 / (18)	← A21X6:2 /
2	-561 AWG24 BU	5	SS2-	-293 AWG20 BU	←	A21X6.3 / (18)	← A21X6:3 /
24	-562 AWG24 BU	6	SS1+	-290 AWG20 BU	→	A21X6.4 / (18)	→ A21X6:4 /
1	-563 AWG24 BU	7	SS2+	-292 AWG20 BU	→	A21X6.5 / (18)	→ A21X6:5 /
		8					

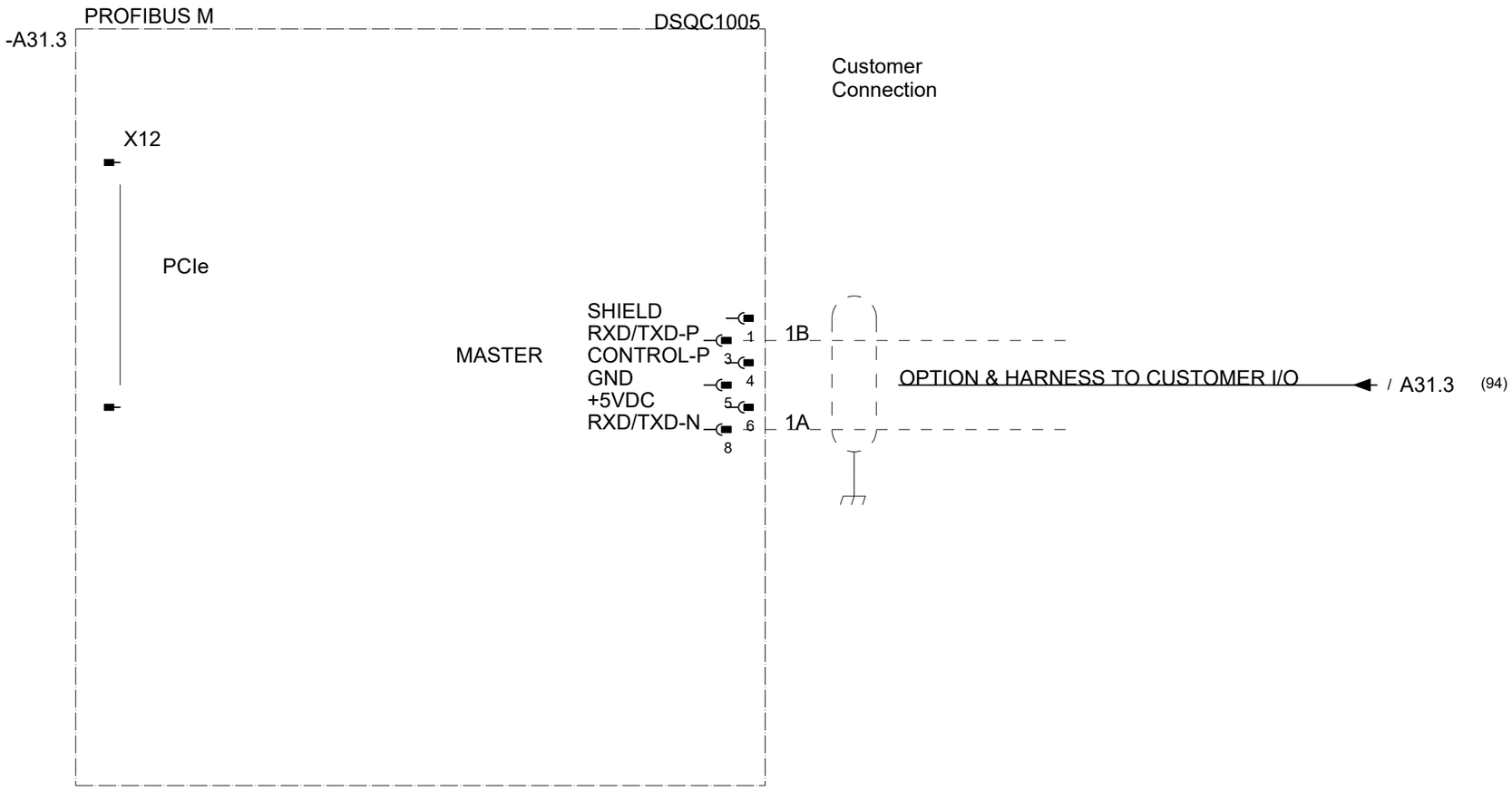
Option: Internal Safety connection

Option: External Safety connection

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SAFETY BOARD A31.4 DSQC1015 Hardware and Software based Mode Switch	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D FIELDBUS ADAPTER: ETHERNET/IP, PROFIBUS and PROFINET IO	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 25 Next 26 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D PROFIBUS DP M	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 26 Next 27 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

DeviceNet M/S DSQC1006

-A31.2

X12

PCIe

-CHA

V-

CAN_L

DRAIN

CAN_H

V+

-A35-X1

1) Termination

BK

BU

SC

WH

RD

-XS17.3 /

-XS17.5 /

-XS17.1 /

-XS17.4 /

-XS17.2 /

OPTION Devicenet connections/ A35 ← (83.3) (90) (94) (99)

OPTION

1) Termination resistor should be used, when the optional harness is not connected.

OPTION: HARNESS TO CUSTOMER EXTERNAL I/O

BK	V- / (28)	Digital I/O unit
BU	CAN_L / (28)	
WH	CAN_H / (28)	
RD	V+ / (28)	
SC	DRAIN / (28)	
BK	V- / (32)	Relay I/O unit
BU	CAN_L / (27)	
WH	CAN_H / (27)	
RD	V+ / (27)	
SC	DRAIN / (27)	
BK	V- / (31)	Analogue I/O unit
BU	CAN_L / (27)	
WH	CAN_H / (27)	
RD	V+ / (27)	
SC	DRAIN / (27)	
BK	V- / (34)	Remote I/O unit
BU	CAN_L / (34)	
WH	CAN_H / (34)	
RD	V+ / (34)	
SC	DRAIN / (34)	
BK	V- / (35)	Interbus slave
BU	CAN_L / (35)	
WH	CAN_H / (35)	
RD	V+ / (35)	
SC	DRAIN / (35)	
BK	V- / (36)	Profibus DP slave
BU	CAN_L / (36)	
WH	CAN_H / (36)	
RD	V+ / (36)	
SC	DRAIN / (36)	
BK	V- / (38)	Encoder unit
BU	CAN_L / (38)	
WH	CAN_H / (38)	
RD	V+ / (38)	
SC	DRAIN / (38)	
BK	V- / (39)	CC-LINK
BU	CAN_L / (39)	
WH	CAN_H / (39)	
RD	V+ / (39)	
SC	DRAIN / (39)	

Latest revision:

Prepared by, date:A Hägglund

Approved by, date:S Hällgren 2023-10-30

ABB

Lab/Office: RA/RDP

PMC DESIGN 14 Rel: 23D

DEVICENET ADAPTER

Status: Approved

Plant: =

Location: +

Sublocation: +

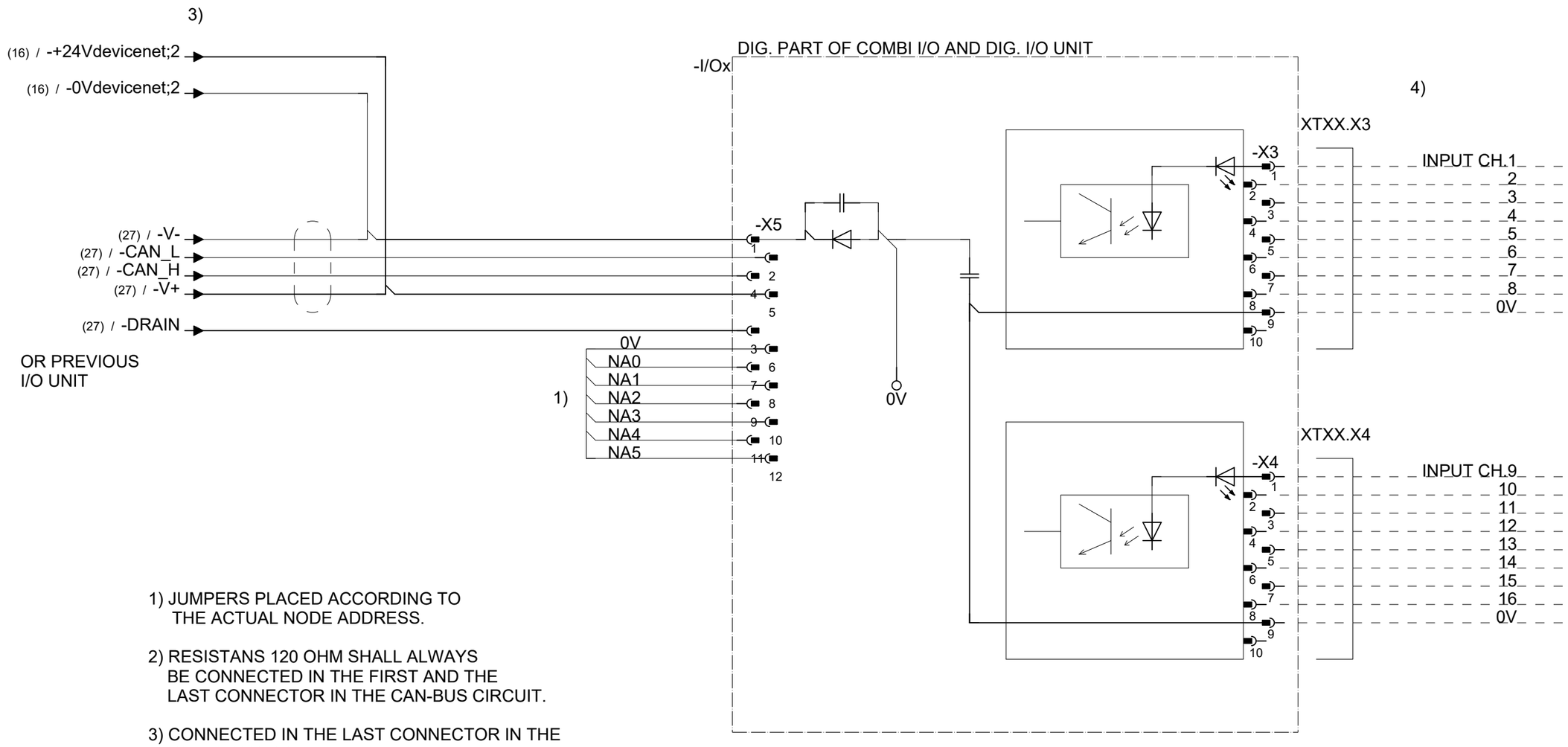
Document no. 3HAC026871-020

Rev. Ind 14

Page 27

Next 28

Total 125



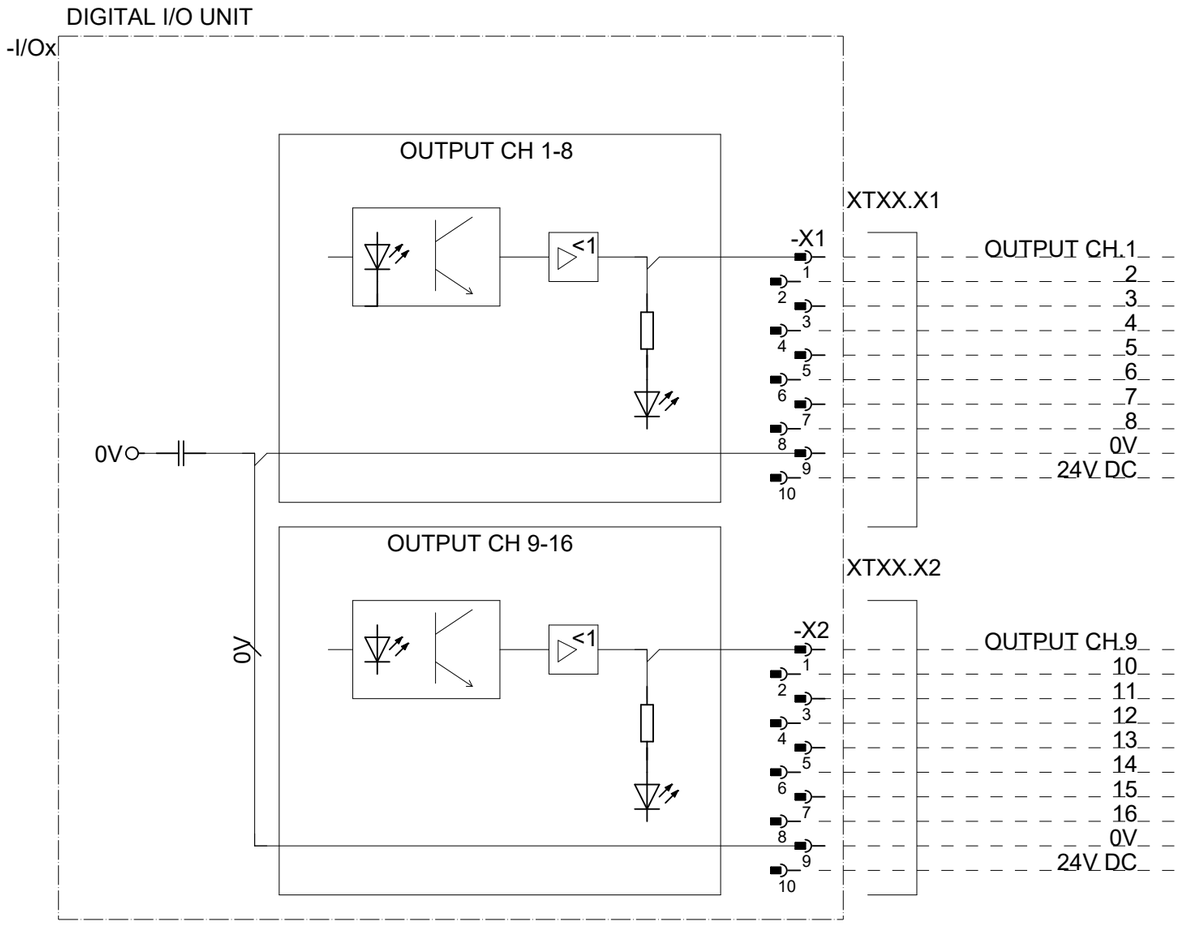
1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

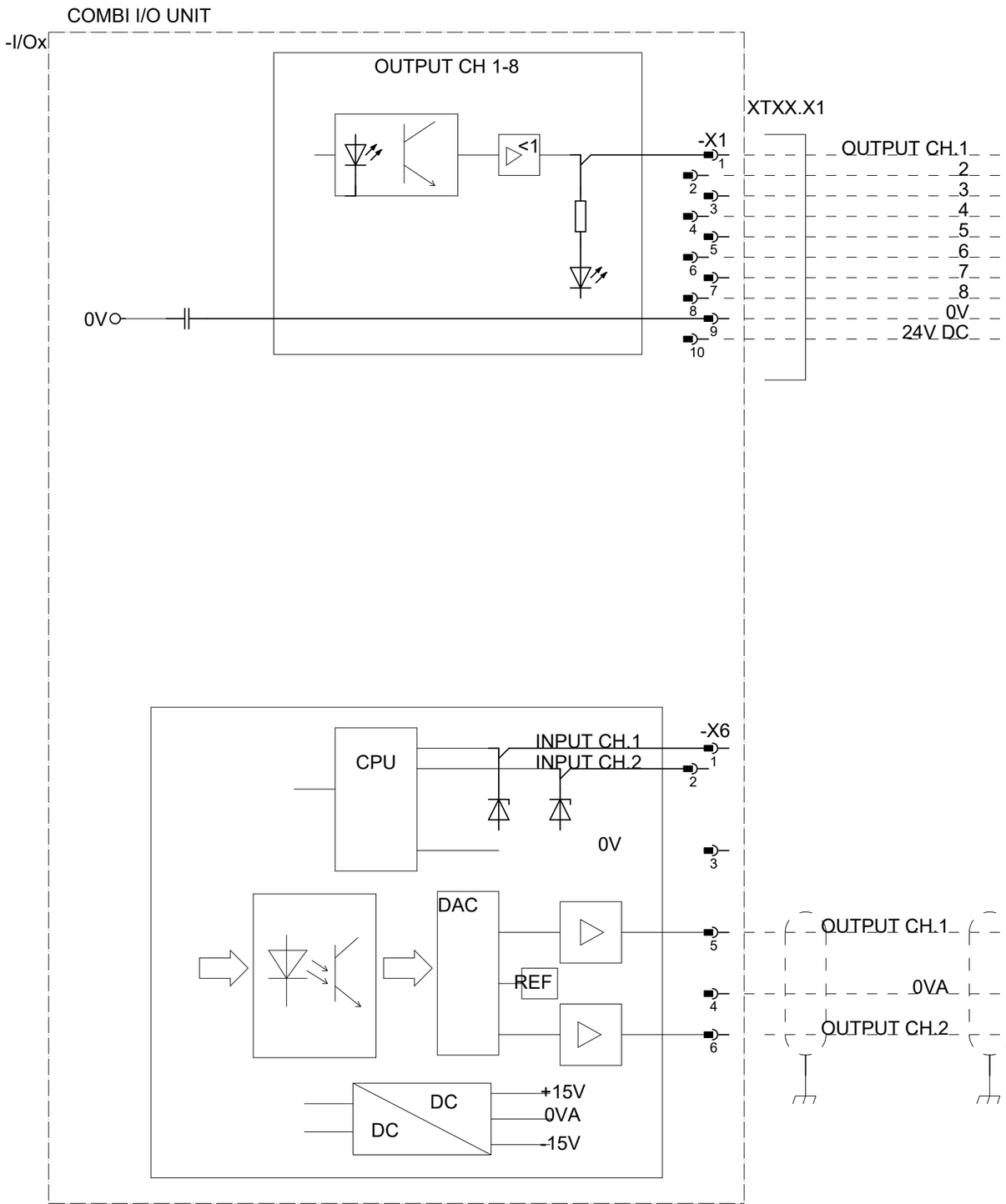
3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

4) FOR COMBI I/O DSQC 651, 8 INPUT, NO X4.
FOR DIGITAL I/O DSQC 652, 16 INPUT, X3 AND X4.

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D DIGITAL PART OF COMBI I/O AND DIGITAL I/O UNIT	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14
					Page 28 Next 29 Total 125



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D DIGITAL I/O UNIT	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D COMBI I/O UNIT	Status: Approved	Plant: = Location: + Sublocation: +
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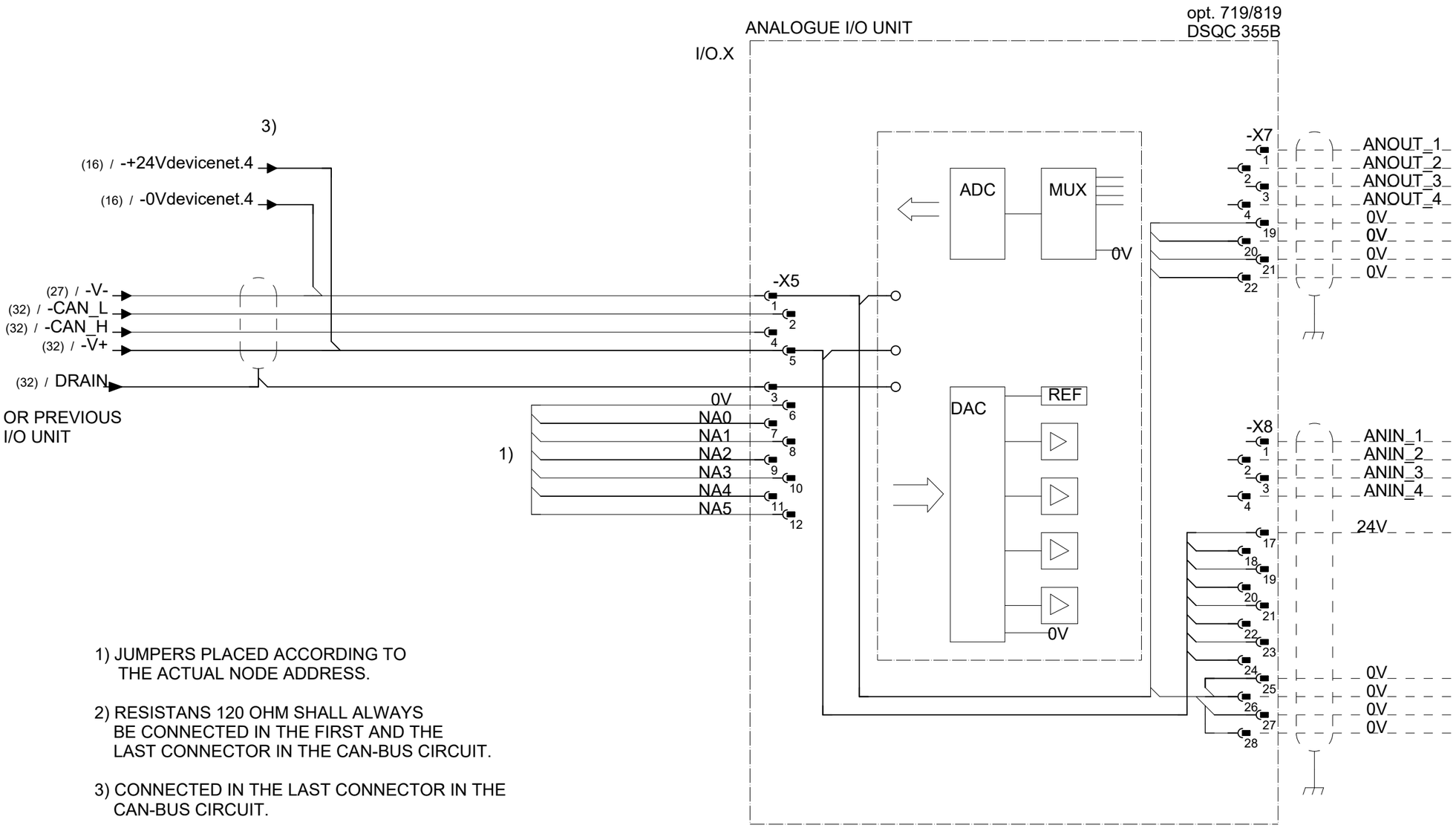
						Page 30 Next 31 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

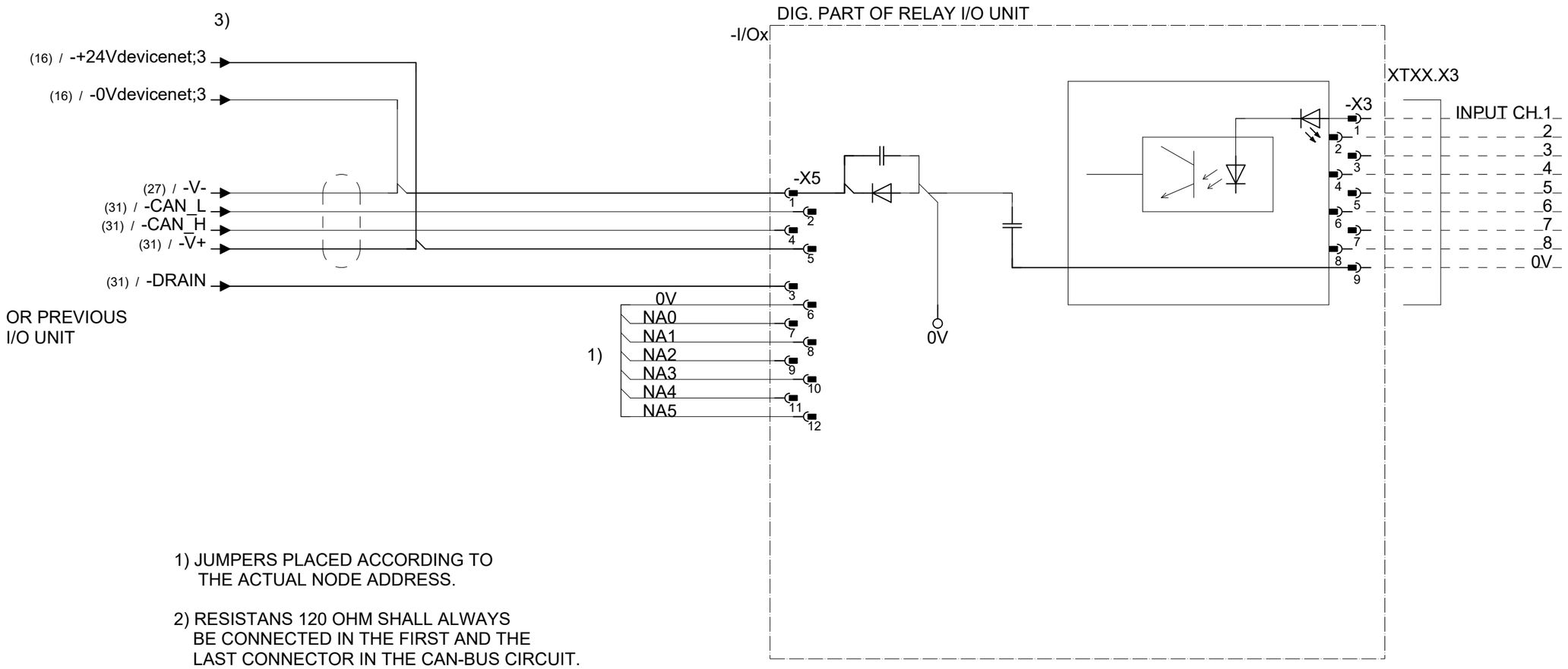


1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D ANALOGUE I/O UNIT	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page 31 / Next 32 / Total 125

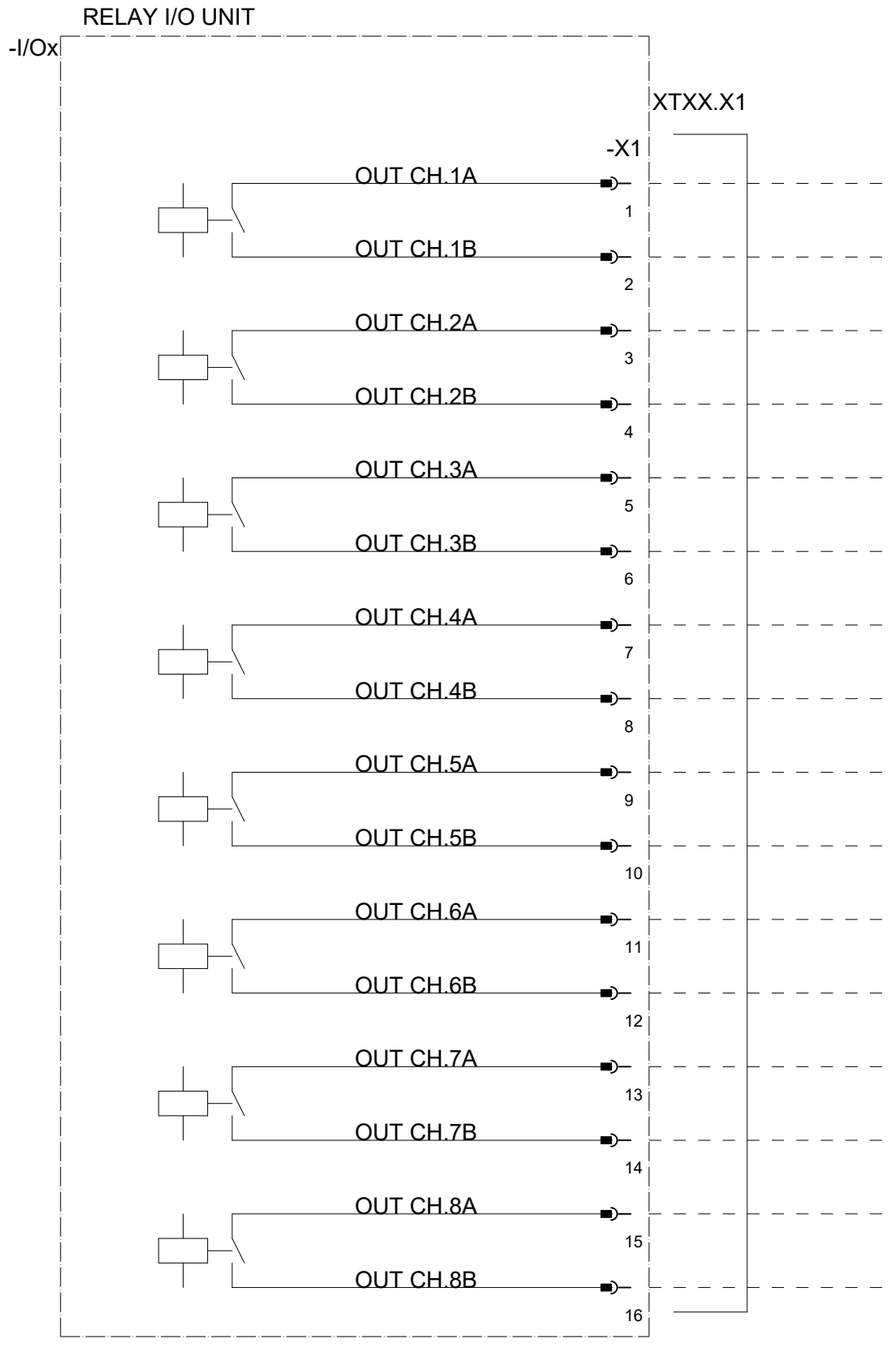


1) JUMPERS PLACED ACCORDING TO
THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS
BE CONNECTED IN THE FIRST AND THE
LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

3) CONNECTED IN THE LAST CONNECTOR IN THE
CAN-BUS CIRCUIT.

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D RELAY I/O UNIT	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14
					Page 32 Next 33 Total 125



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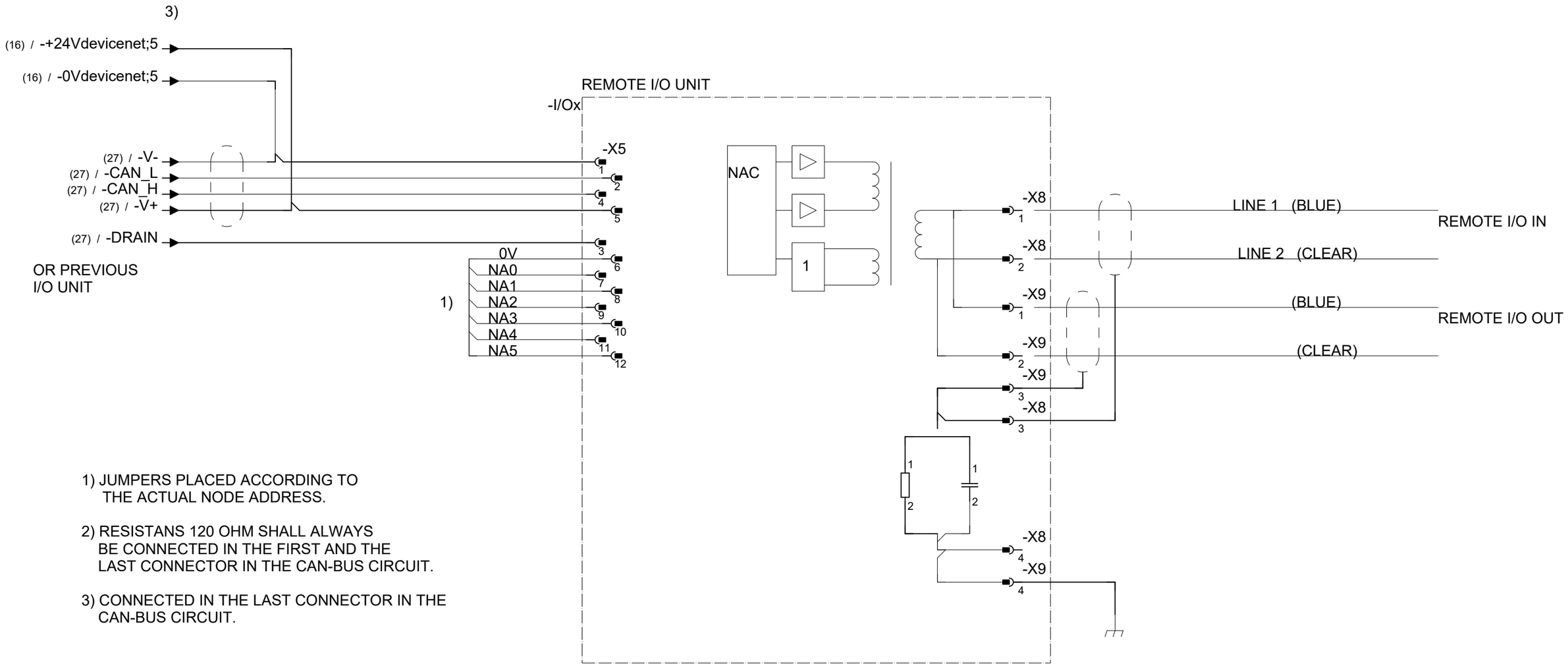
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page 33 Next 34 Total 125



1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D REMOTE I/O UNIT	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
					Page 34 Next 34.2 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				

Opt 1541-1
opt 1541-2
DSQC1030

Digital I/O Base module

-I/Ox

-X4 -X4

Customer connection
Power supply

0V GND

+24V PWR

DC/DC

ISO. test voltage 500VAC

+24V_INT1

0V_INT1

DO_ 1-16

XTXX.X1

-X1

DO_8
7
6
5
4
3
2
1

GND DO
PWR DO

DO 0-24VDC

787 0VDC /
785 24VDC /
Flow censor
for IRB6790

DO_16
15
14
13
12
11
10
9

GND DO
POWER DO

786 Flow censor
for IRB6790

GND DO
PWR DO

-X3

RX+
RX-
TX+
TX-

-X5

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

A31.X4 Main computer

0V_INT2

+24V_INT2

DC/DC

XTXX.X2

-X2

DI_8
7
6
5
4
3
2
1 < 0-24VDC

GND DI

DI_16
15
14
13
12
11
10
9

GND_DI < 0V

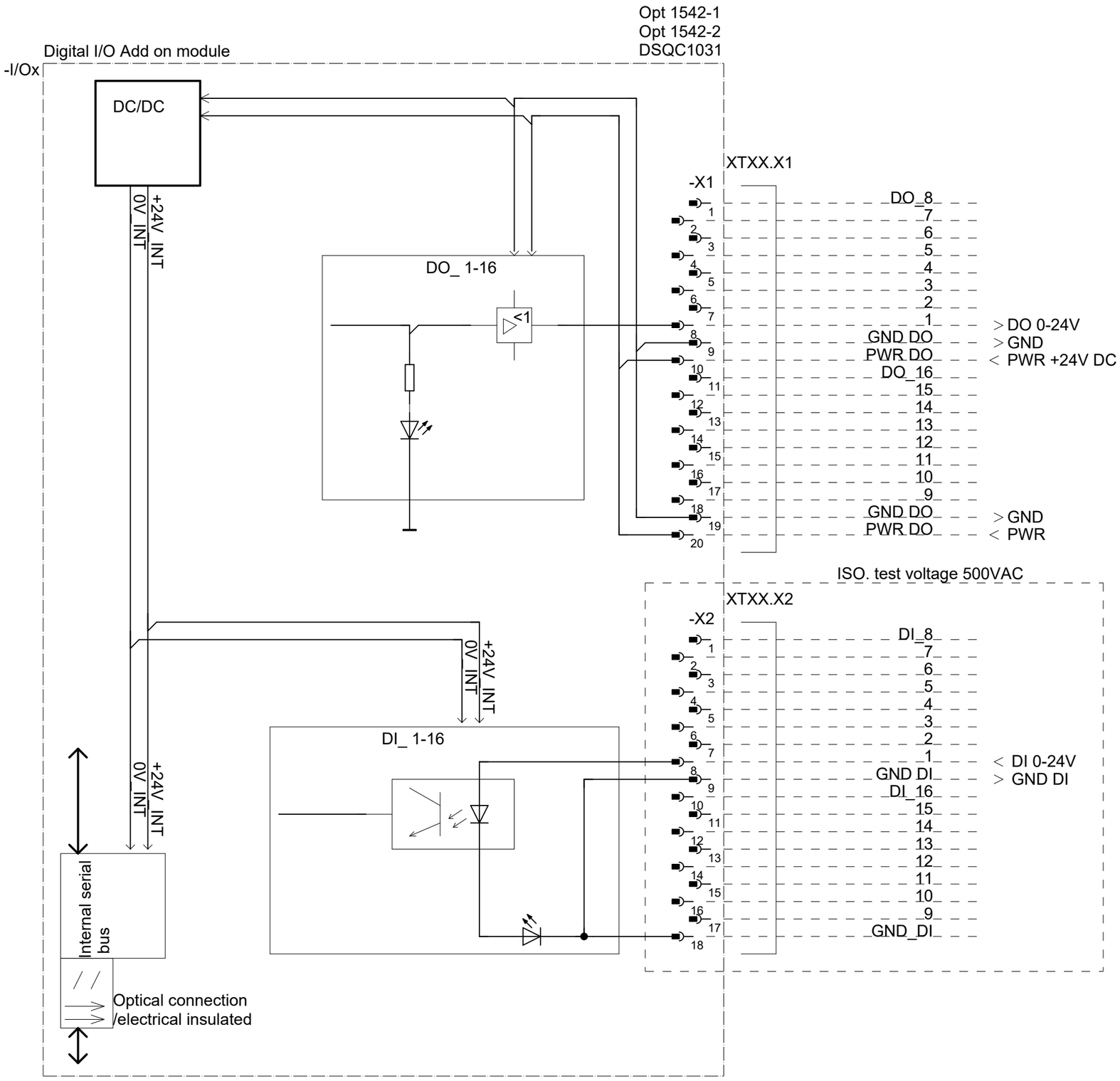
DI_ 1-16

GND DI

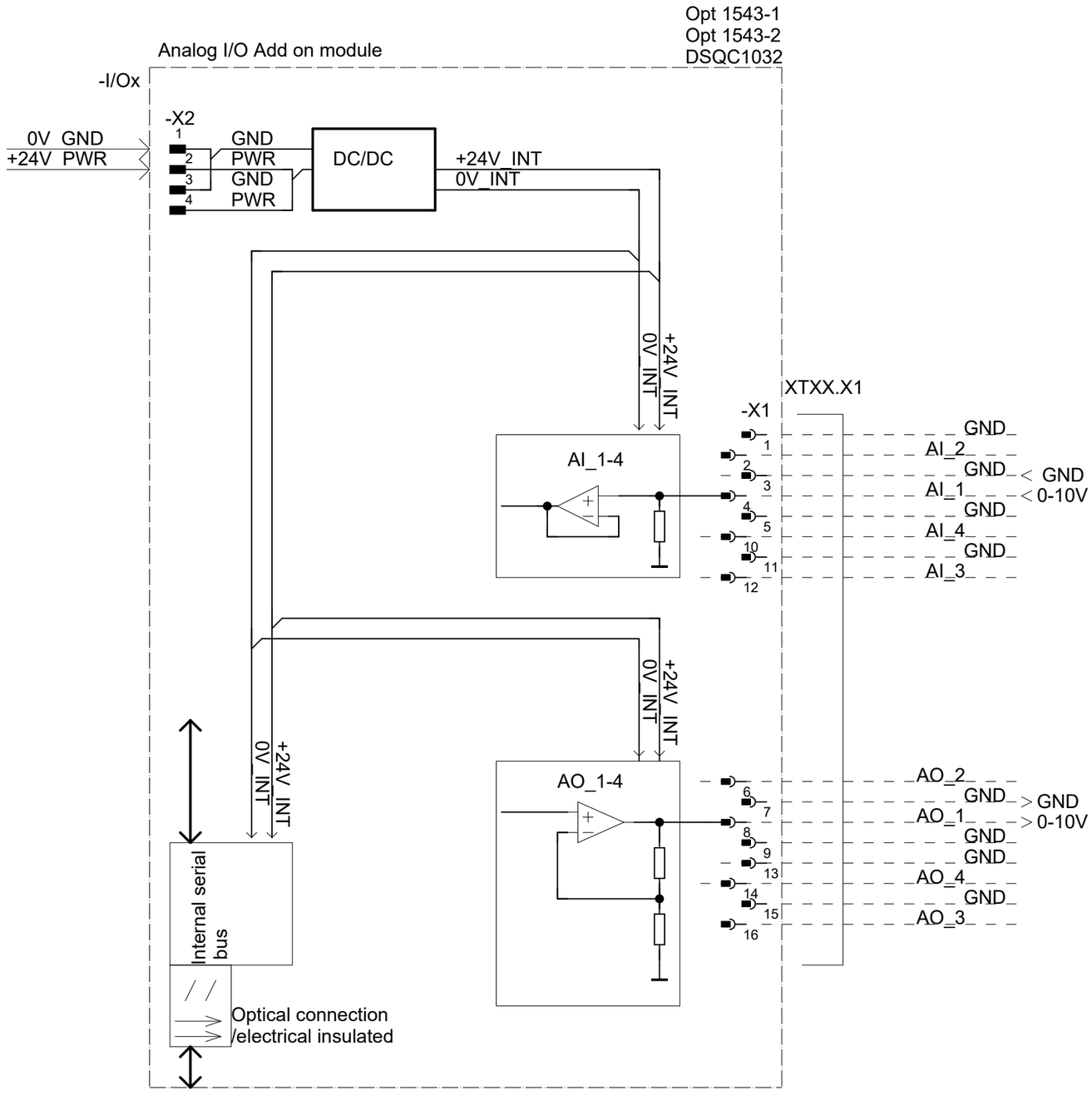
Internal serial bus

Optical connection
/electrical insulated

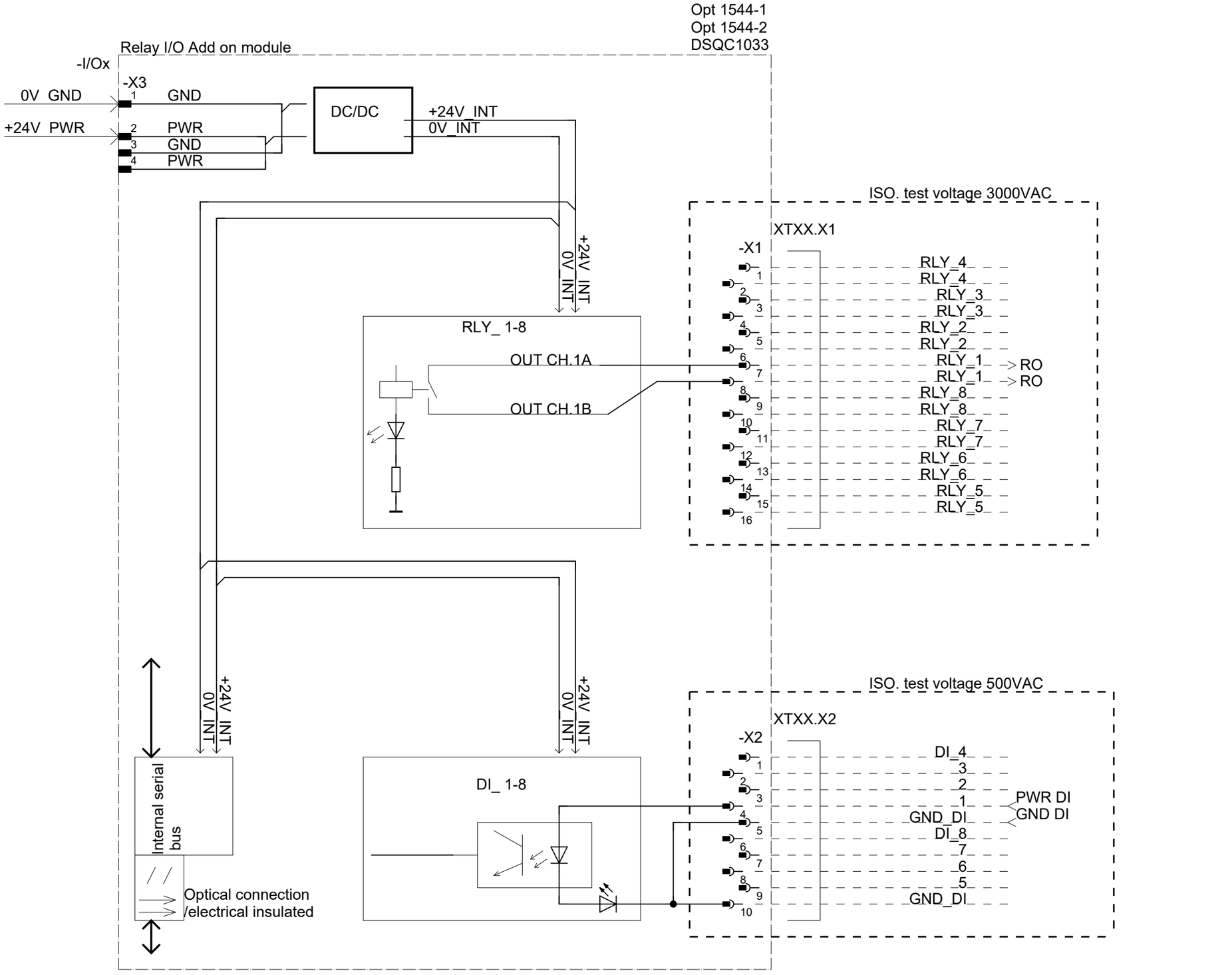
Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D Local I/O Digital Base 16in/16out	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Document no. 3HAC026871-020	Rev. Ind 14
						Page 34.2 Next 34.4 Total 125



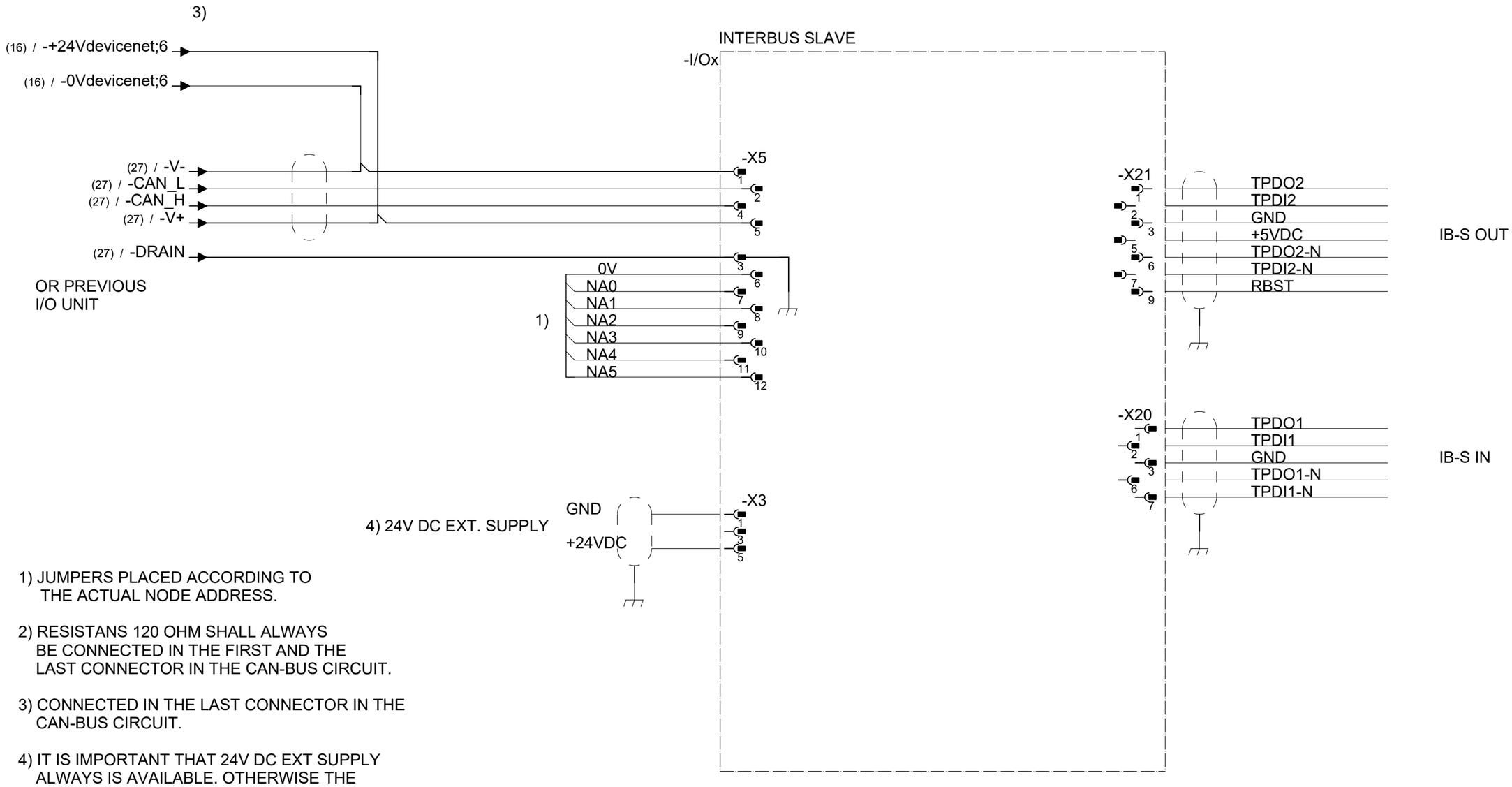
Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D Local I/O Digital add on 16in/16out	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D Local I/O Analog add on 4in/4out	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 34.6 Next 34.8 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D Local I/O Relay add on 8RO/8DI	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page 34.8 Next 35 Total 125



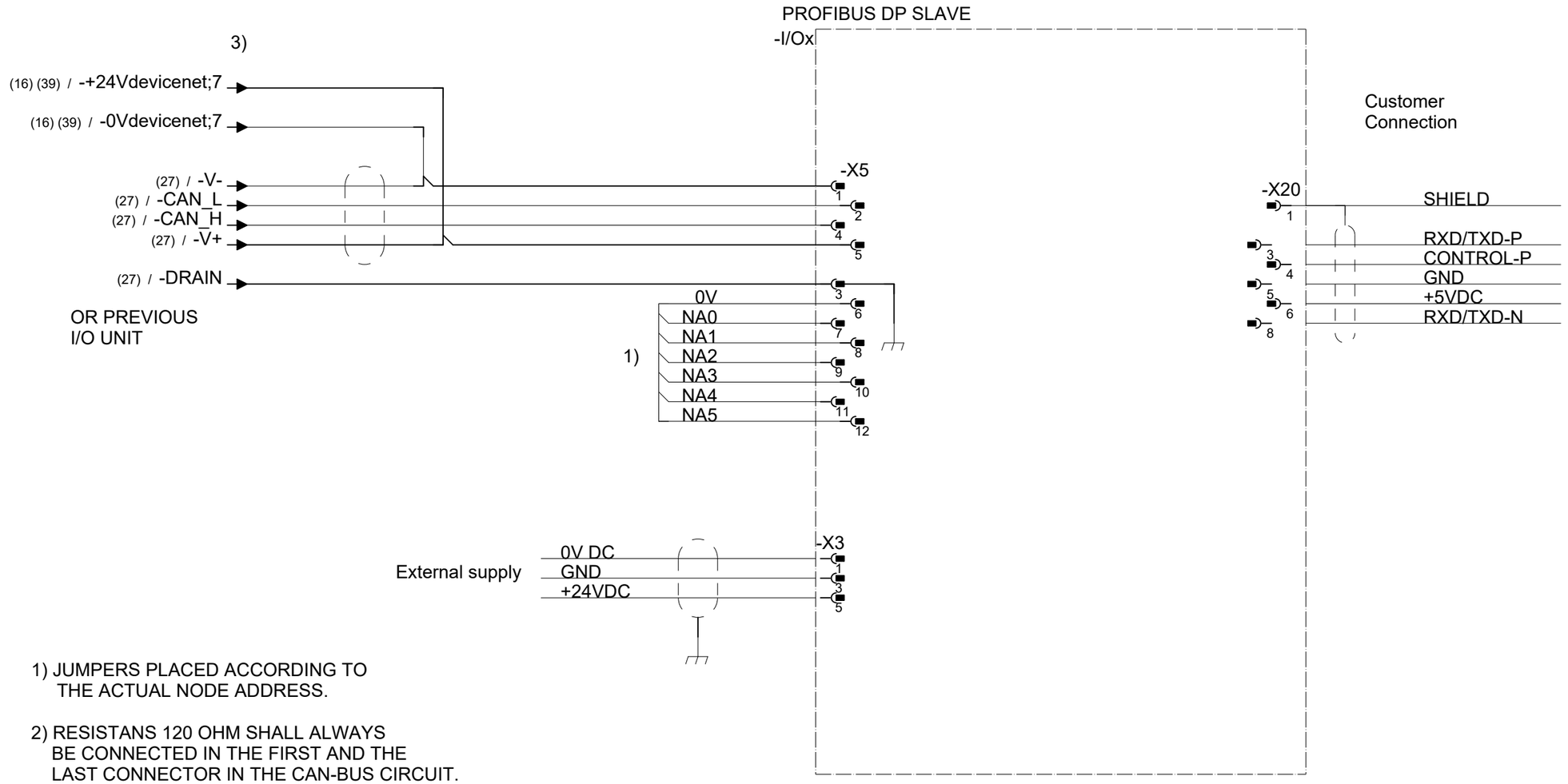
1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

4) IT IS IMPORTANT THAT 24V DC EXT SUPPLY ALWAYS IS AVAILABLE. OTHERWISE THE INTERBUS CAN NOT WORK IF THE CONTROLLER IS TURNED OFF.

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D INTERBUS SLAVE	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14
					Page 35 Next 36 Total 125

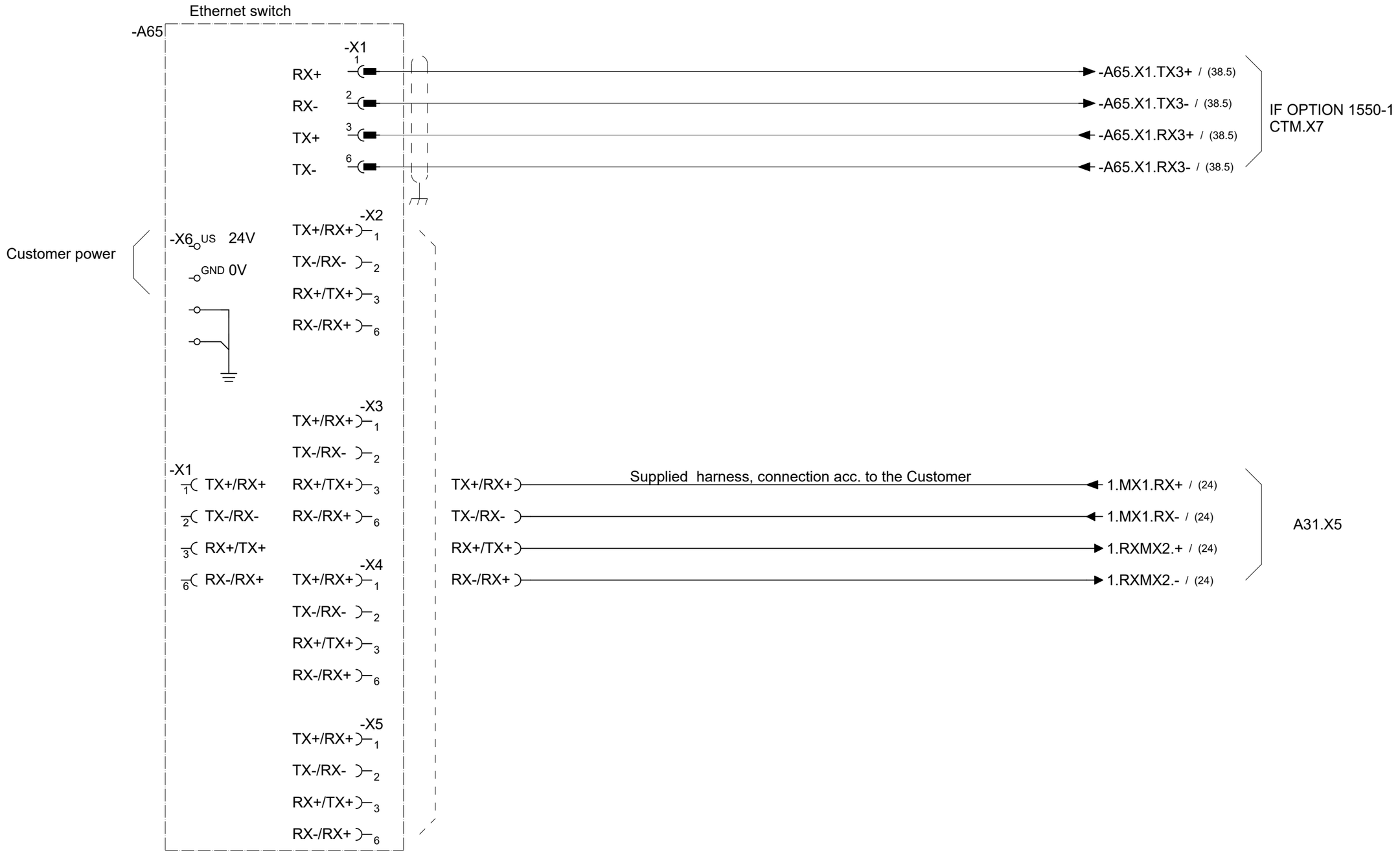


1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

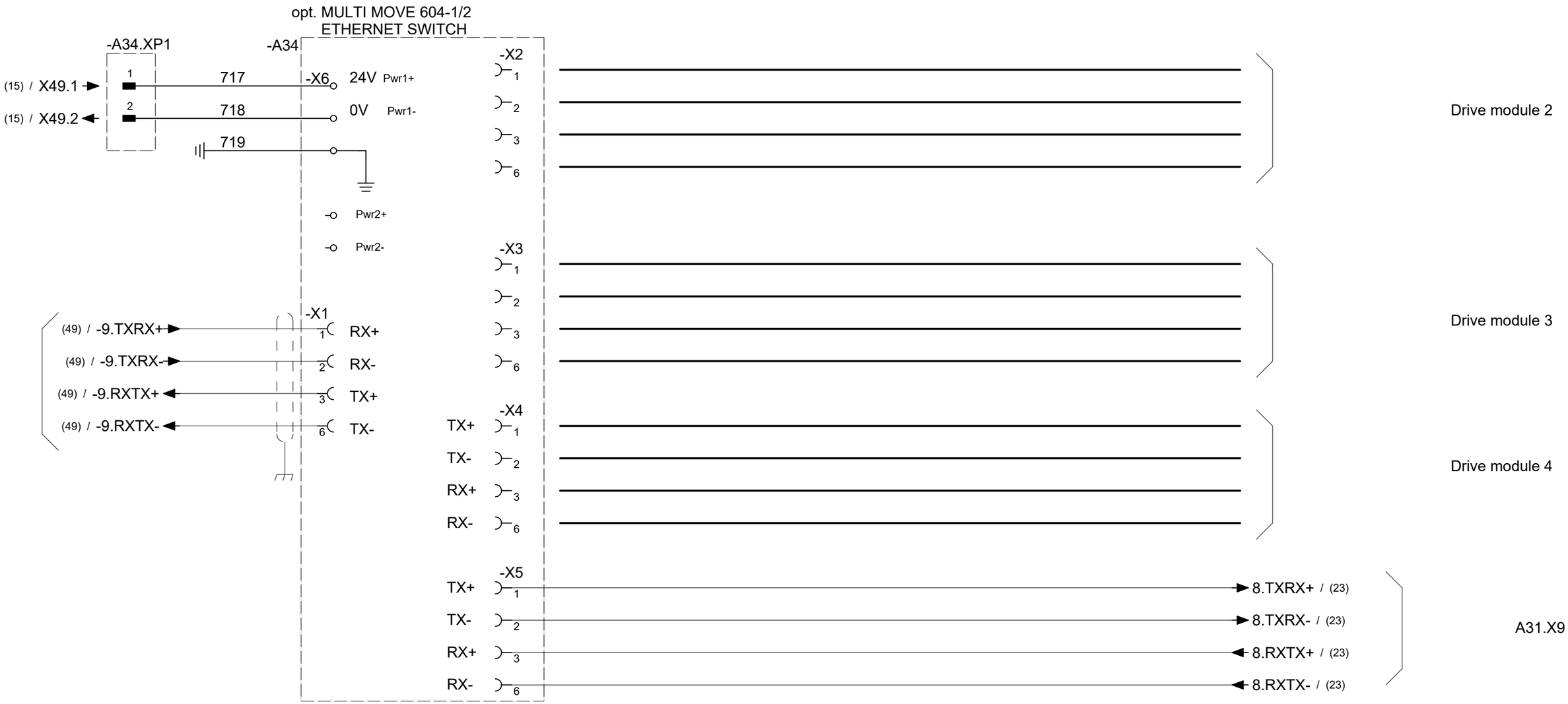
Opt. if 941-1



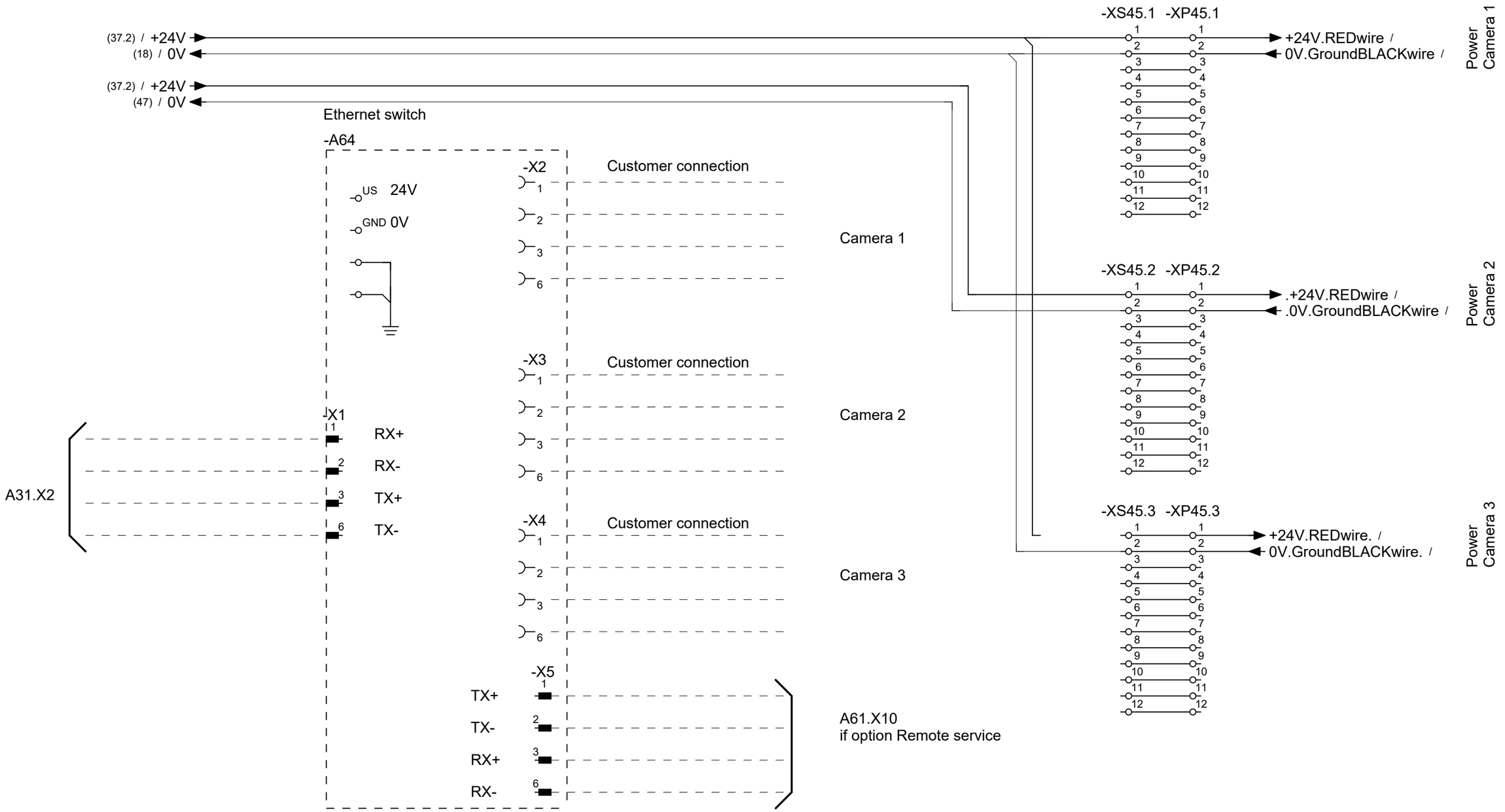
Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D ETHERNET SWITCH	Status: Approved	Plant: = Location: + Sublocation: +
					Document no. 3HAC026871-020	Rev. Ind 14
						Page 37 Next 37.1 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

PROCESS POWER SUPPLY G2

A42.X2

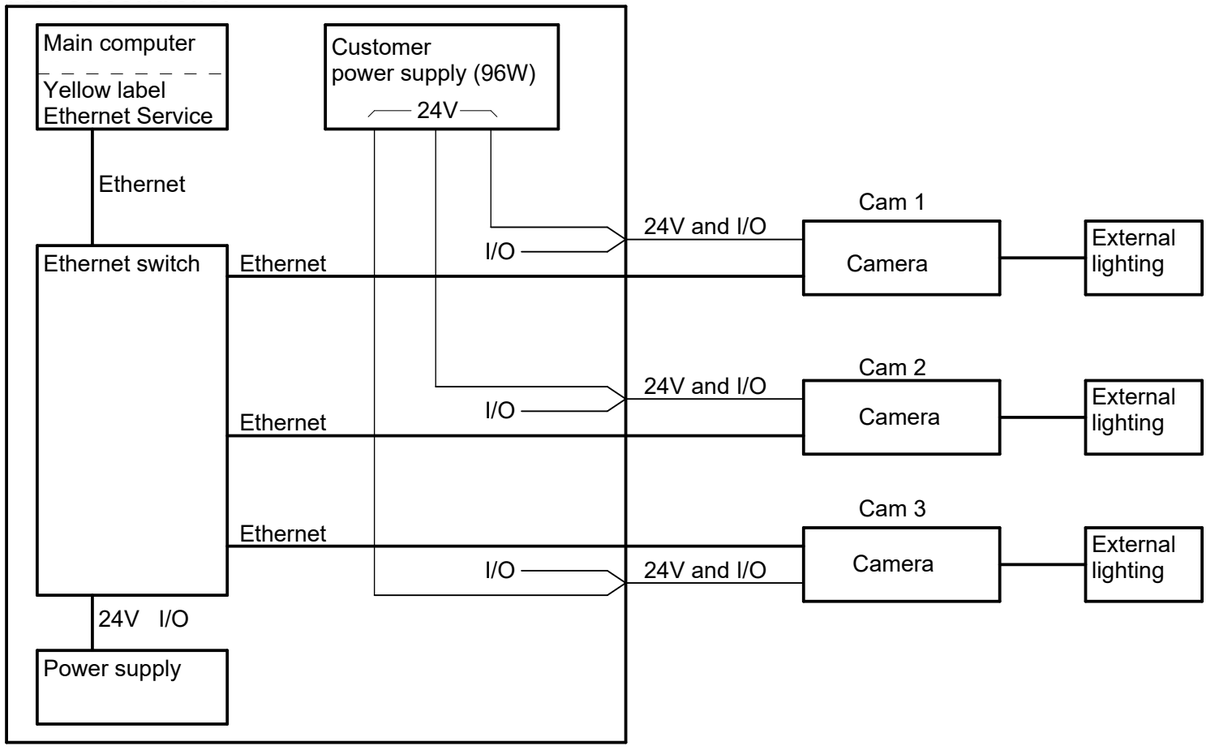


Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D ETHERNET SWITCH A34, option MULTI MOVE 604-1/2	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14

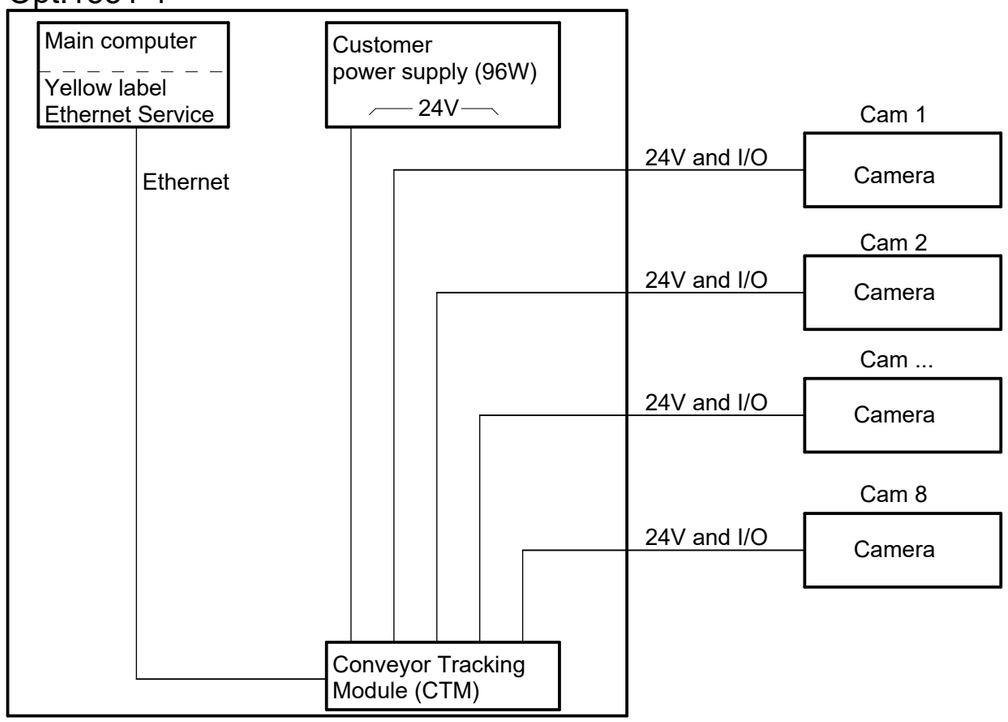


Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D ETHERNET SWITCH A64/CAMERA	Status: Approved	Plant: = Location: + Sublocation: +
					Document no. 3HAC026871-020	Rev. Ind 14
						Page 37.2 Next 37.3 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

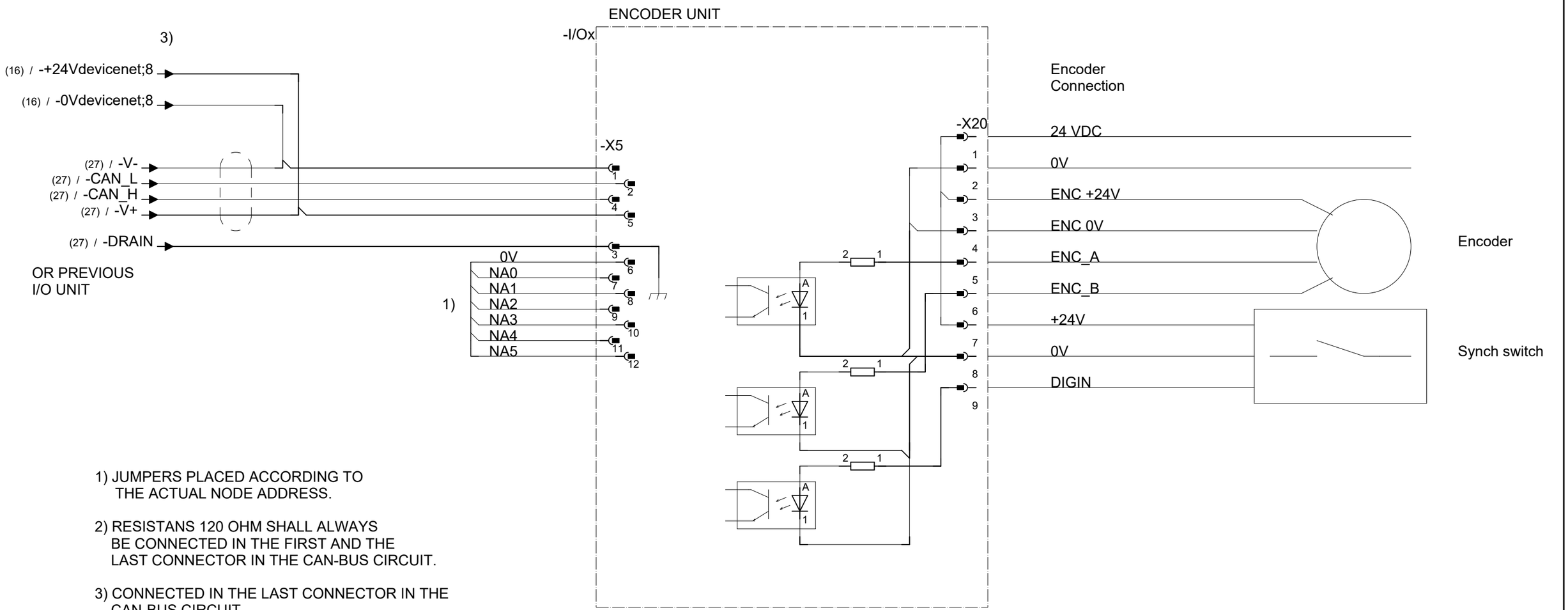
Robot controller



Robot controller with Conveyor Tracking. Opt.1551-1



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D VISION, INTEGRATED CAMERAS	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 37.3 Next 38 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

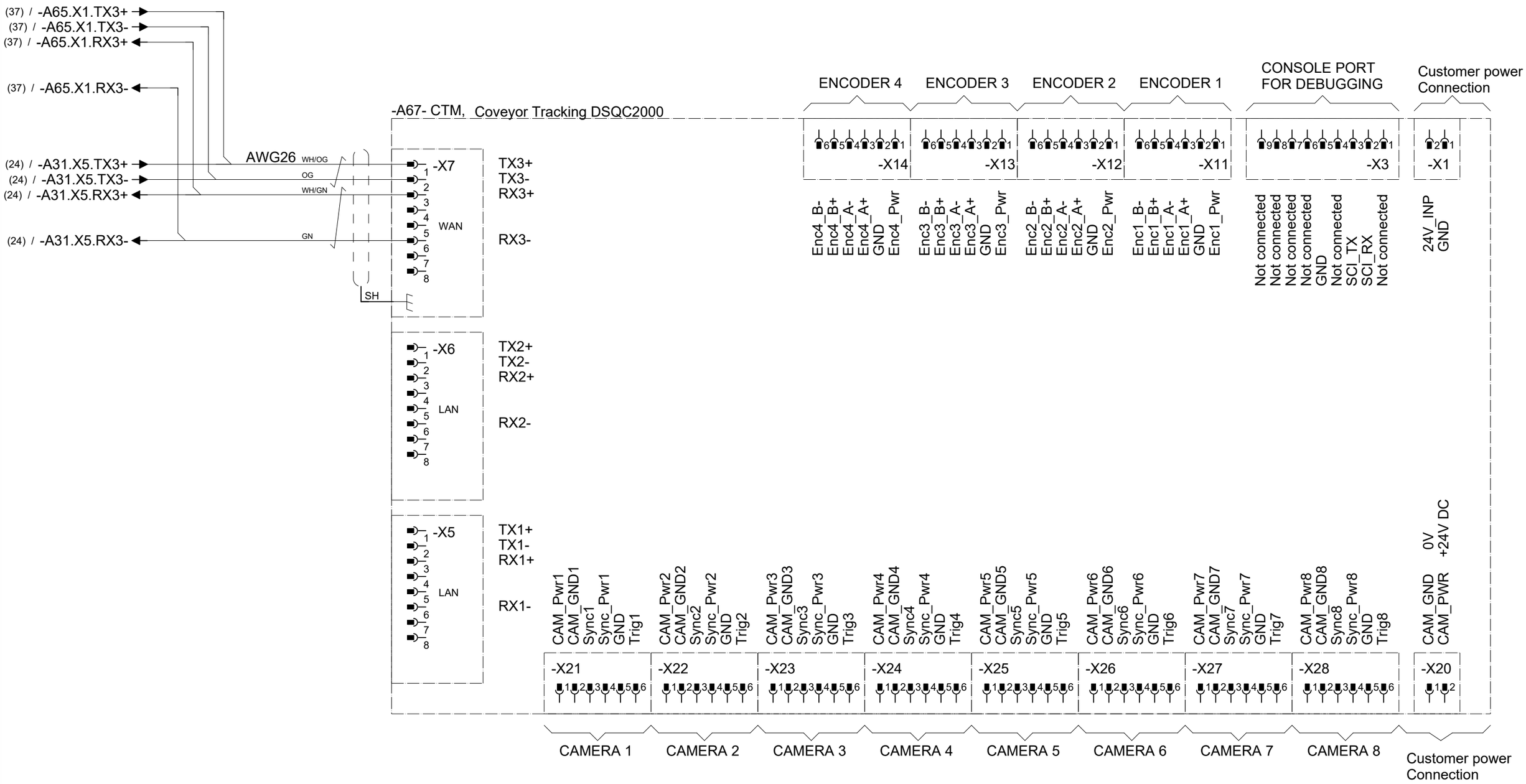


1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

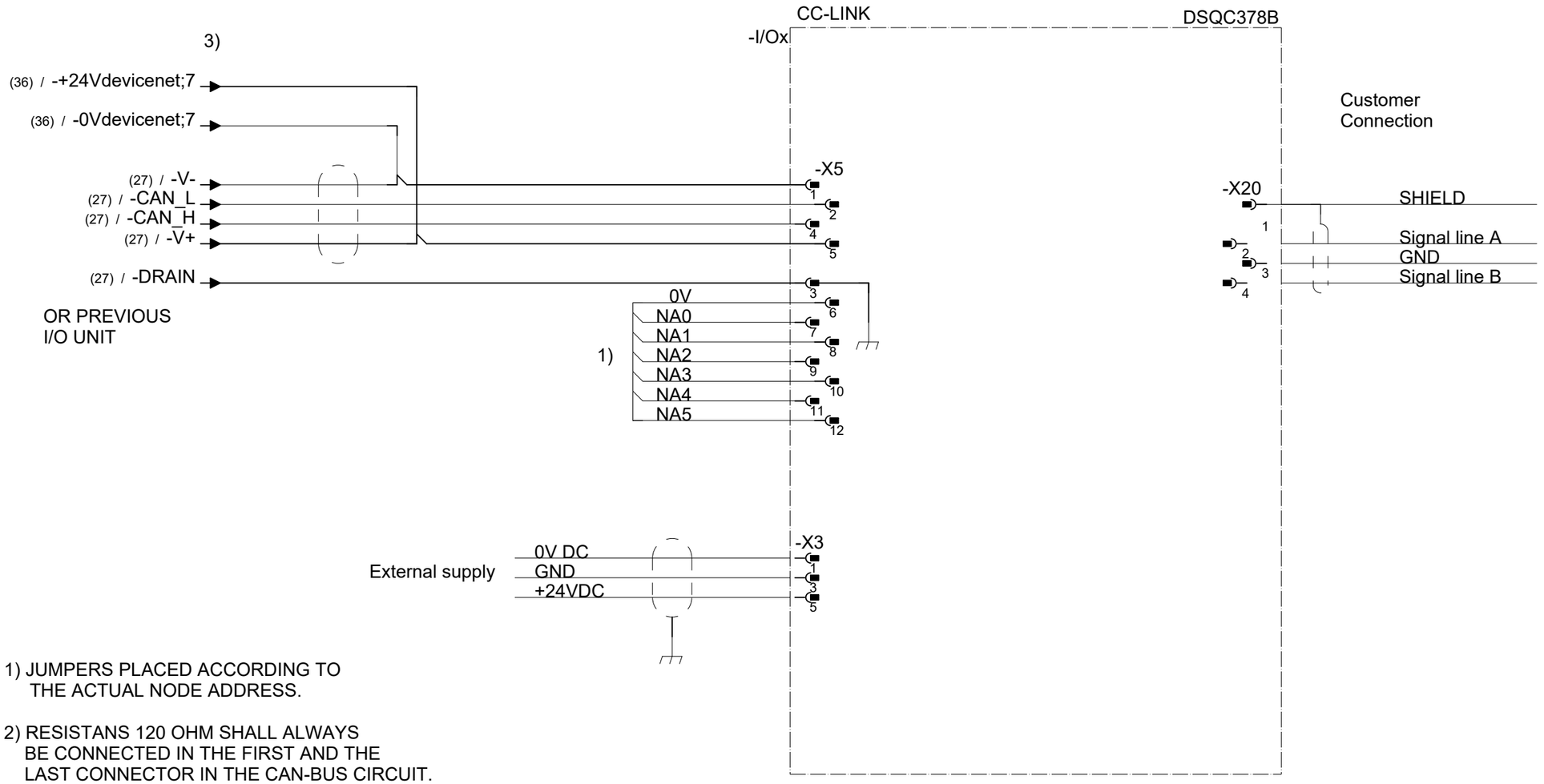
3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D ENCODER UNIT	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page 38 / Next 38.5 / Total 125



OPTION 1550-1

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONVEYOR TRACKING MODULE, DSQC 2000	Status: Approved	Plant: = Location: + Sublocation: +
					Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30					Page 38.5 Next 39 Total 125

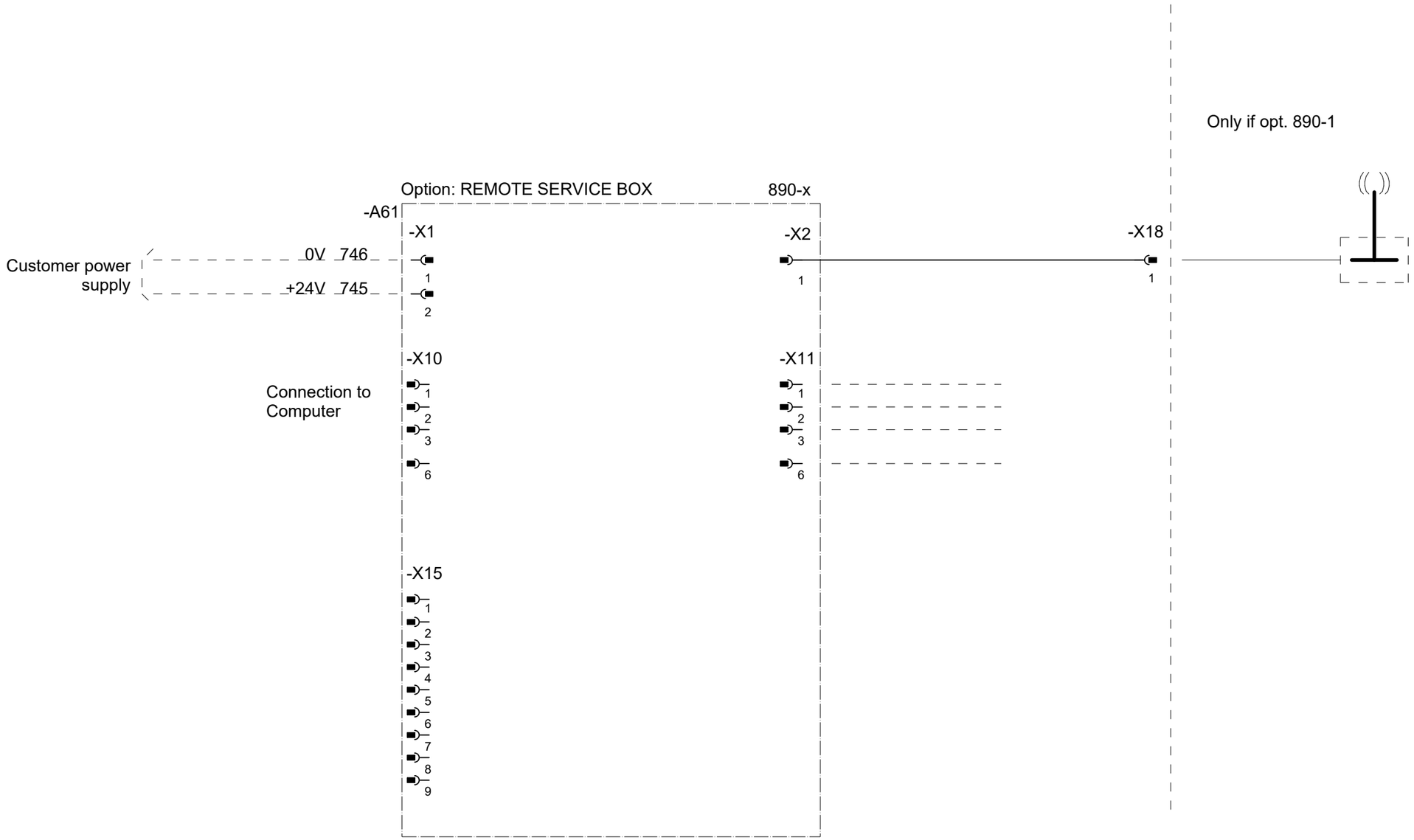


1) JUMPERS PLACED ACCORDING TO THE ACTUAL NODE ADDRESS.

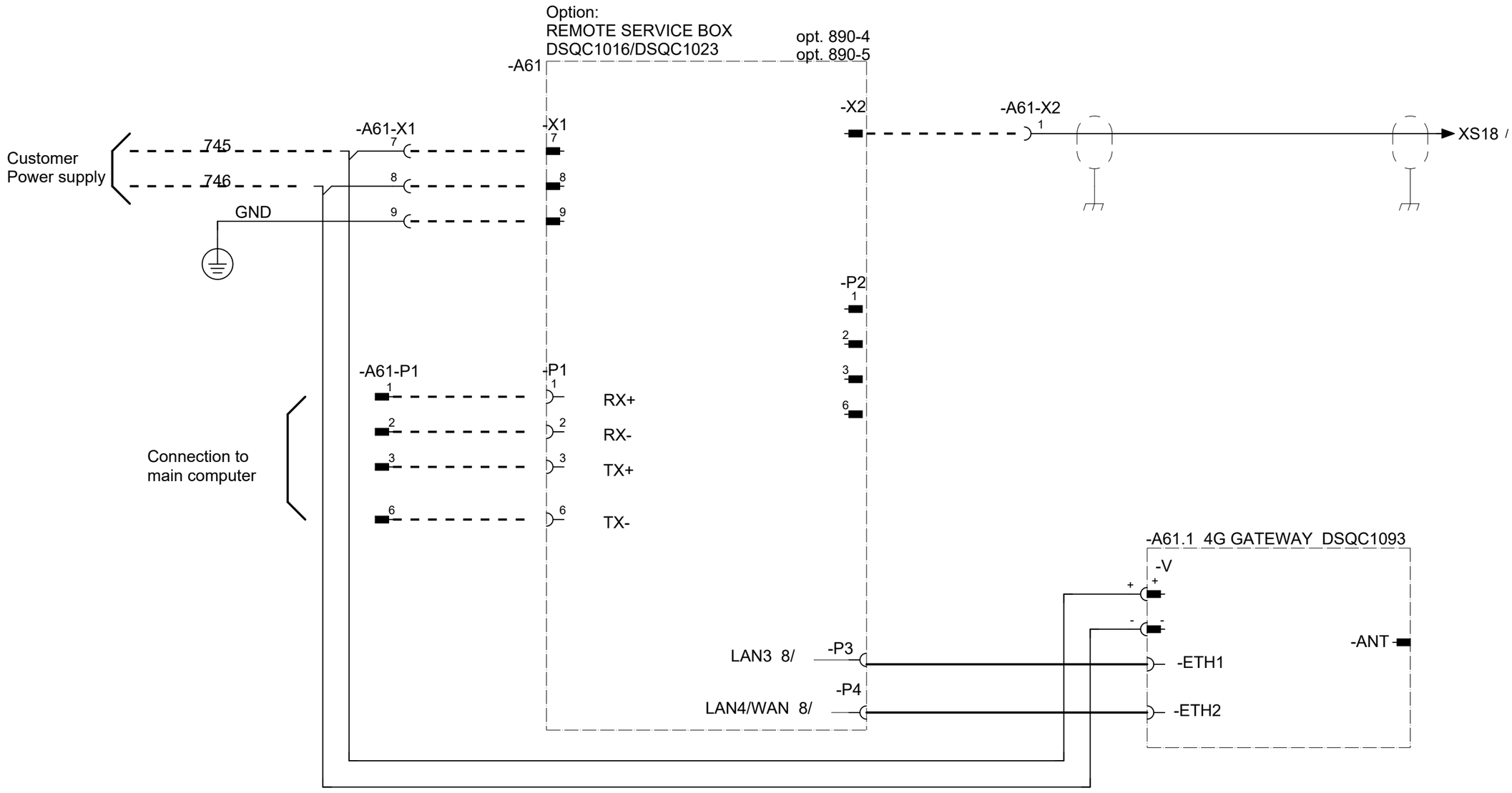
2) RESISTANS 120 OHM SHALL ALWAYS BE CONNECTED IN THE FIRST AND THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

3) CONNECTED IN THE LAST CONNECTOR IN THE CAN-BUS CIRCUIT.

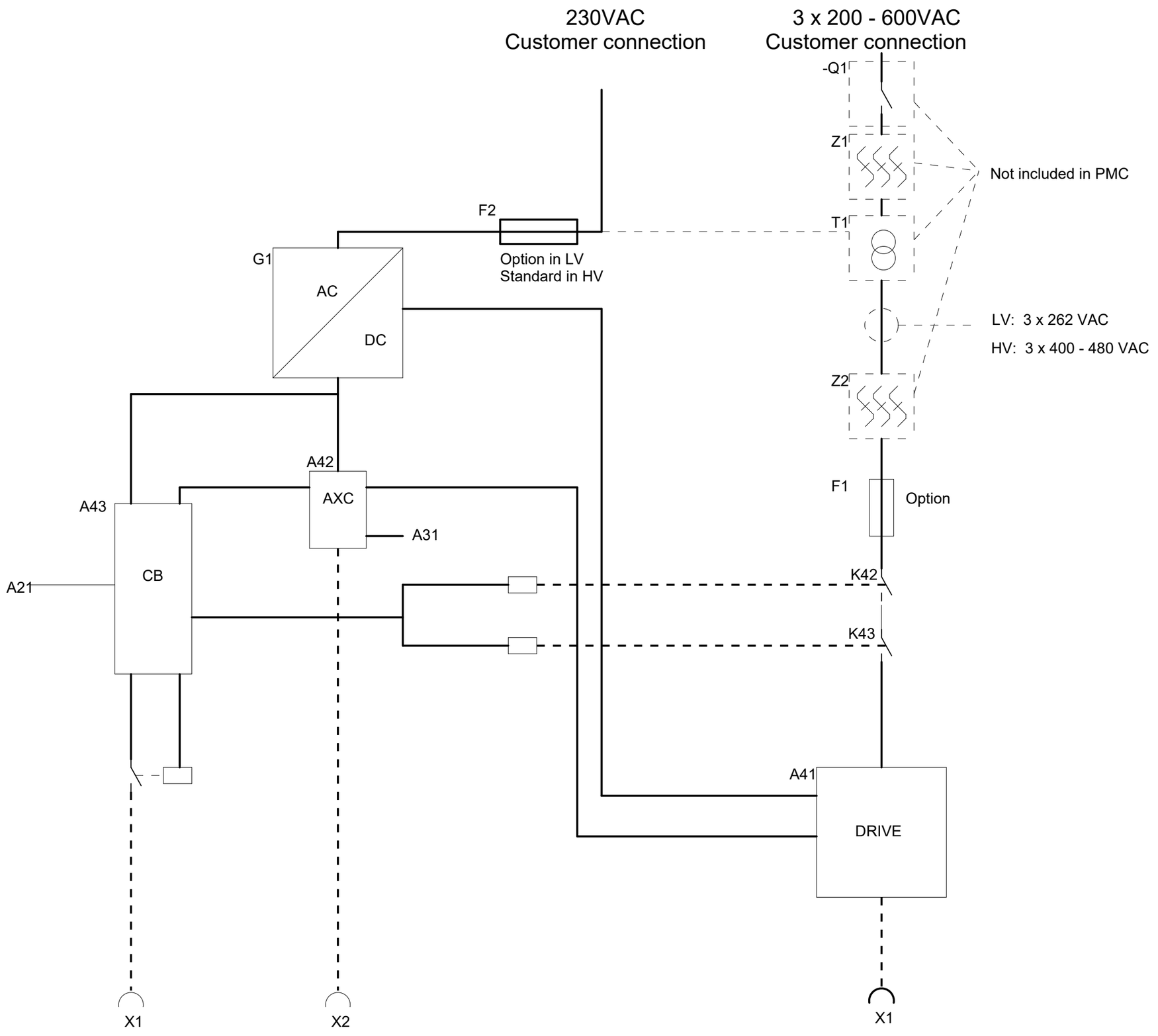
Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CC-LINK	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page39 / Next 40 / Total 125



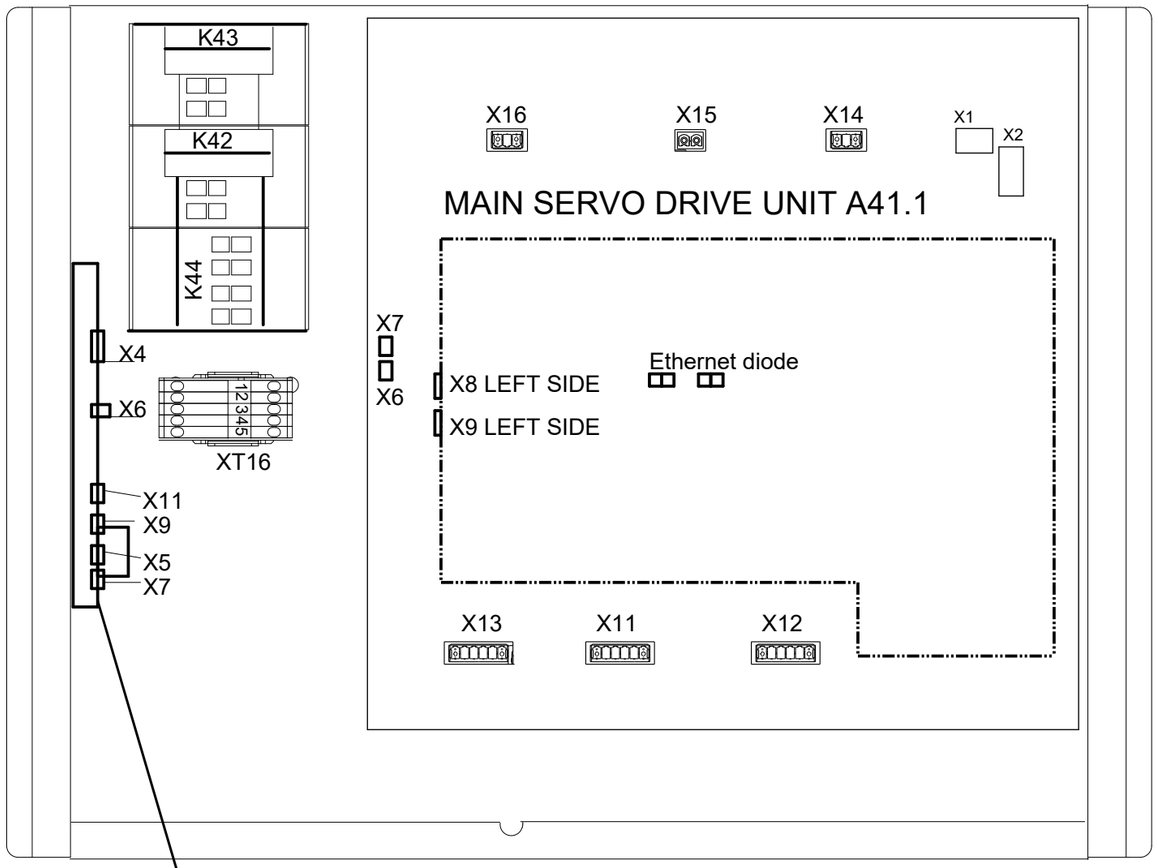
Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D REMOTE SERVICE BOX for Rel. 16.1 and earlier	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 40 Next 40.1 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

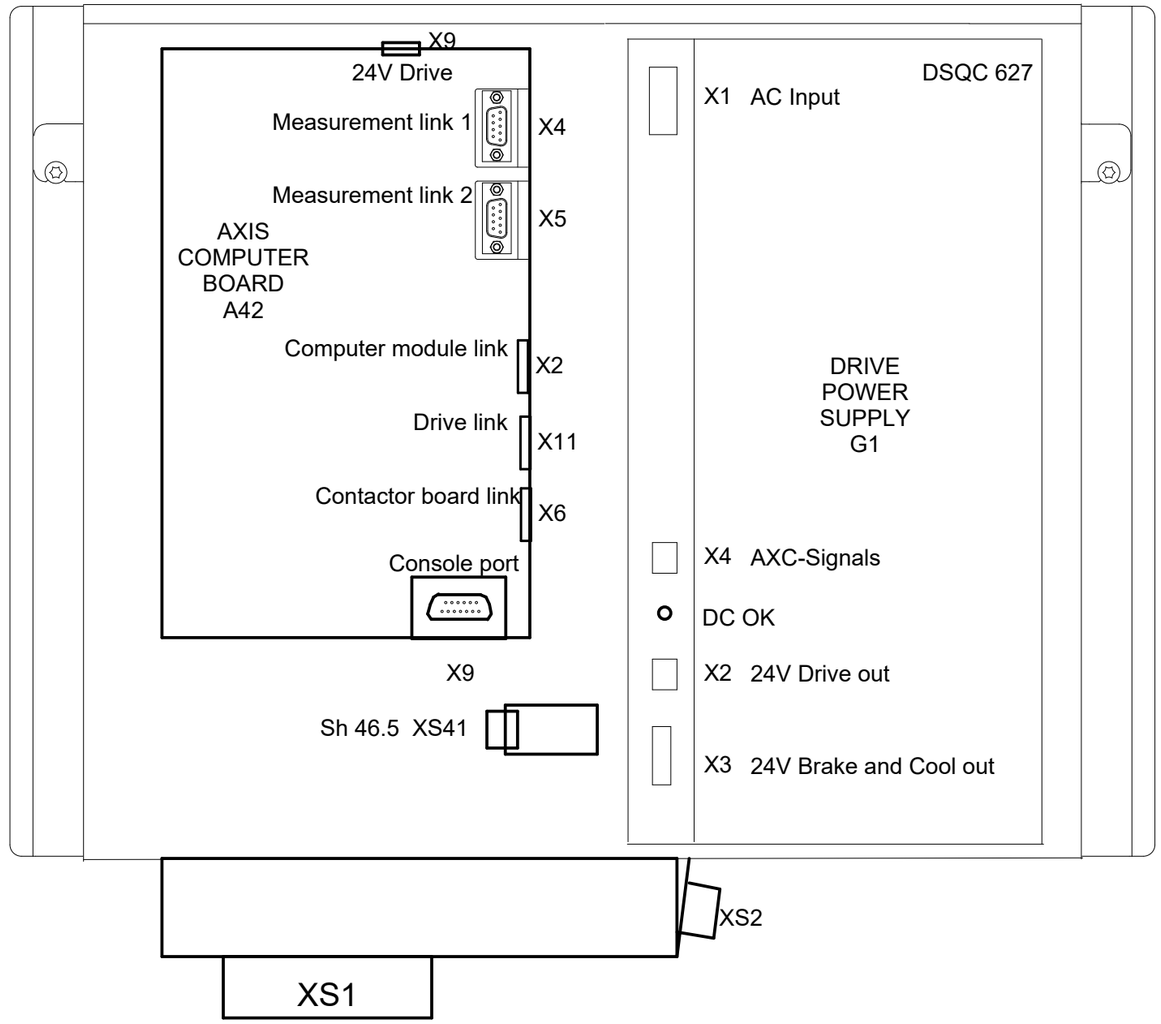


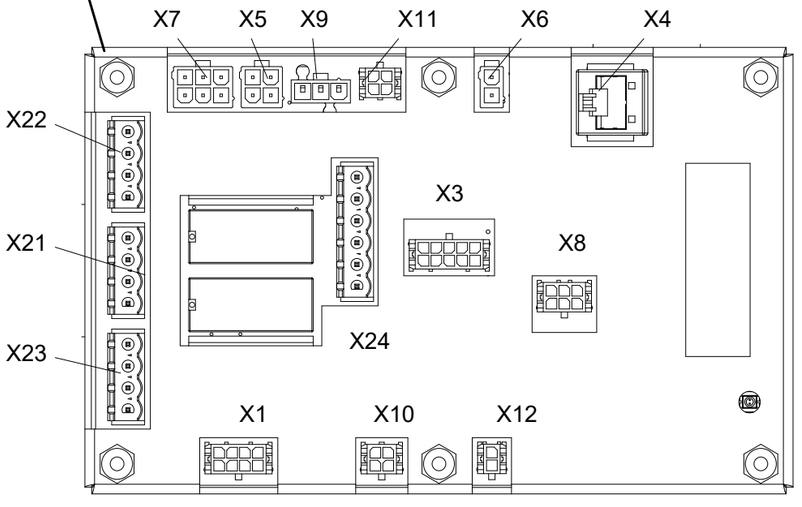
Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D REMOTE SERVICE BOX DSQC1016/DSQC1023 from Rel. 16.2	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



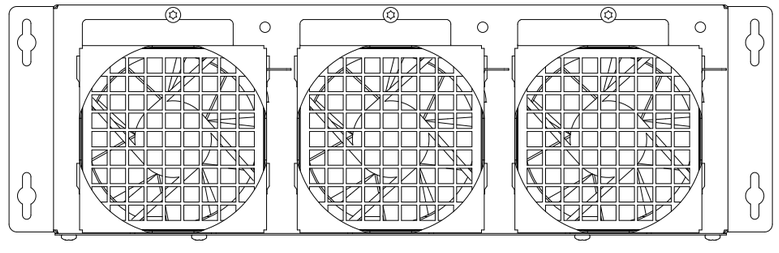
Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D BLOCK DIAGRAM DRIVE UNIT	Status: Approved	Plant: = Location: + Sublocation: +
					Document no. 3HAC026871-020	Rev. Ind 14
						Page 41 Next 42 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					







CONTACTOR
UNIT
A43



FAN
UNIT
E1

E42 E43 E44

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D VIEW OF DRIVE MODULE LV	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
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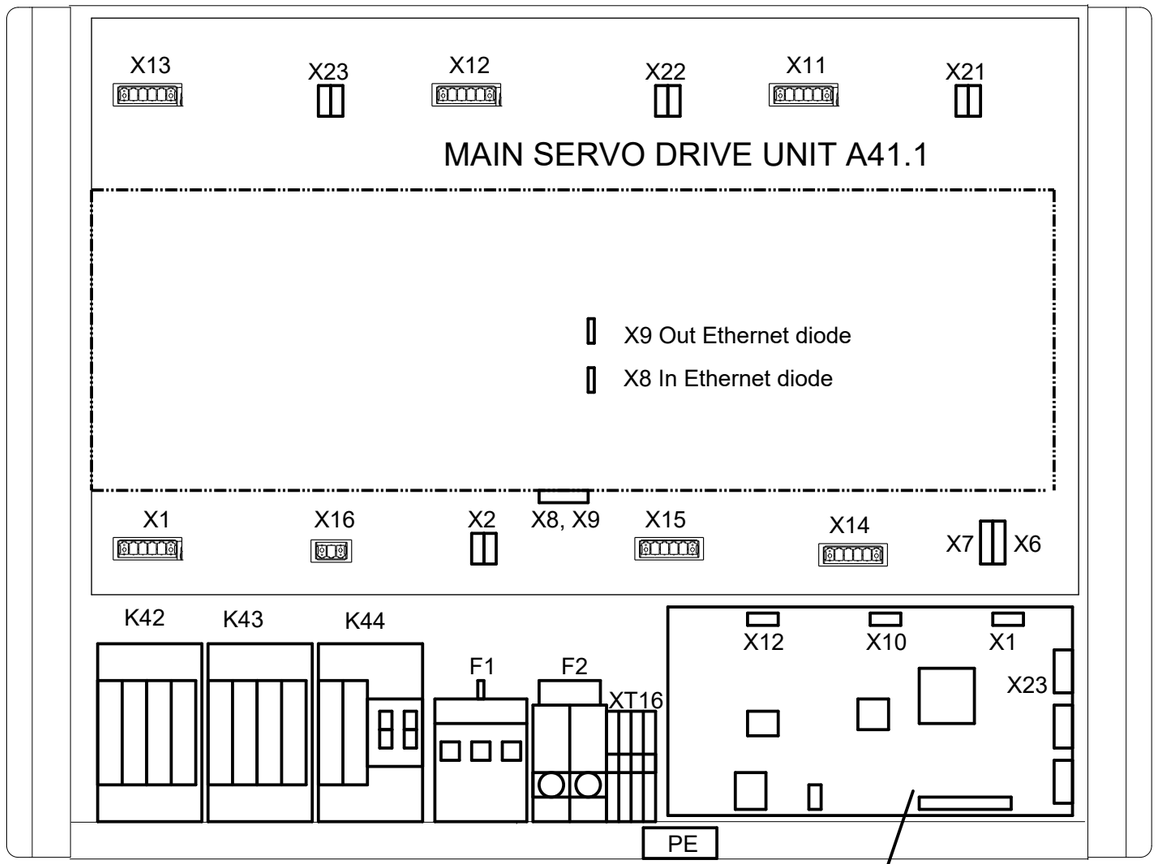
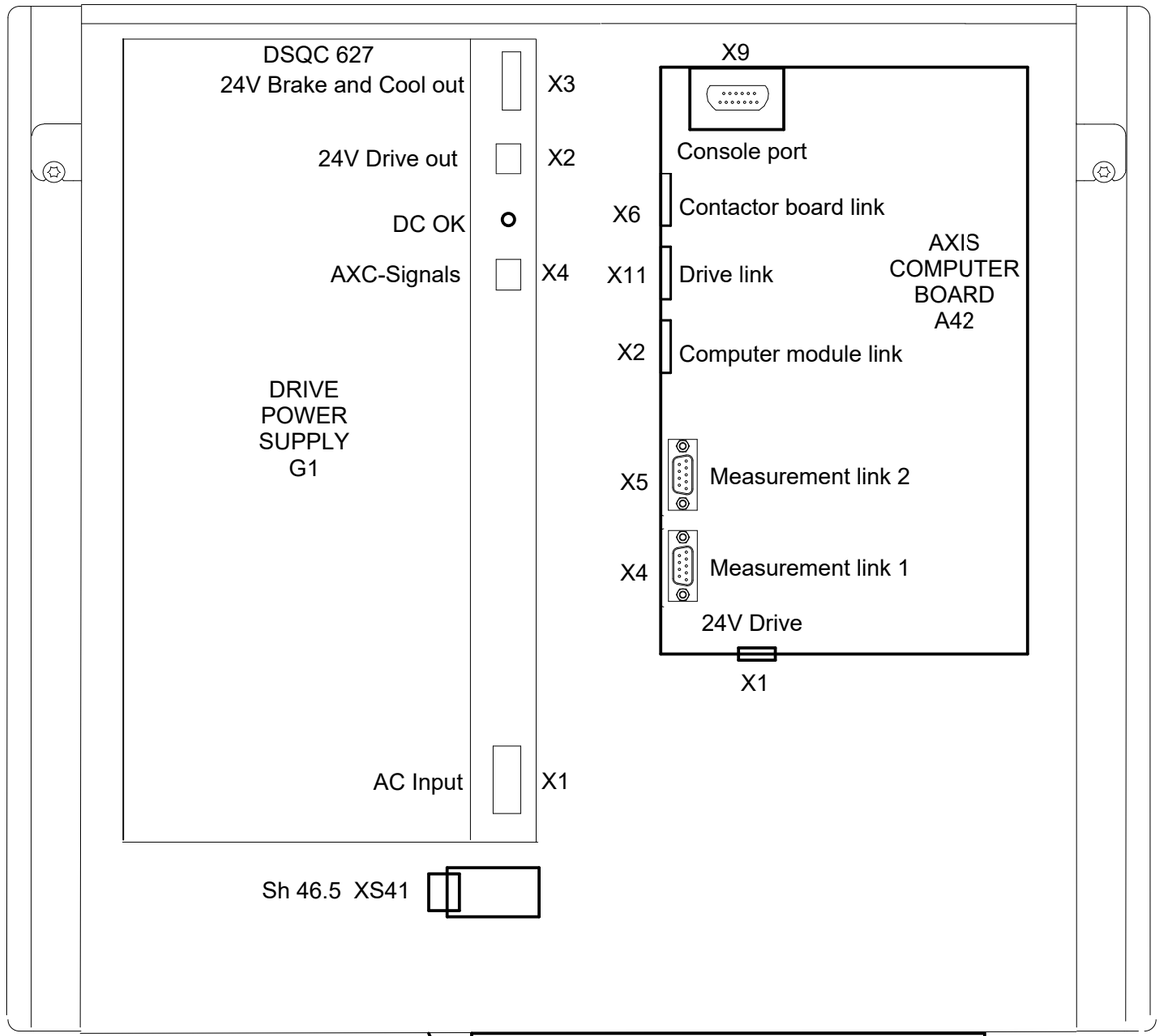
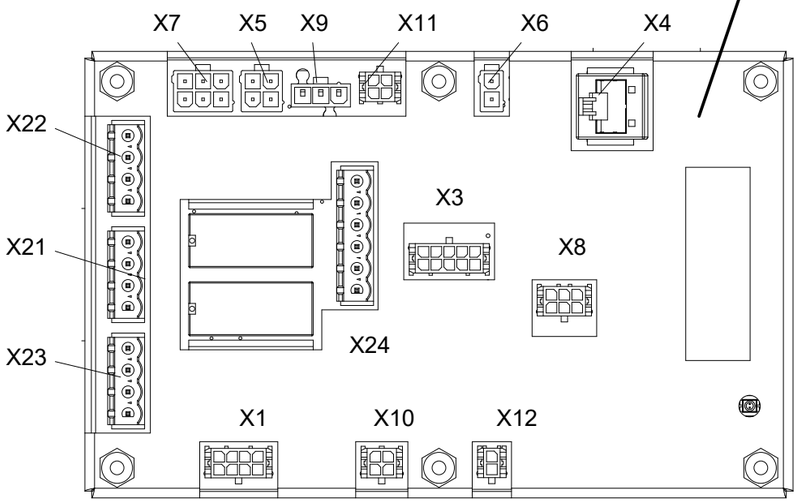
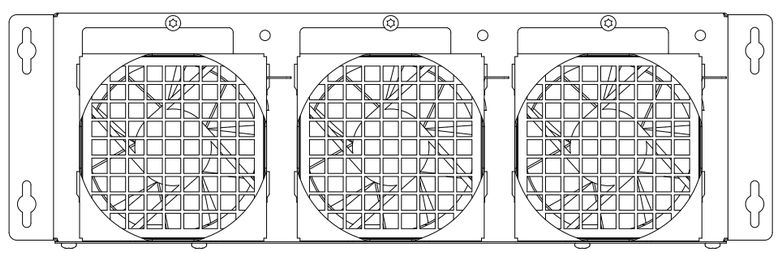
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				



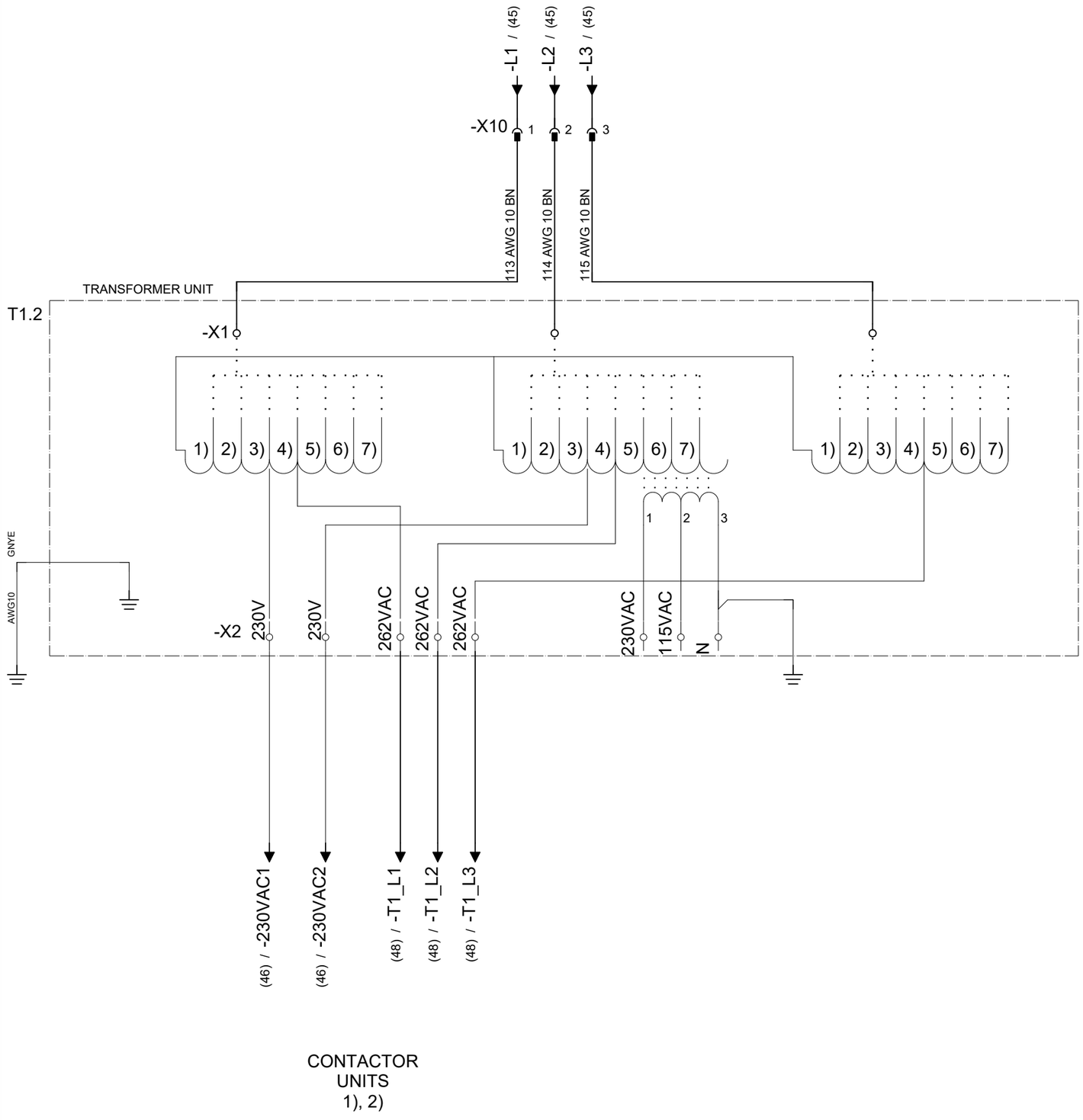






Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D VIEW OF DRIVE MODULE HV	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page43 / Next 44 / Total 125

MAINS CONNECTION



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

MAINS CONNECTION

-XP0 1 2 3

AWG10 101 102 103

AWG10 GNYE

Option:Main switch

-Q1 1 3 5 2 4 6

106 AWG10 BK

105 AWG10 BK

104 AWG10 BK

Option: Mains line filter

-Z1 3~

-X10 1 2 3

110 BK 111 BK 112 BK

113 AWG10 BN 114 AWG10 BN 115 AWG10 BN

Transformer
T1.1 3HAC 024138-001 (13kVA)
IRB460, 660, 760, 4600, 66x0, 6700, 7600

TRANSFORMER UNIT

T1.1

-X1

200V 220V 400V 440V 480V 500V 600V

-X2 230V 230V 480VAC 480VAC 480VAC 230VAC 115VAC N

GNYE

AWG10

116 117 118

-Z2 REAKTOR UNIT

-X1 INL1 INL2 INL3

-L1 F1 F2 F3 F4 F5 F6

-X2 OUTL1 OUTL2 OUTL3

1 2

119 120 121

/ -T1_L1 / -T1_L2 / -T1_L3

(48) (48) (48)

/ -230VAC1 / -230VAC2

(46) (46)

POWER SUPPLY

CONTACTOR UNITS
1), 2)

L1 L2 L3
(44) (44) (44)

Transformer
Option T1.2 L1-L2-L3 = 262VAC
if IRB140-2600

Transformer
T1.3 USED FOR DIRECT POWER SUPPLY:
IRB460, 660, 760, 4600, 66x0, 6700 .400-480V
IRB7600 .....480V

3HAC 037015-001 1,2 kVA

AWG12 BK

AWG10 BK

113 114 115

150

151

TRANSFORMER UNIT

T1.3

-X1

IN

230V 400V 440V 480V

GNYE

AWG10

-X2 230VAC OUT 230VAC 230VAC 115VAC N

1 2

/ -230VAC1 / -230VAC2

(46) (46)

230VAC
POWER SUPPLY

-Z2 REAKTOR UNIT

-X1 L1IN L2IN L3IN

F1 F3 F5 F2 F4 F6

-X2 L1UT L2UT L3UT

119 120 121

/ -T1_L1 / -T1_L2 / -T1_L3

(48) (48) (48)

CONTACTOR UNITS

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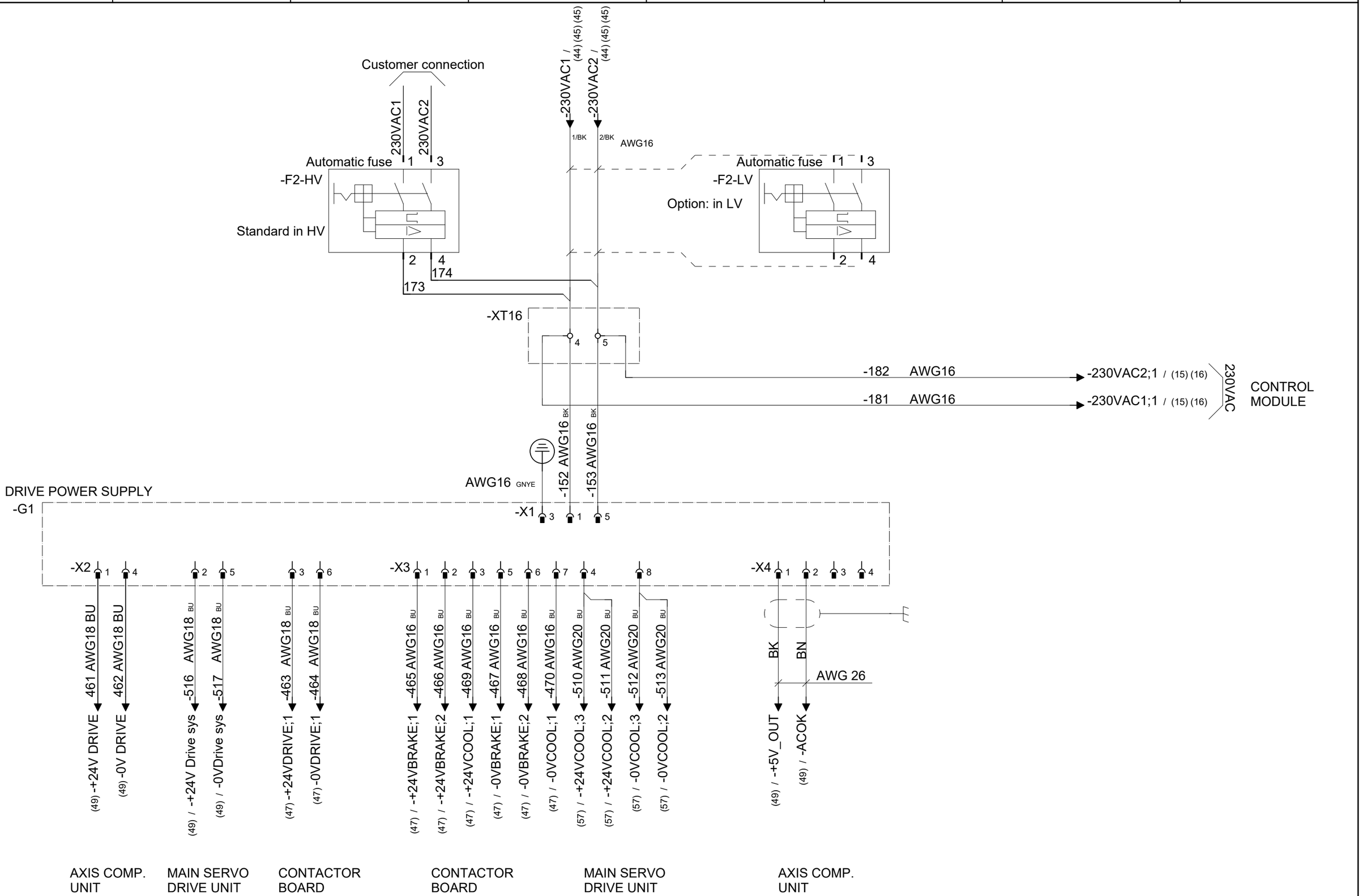

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D POWER SUPPLY	Status: Approved	Plant: = Location: + Sublocation:+
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CONTACTOR BOARD

-A43

DRIVE MODULE

DRIVE POWER SUPPLY

(46) -0VDRIVE;1

(46) -+24VDRIVE;1

-X6

1

2

24VDrive

24V

CONTROL MODULE A21.X7

(18) / -RUN_CH1

(18) / -RUN_CH1Ret

(18) / -RUN_CH2

(18) / -RUN_CH2Ret

-X1

1

2

3

4

PTC1 -X5

1

PTC1 / (59) (65) (70) (74) (80) (86) (96) (62) (68) (72.2) (77) (83.5) (92)

PTC1 ret

2

PTC1ret / (59) (65) (70) (74) (80) (86) (96) (62) (68) (72.2) (77) (83.5) (92)

0V BRAKE

3

0VBRAKE;3 / (59) (65) (70) (74) (80) (86) (96) (62) (68) (72.2) (77) (83.5) (92)

0V BRAKE

4

0VBRAKE;4 / (59) (65) (70) (74) (80) (86) (96) (62) (68) (72.2) (77) (83.5) (92)

LIMIT SWITCH 2 EXTERNAL AXIS

/ LIM2ch1

/ LIM2ch2

/ LIM2ch2ret

/ LIM2ch1ret

No jumper If external axes

Jumper if no external axes

-X22

LIM2 ch1

LIM2 ch2

LIM2 ch2 ret

LIM2 ch1 ret

1

3

4

2

24VDrive

RunCh2

-X10

1

2

3

4

EXTERNAL FAN

LIMIT OVERRIDE

-A43.X23

24VDrive

RunCh1

LIM2

LIM1

-X11

1

2

3

4

EXTERNAL FAN

LIMIT SWITCH CONTROL CABLE

(54) (62) (74) (77) (83.5) / -A43-X21:1

(54) (62) (74) (77) (83.5) / -A43-X21:3

(54) (62) (74) (77) (83.5) / -A43-X21:4

(54) (62) (74) (77) (83.5) / -A43-X21:2

-X21

LIM1 ch1

LIM1 ch2

LIM1 ch2 ret

LIM1 ch1 ret

1

3

4

2

CONTROL MODULE A21.X7

(18) / -ENABLE2_1

(18) / -ENABLE2_1Ret

(18) / -SPEED.1

(37.2) / -0V

-X1

5

6

7

8

INTERLOCKING

AXC

AXIS COMPUTER

(49) / -RS485+

(49) / -RS485-

(49) / -0V ENABLE2

(49) / -ENABLE2

BU

WHBU

OG

WHOG

-X4

4

5

7

8

K2

K1

RunCh2

RunCh1

0V COOL

24V COOL

PAN_CH1

PAN_CH2

BRAKE CTRL

-X12

1

2

DUTY TIME COUNTER

(46) / -+24VBRAKE;2

(46) / -0VCOOL;1

(46) / -+24VCOOL;1

(46) / -+24VBRAKE;1

(46) / -0VBRAKE;2

(46) / -0VBRAKE;1

-X7

1

2

3

4

5

6

DRIVE POWER SUPPLY

(48) / -LOCK1A

(48) / -LOCK2B

(48) / -SELF1

(48) / -SELF2

(48) / -0VCOOL;6

(48) / -RCH1

(48) / -0VCOOL;6

(48) / -RCH2

(48) / -0VCOOL;6

(48) / -BRAKE

/ PTC2

/ PTC2 0V

-X24

1

2

CONTINUATION NEXT PAGE

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTACTOR BOARD	Status: Approved	Plant: = Location: + Sublocation:+
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1 2 3 4 5 6 7 8

-A43

-0VCOOL;6 / (47) -RCH1 / (47) -0VCOOL;6 / (47) -BRAKE / (47) -0VCOOL;6 / (47) -RCH2 / (47) 24V BRAKE_FB 0V -SELF1 / (47) 24V -SELF2 / (47) -LOCK1A / (47) -LOCK2B / (47) EXTCONT

LOCK1B LOCK2A

& 0V 24V PTC2 PTC2 0V 24V BRAKE BRAKE PB

-X8 2 1 6 5 4 3 -X3 1 6 5 4 10 9 3 2 7 8 -X24 3 4 5 6 1 2 -X9 1 2 3

AWG20 BU

-471 -472 -473 -474 -475 -476 -451 -452 -479 -480 -481 -482 -483 -484 -485 -486 -487 -477 -488

Contactor unit
K42, K43, K44

-K42 A1 A2 33 34 21 22

-K43 A1 A2 33 34 21 22 31X 32X

-K44 A1 A2 2 1

773 771 774 772 AWG20 BU

(24.5) / -K42.31 (24.5) / -K42.32 (24.5) / -K43.31 (24.5) / -K43.32

Software based
Mode Selector
internal safety

BU AWG16

-489 13 14 -490 3 4 -J100 5 6 21 22

-w447 -w448 -w445 -W449 -w446 -W450

-XP40.2 -XP40.3 -XP40.1 XP40.5 -XP40.4 XP40.6

(50)

CONTROL CABLE

Option LV (44) (45) (45) -T1_L1 (44) (45) (45) -T1_L2 (45) (44) (45) -T1_L3 Option HV

AUTOMATIC FUSE L1 L2 L3 -119 -120 -121 BK

F1
OPTION :
AUTOMATIC
FUSE

Customer connection

XT16 1 2 3 AWG16 BK

122 123 124

-w122 -w123 -w124

142 143 144

-W142 -W143 -W144

AWG16 AWG10

Only one connection,
option LV or option HV

128 129 130 -w128 -w129 -w130

-L21 -L22 -L23 (56)

RECTIFIER LV or HV

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DRIVE POWER SUPPLY EPS/SAFE MOVE A44-X1

(53) (54) / -+24V DRIVE;2 ← -726 AWG20 BK

(53) (54) / 0V DRIVE;2 ← -725 AWG20

DRIVE POWER SUPPLY

(46) -+24V DRIVE → -XS1 1

(46) -0V DRIVE → 2

(46) ACOK → 3

(46) -+5V_OUT → 4

CONTROL MODULE A31.X9 MAIN COMPUTER

AWG24 1)

(23) / TXRX+.2 → -XP2 1

(23) / TXRX-.2 → 2

(23) / RXTX+.2 → 3

(23) / -RXTX-.2 → 6

OPTION : EPS OR SAFE MOVE A44-X4

(53) (54) / TX+.2

(53) (54) / TX-.2

(53) (54) / RX+.2

(53) (54) / RX-.2

OPTION : AXC SWITCH A34

(37.1) / -9.TXRX+

(37.1) / -9.TXRX-

(37.1) / -9.RXTX+

(37.1) / -9.RXTX-

CONTACTOR UNIT

(47) / -RS485+ → -XP6 4

(47) / -RS485- → 5

(47) / -0V ENABLE2 → 7

(47) / -ENABLE2 → 8

XS9

2 RXD

3 TXD

5 0V

1) No connection to main computer if EPS or SAFE MOVE is connected

AXIS COMPUTER BOARD -A42

-XP11 AWG26 4x2 SFTP -XP8

1 BN 1

2 BNWH 2

3 OG 3

6 OGWH 6

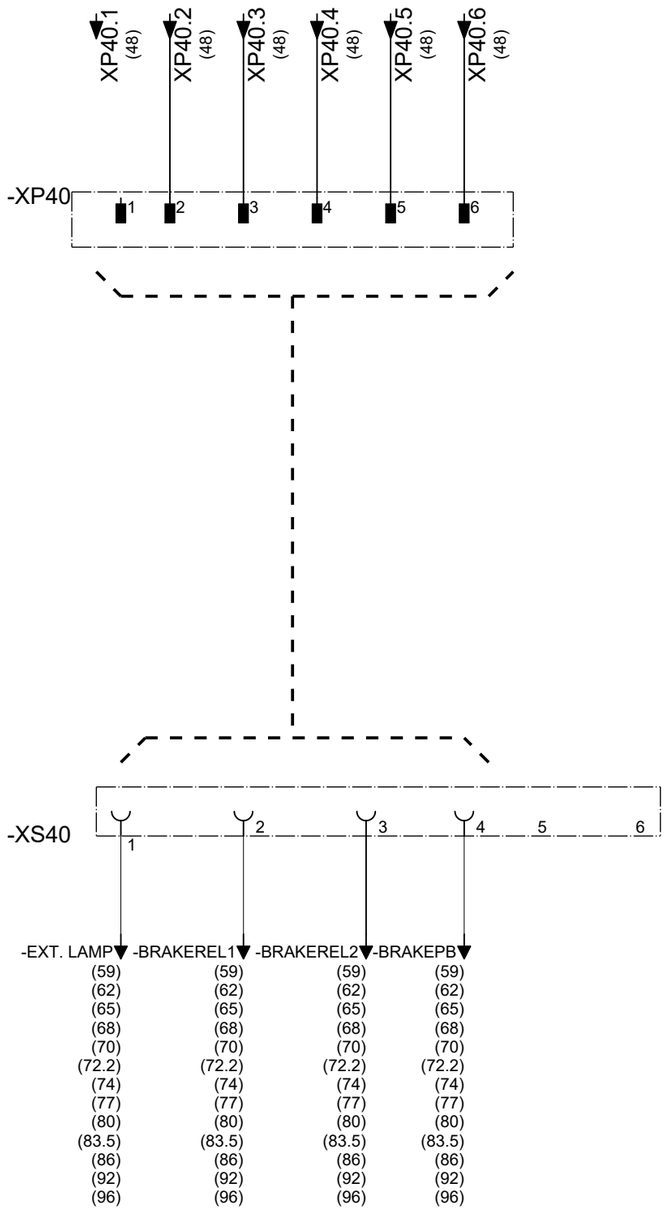
MAIN SERVO DRIVE UNIT -A41.1-2

-XS6

(46) / +24V Drive sys → -519AWG16 BU 1

(46) / -0VDrive sys → -518AWG16 BU 2

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D AXIS COMPUTER and MAIN SERVO DRIVE UNITS	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Document no. 3HAC026871-020	Rev. Ind 14



CONTROL CABLE

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTACTOR UNIT	Status: Approved	Plant: = Location: + Sublocation: +	
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A44
(.3)
(53.4)
(54.3)
(55.3)

Option: EPS connect to A44-X5
3.See pages / (53)

-A44 Option: Safe Move connect to A44-x5 and x7
4.See pages / (54) (54)

-XP4

MRCO1	1	-MRCO1	(57.2) (59) (62) (65) (68) (70) (72.2) (74) (77) (80) (83.5) (86) (92) (96)
MRCO1_N	2	-MRCO 1_N	(57.2) (59) (62) (65) (68) (70) (72.2) (74) (77) (80) (83.5) (86) (92) (96)
MRCI1	4	-MRCI1	(57.2) (59) (62) (65) (68) (70) (72.2) (74) (77) (80) (83.5) (86) (92) (96)
MRCI1_N	5	-MRCI 1_N	(57.2) (59) (62) (65) (68) (70) (72.2) (74) (77) (80) (83.5) (86) (92) (96)
0V	6	-MRC_0V1	(57.2) (59) (62) (65) (68) (70) (72.2) (74) (77) (80) (83.5) (86) (92) (96)
24V_SMB1	7	+24V_SMB1	(57.2) (59) (62) (65) (68) (70) (72.2) (74) (77) (80) (83.5) (86) (92) (96)
0V	3	-MRC_0V2	(57.2) (59) (62) (65) (70) (74) (77) (80) (83.5) (86) (92) (96)
0V	9	-MRC_0V3	(57.2) (59) (62) (65) (70) (74) (77) (80) (83.5) (86) (92) (96)

CONTROL SIGNAL XS2

-XP5

MRCO2	1	-XS41	A
MRCO2_N	2		B
MRCI2	4		C
MRCI2_N	5		D
0V	6		E
24V_SMB2	7		F
0V	3		G
0V	9		J

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D AXIS COMPUTER BOARD	Status: Approved	Plant: = Location: + Sublocation: +
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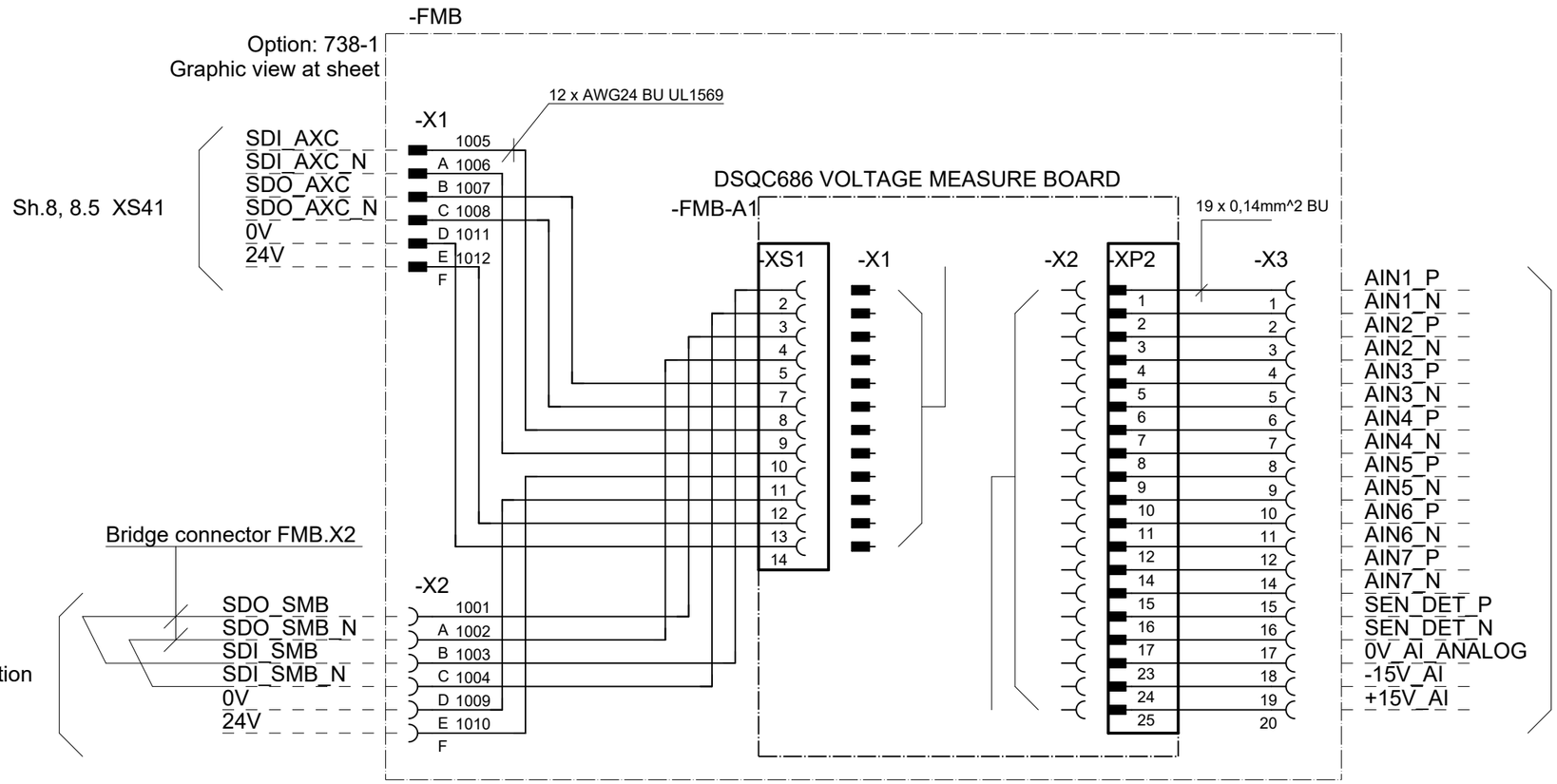
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				



Latest revision:			Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D FORCE MEASUREMENT BOX	Status: Approved	Plant: = Location: + Sublocation: +
					Document no. 3HAC026871-020	Rev. Ind 14
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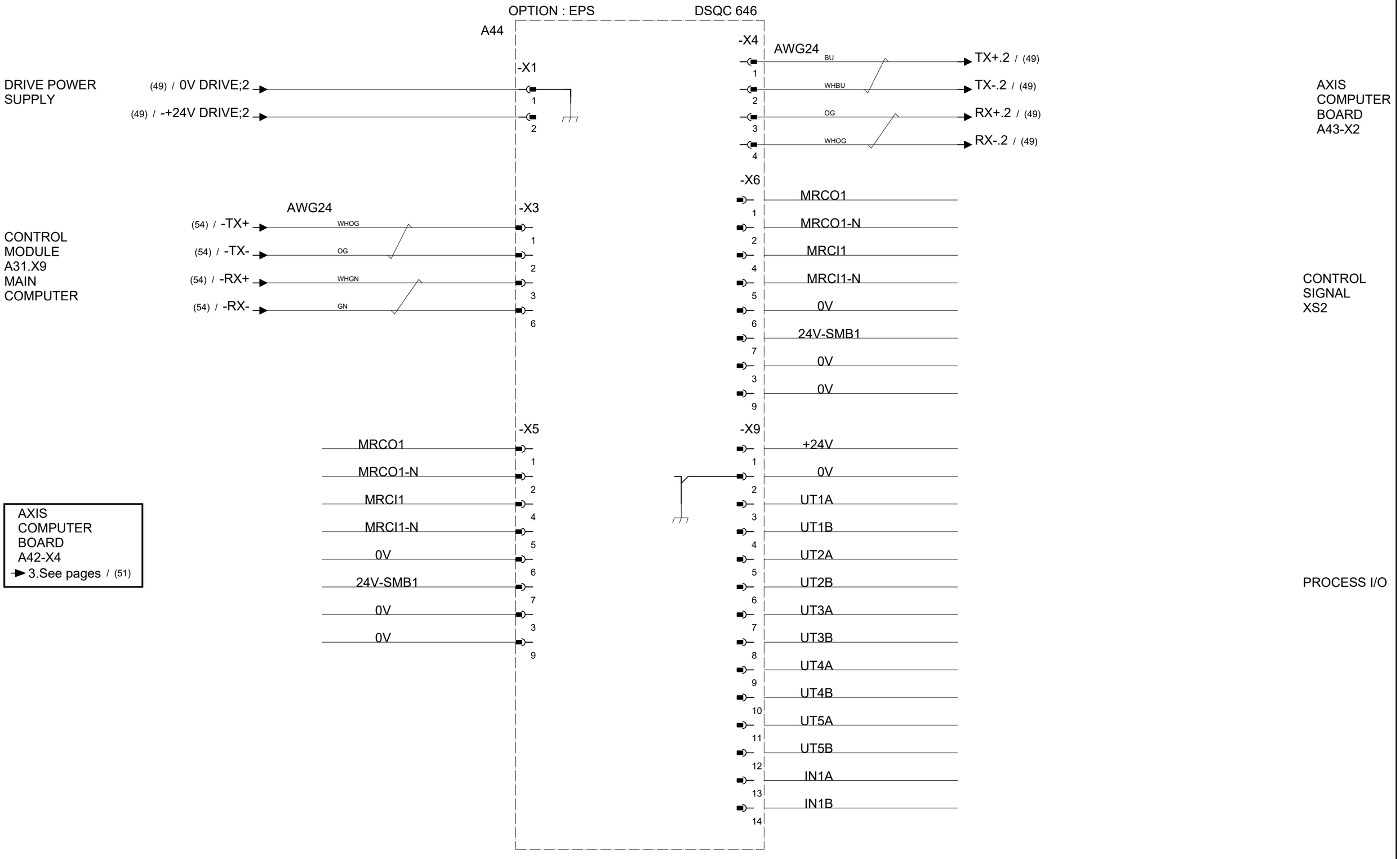

Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D EPS	Status: Approved	Plant: = Location: + Sublocation: +	
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OPTION: SAFE MOVE DSQC647

A44

DRIVE POWER SUPPLY

(49) / -0V DRIVE;2 → XS1 1
(49) / -+24V DRIVE;2 → XS1 2

Relay output pair 1
RelOut 1A → X13 1 → -A43-X21:1 / (47)
RelOut 1B → X13 2 → -A43-X21:2 / (47)

Relay output pair 2
RelOut 2A → X13 3 → -A43-X21:3 / (47)
RelOut 2B → X13 4 → -A43-X21:4 / (47)

CONTACTOR UNIT X21

MAIN COMPUTER A31.X9 CONTROL MODULE

(53) / -TX+ → AWG24 WHOG → -X3 1
(53) / -TX- → OG → -X3 2
(53) / -RX+ → WHGN → -X3 4
(53) / -RX- → GN → -X3 6

-X4 AWG24
WHOG → -TX+.2 / (49)
OG → -TX-.2 / (49)
WHGN → -RX+.2 / (49)
GN → -RX-.2 / (49)

AXIS COMPUTER BOARD A42.X2

AXIS COMPUTER BOARD A42-X4
4.See pages / (51)

-X5
1 MRCO1
2 MRCO1-N
4 MRCI1
5 MRCI1-N
6 0V
7 24V-SMB1
3 0V
9 0V

-X6
1 MRCO1
2 MRCO1-N
4 MRCI1
5 MRCI1-N
6 0V
7 24V-SMB1
3 0V
9 0V

CONTROL SIGNAL XS2

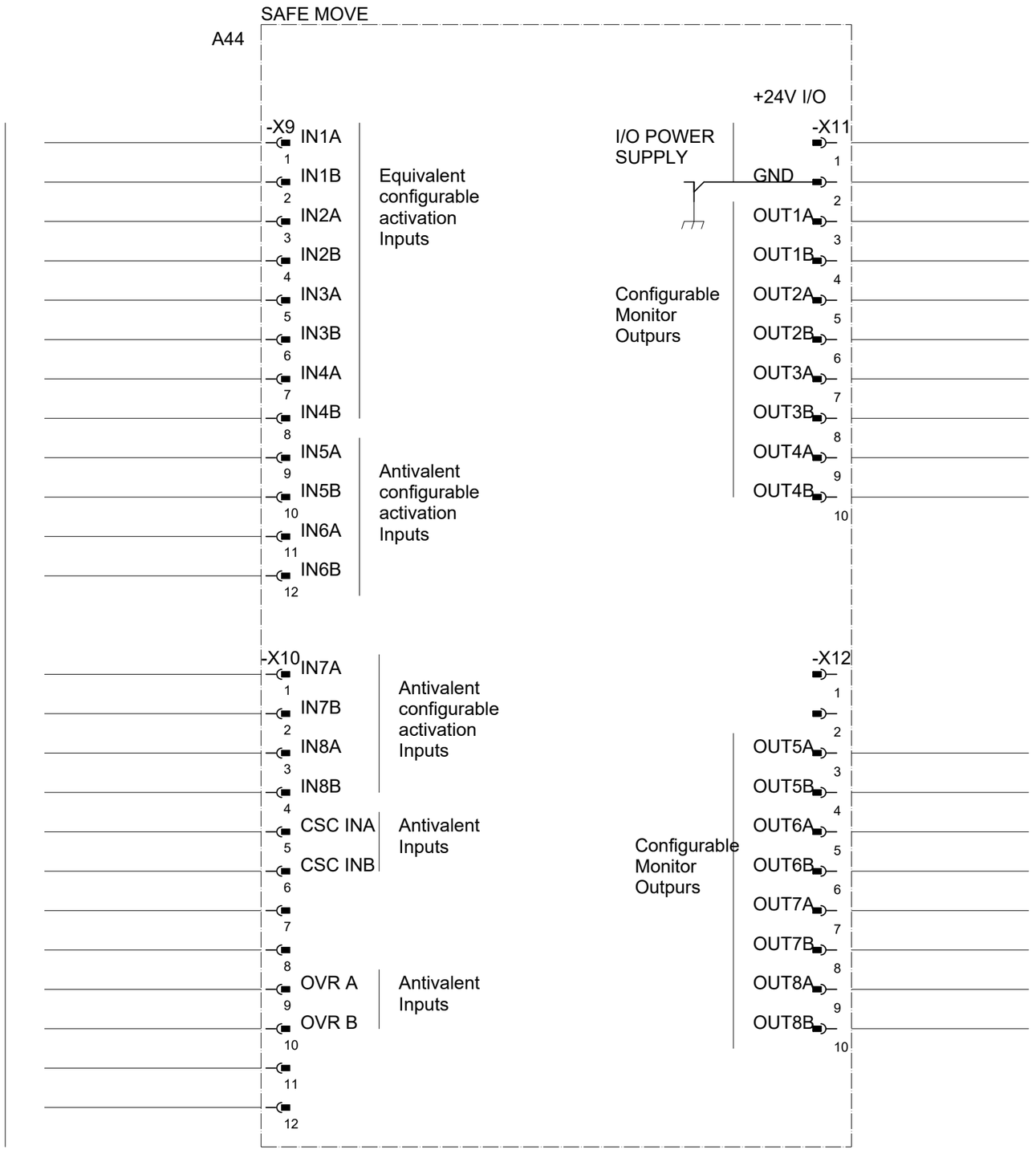
AXIS COMPUTER BOARD A42-X5
4.See pages / (51)

-X7
1 MRCO2
2 MRCO2-N
4 MRCI2
5 MRCI2-N
6 0V
7 24V-SMB2
3 0V
9 0V

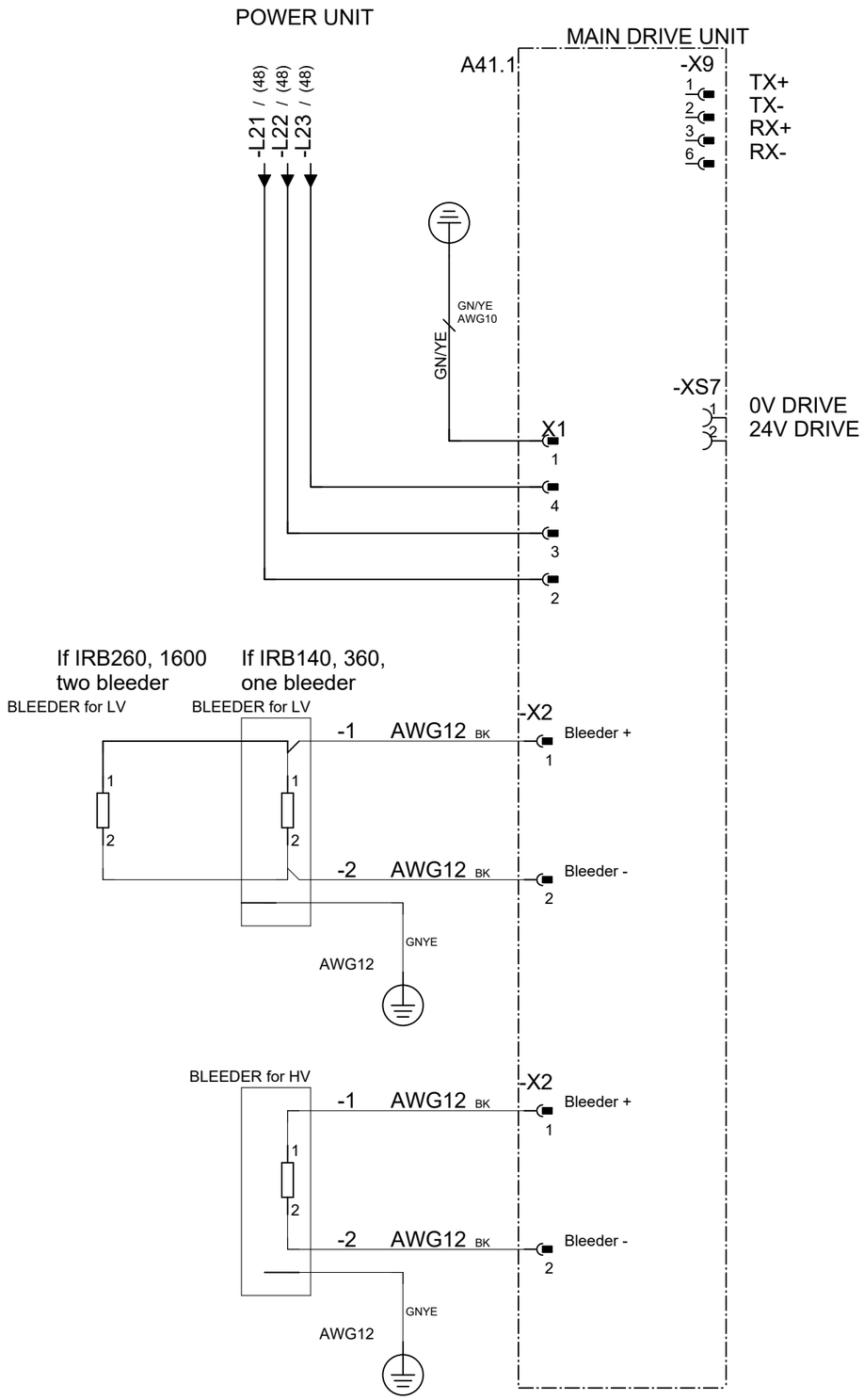
-X8
1 MRCO2
2 MRCO2-N
4 MRCI2
5 MRCI2-N
6 0V
7 24V-SMB2
3 0V
9 0V

EXT. AXIS SIGNAL XS41

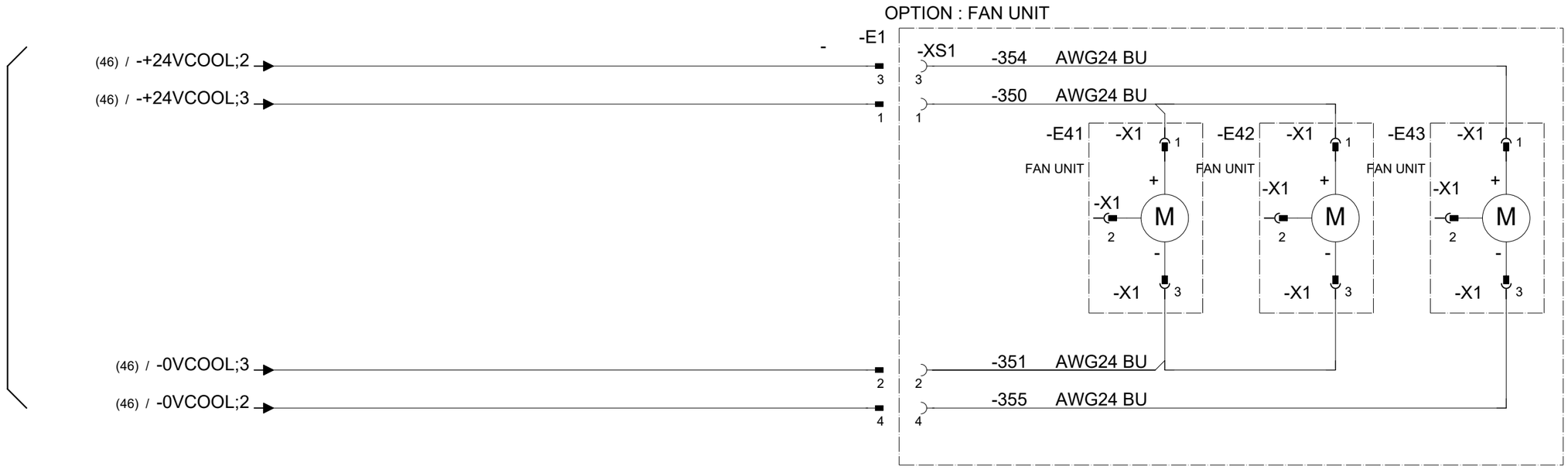
Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SAFE MOVE	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page 54 / Next 55 / Total 125



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SAFE MOVE	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
					Page 55 Next 56 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D MAIN DRIVE UNIT	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page 56 Next 57 Total 125



Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D OPTION : FAN UNIT	Status: Approved	Plant: = Location: + Sublocation: +
					Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30					Page57 Next 57.1 Total 125

This is not any available option.
This is only examples how to connect the break release button for the IRB120 internal or external the cabinet.

Connection to the break release button, with power from the cabinet.

-XS.35 4

-XS.40 3 4

0V BREAKE

24V BREAK REL.

24V BRAKE PB

24V BRAKE PB -X100 1

12 14

-K100 E- 11

0V BREAKE -X100 2

Connection to the break release button, with power outside the cabinet.

MAIN SERVO DRIVE UNIT
-A41.1

-X11 1 3 2 | -X12 1 3 2 | -X13 1 3 2 | -X14 1 3 2 | -X15 1 3 2 | -X16 1 3 2

AWG16 BK: -400 -402 -404 -406 -408 -410 -412 -414 -416 -418 -420 -422 -424 -425 -426 -428 -430 -432

-PE100

AWG16 GNYE

DRIVE MODULE

D1 D3 D2 D4 C1 C2

Cross ref XS1/XP1

XS/XP1 A1 A3 A5 B14 B12 A7 A9 A11 A13 A15 B1 B3 B4 B5 B6 B7 B8 B9 B10 B11

AWG20 BK

FLOOR CABLE

AWG20 BK

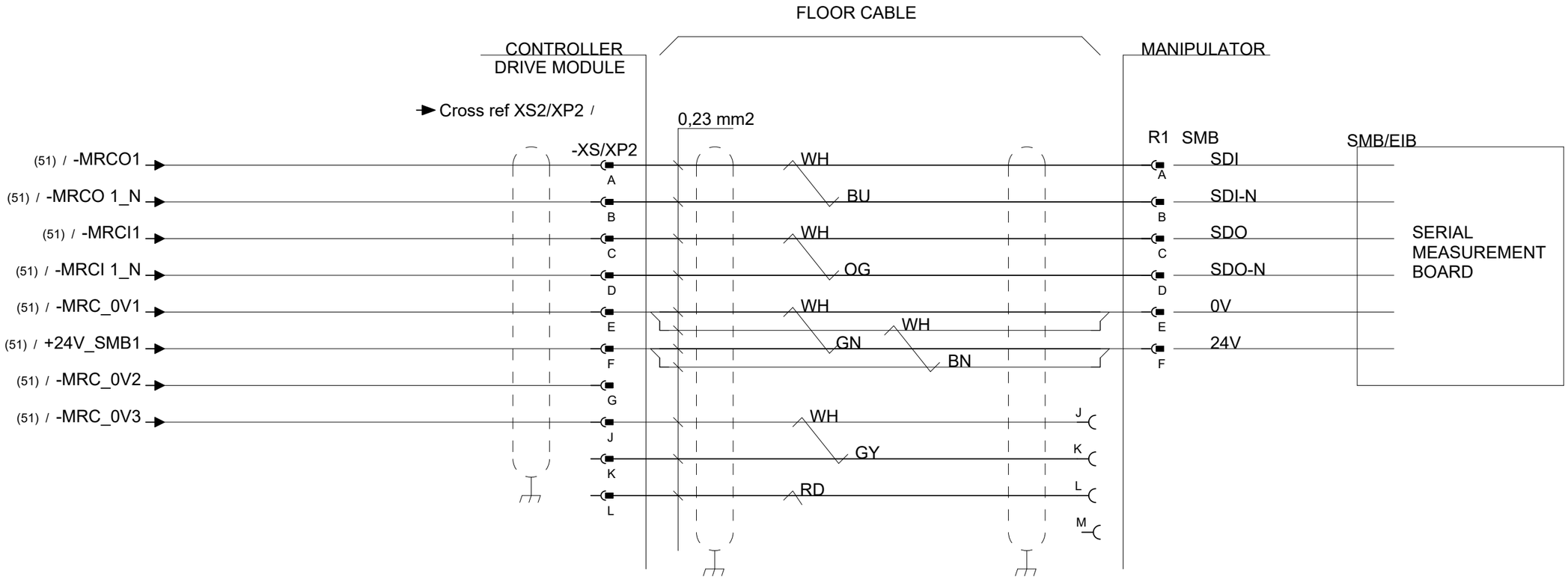
MU3 MV3 MW3 0V Brake 24V Brake MU1 MV1 MW1 MU2 MV2 MW2 MU6 MV6 MW6 MU5 MV5 MW5 MU4 MV4 MW4

MANIPULATOR

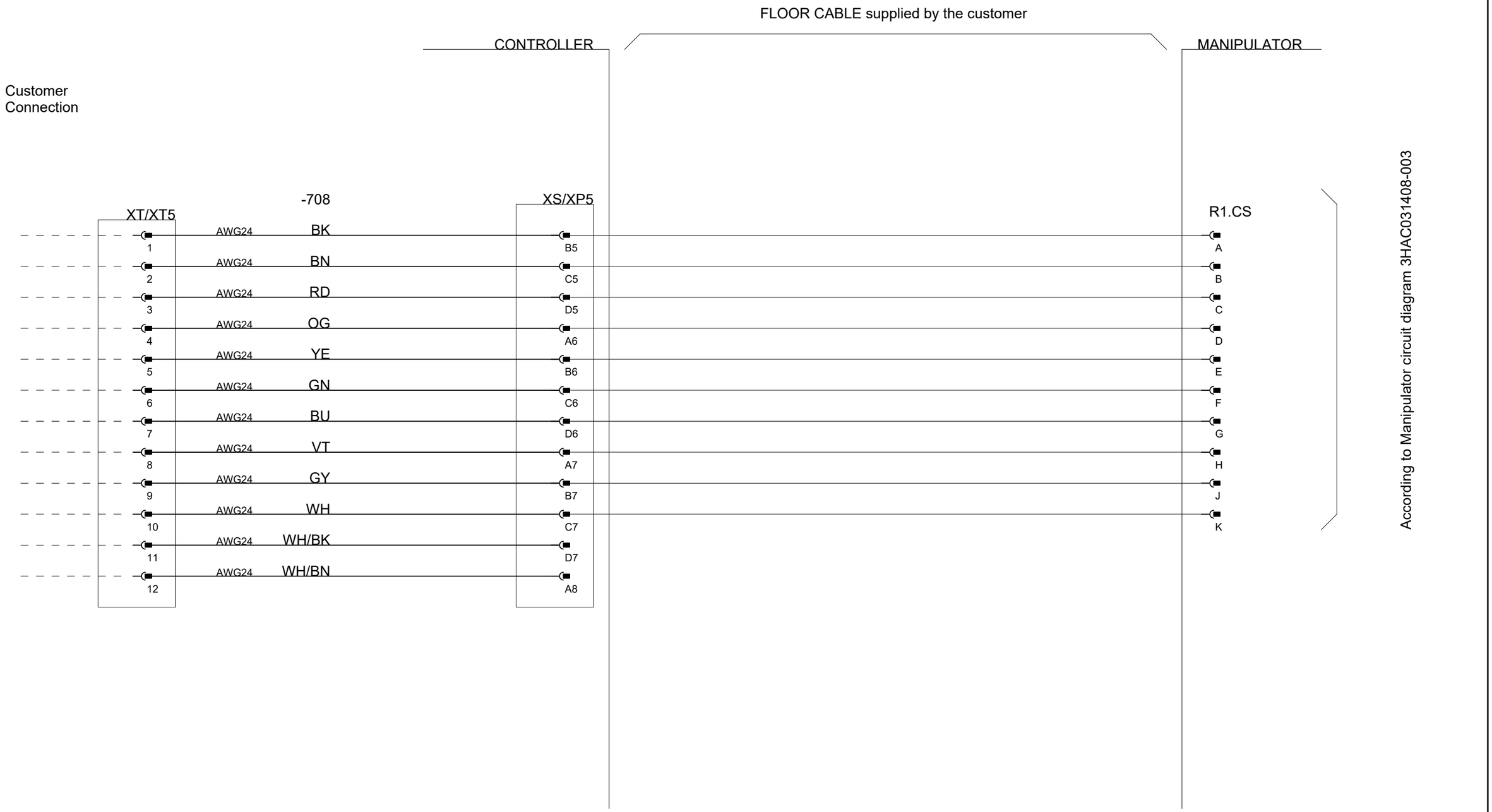
R1.MP 6 9 10 12 13 LUG1 1 2 5 3 4 8 20 23 24 17 21 22 15 16 19

According to Manipulator circuit diagram 3HAC031408-003

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 120	Status: Approved	Plant: = Location: + Sublocation: +	
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14	Page57.1 Next 57.2 Total 125



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 120	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 57.2 Next 57.3 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER SIGNALS IRB 120	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 57.3 Next 58 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

Cabinet module

MAIN SERVO DRIVE UNIT
-A41.1

-X11 1 3 2 | -X12 2 3 1 | -X14 1 3 2 | -X16 2 3 1 | -X13 1 3 2 | -X15 2 3 1

AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK	AWG16 BK
-400	-402	-404	-410	-408	-406	-418	-420	-422	-432	-430	-428	-412	-414	-416	-426	-425	-424

-XS1: A1 A3 A5 | A11 A9 A7 | B3 B4 B5 | B11 B10 B9 | A13 A15 B1 | B8 B7 B6

AWG10 GNYE, AWG10 GNYE → DRIVE MODULE

FLOOR CABLE

BUGN	BURD	BUWH	BKRD	BKGN	BKBU	BN	GNRD	GNWH	BNBU	BNBK	BU	BKWH	BK	BUBK	BNWH	BNRD	BNGN
M3R	M3S	M3T	M1T	M1S	M1R	M6R	M6S	M6T	M4T	M4S	M4R	M2R	M2S	M2T	M5T	M5S	M5R

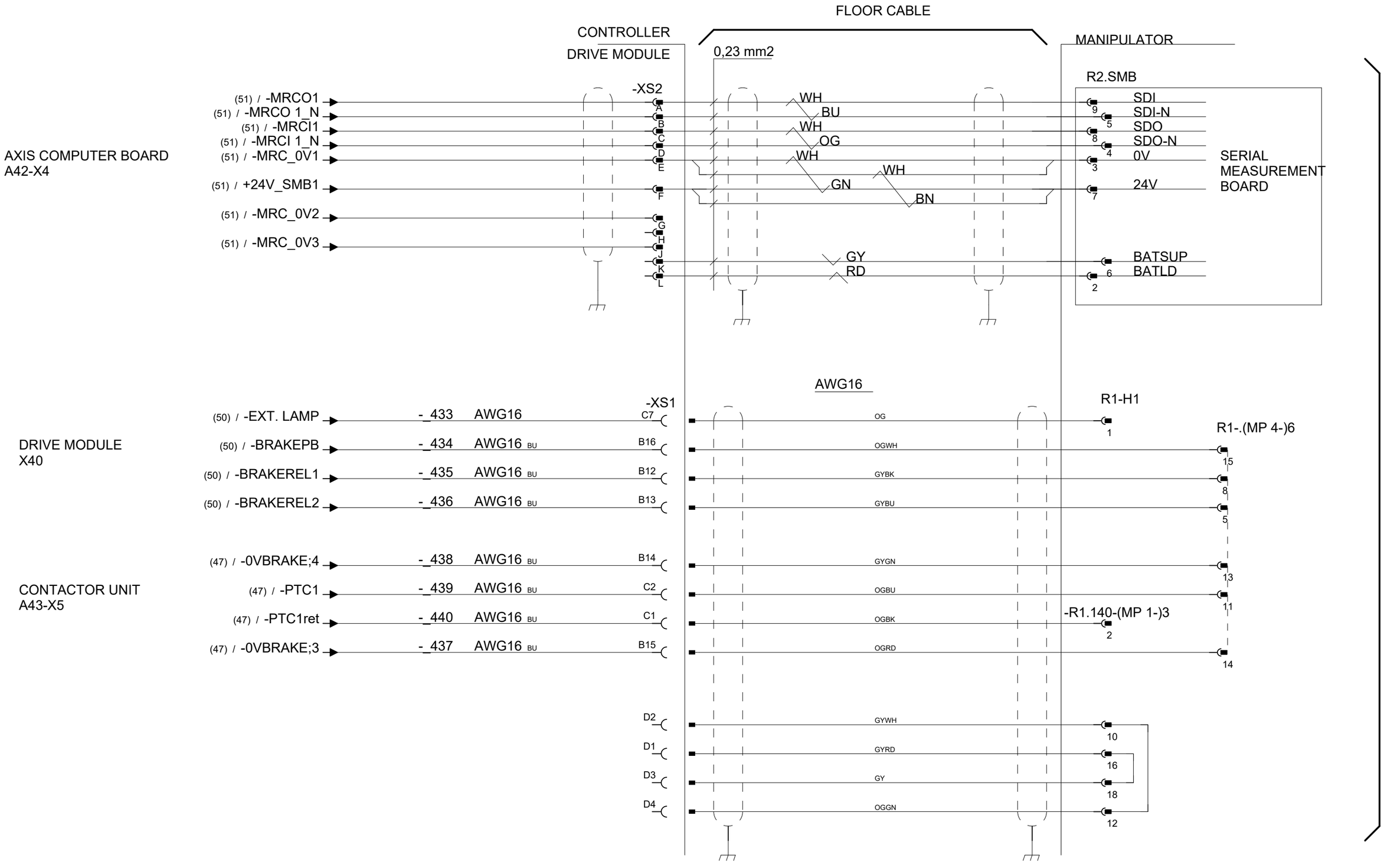
AWG16

-R1.(MP 4-)6: 6 9 12 3 2 1 10 7 4

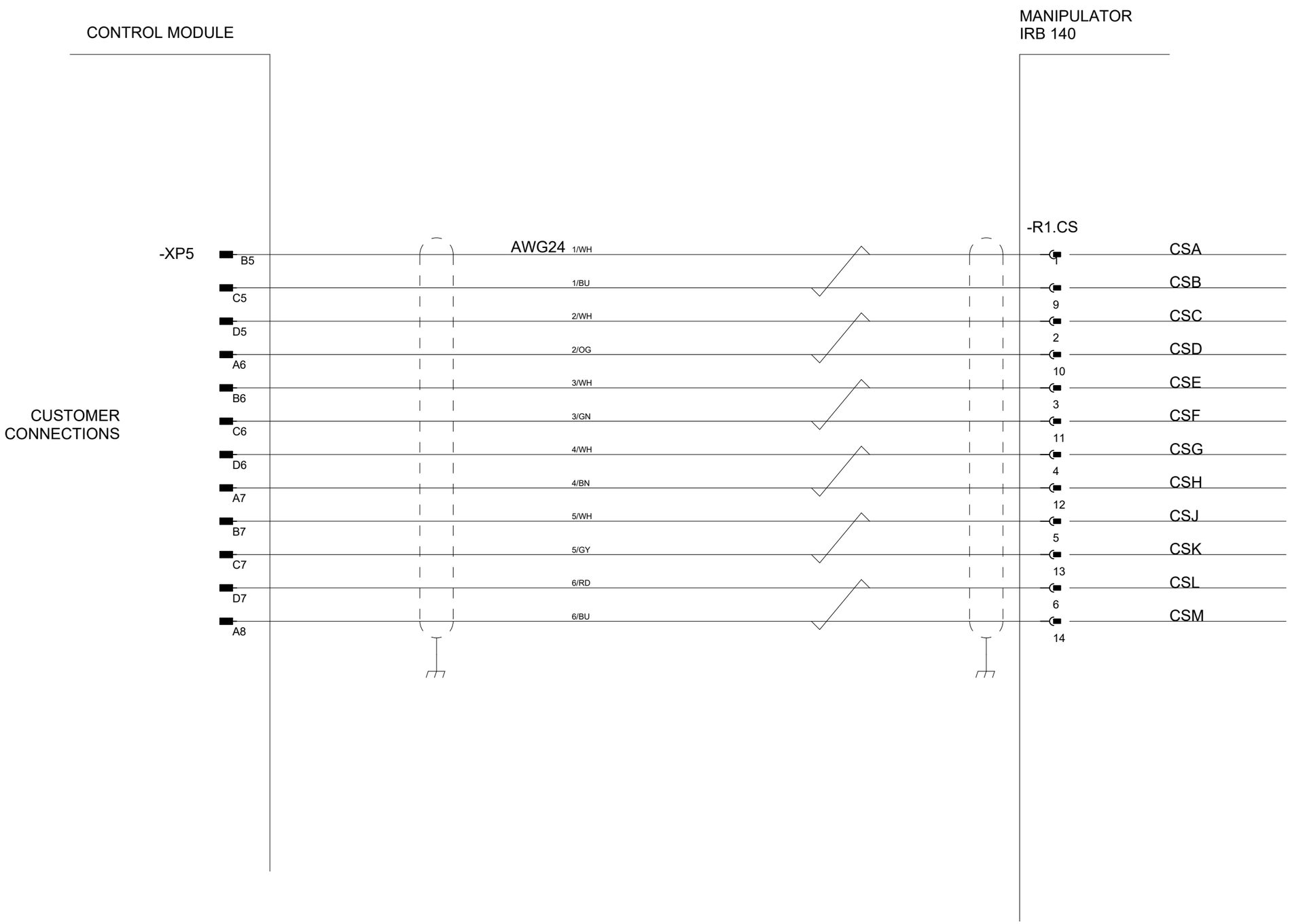
-R1.(MP 1-)3: 13 17 15 3 5 1 7 11 9

MANIPULATOR

According to Manipulator circuit diagram 3HAC6816-3

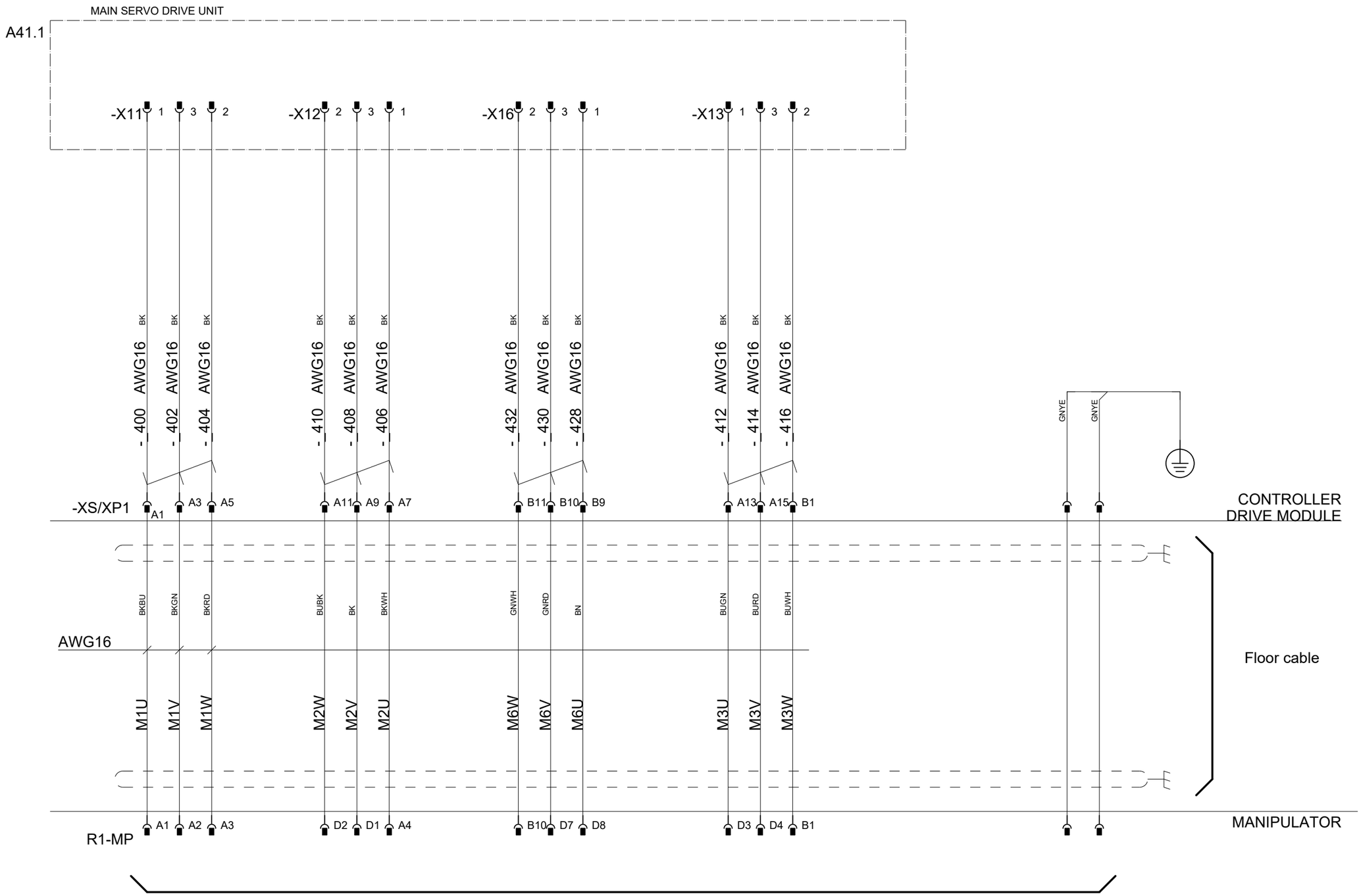


Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 140	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 59 Next 60 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



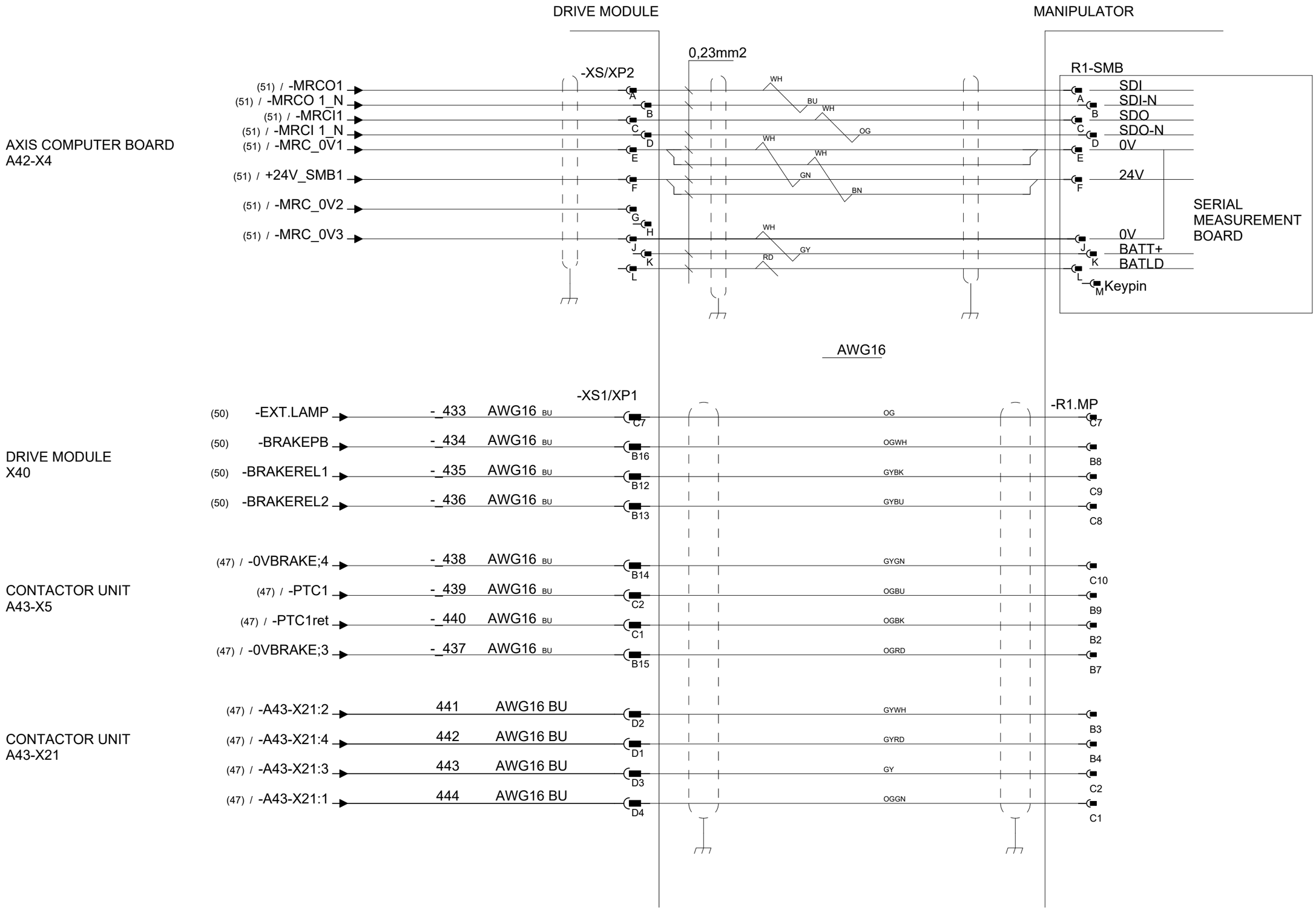
Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER SIGNAL IRB 140	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 60 Next 61 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

IRB 260 cabinet module



According to Manipulator circuit diagram 3HAC025611-001

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE UNIT IRB 260	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page61 Next 62 Total 125



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 260	Status: Approved	Plant: = Location: + Sublocation: +	
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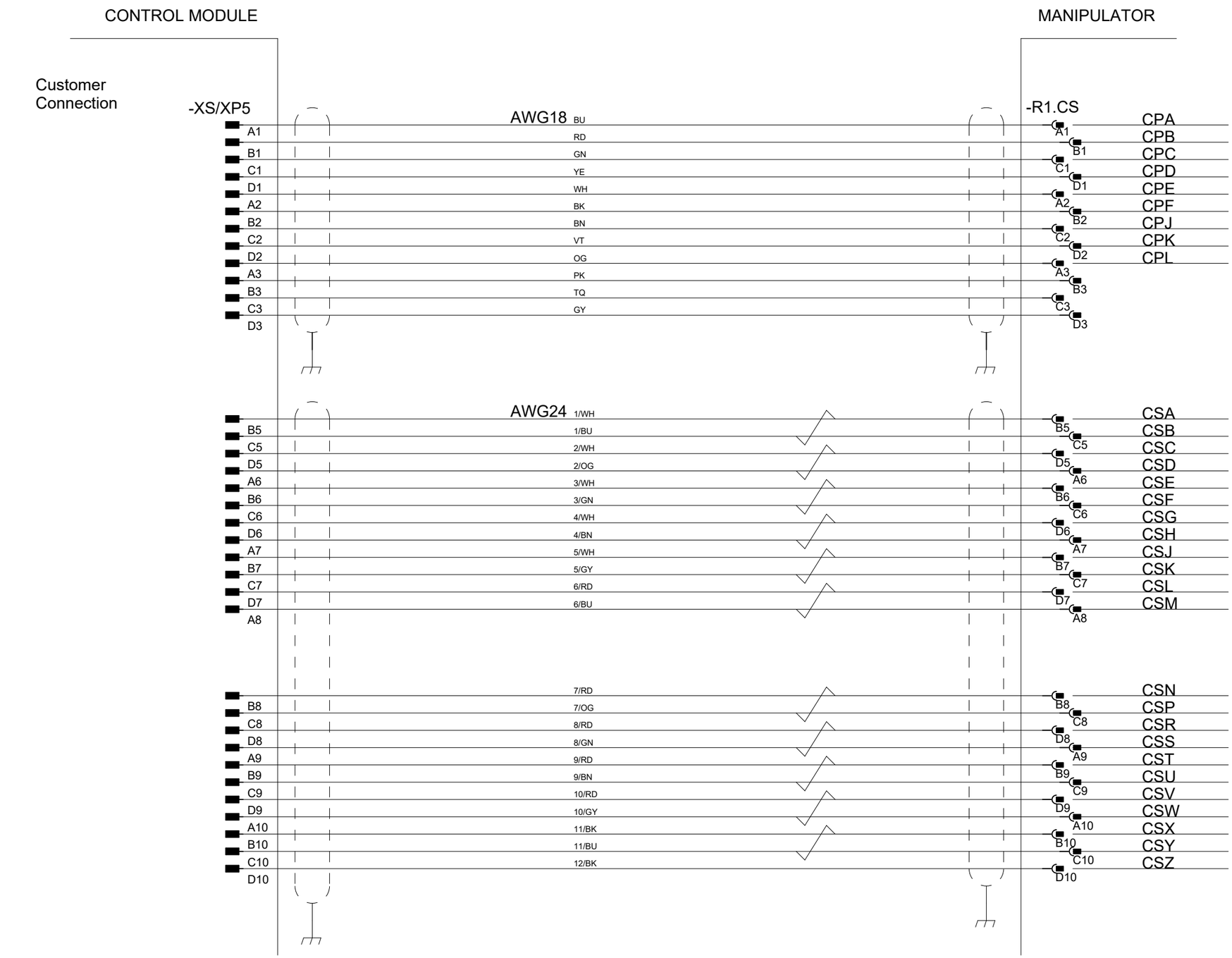
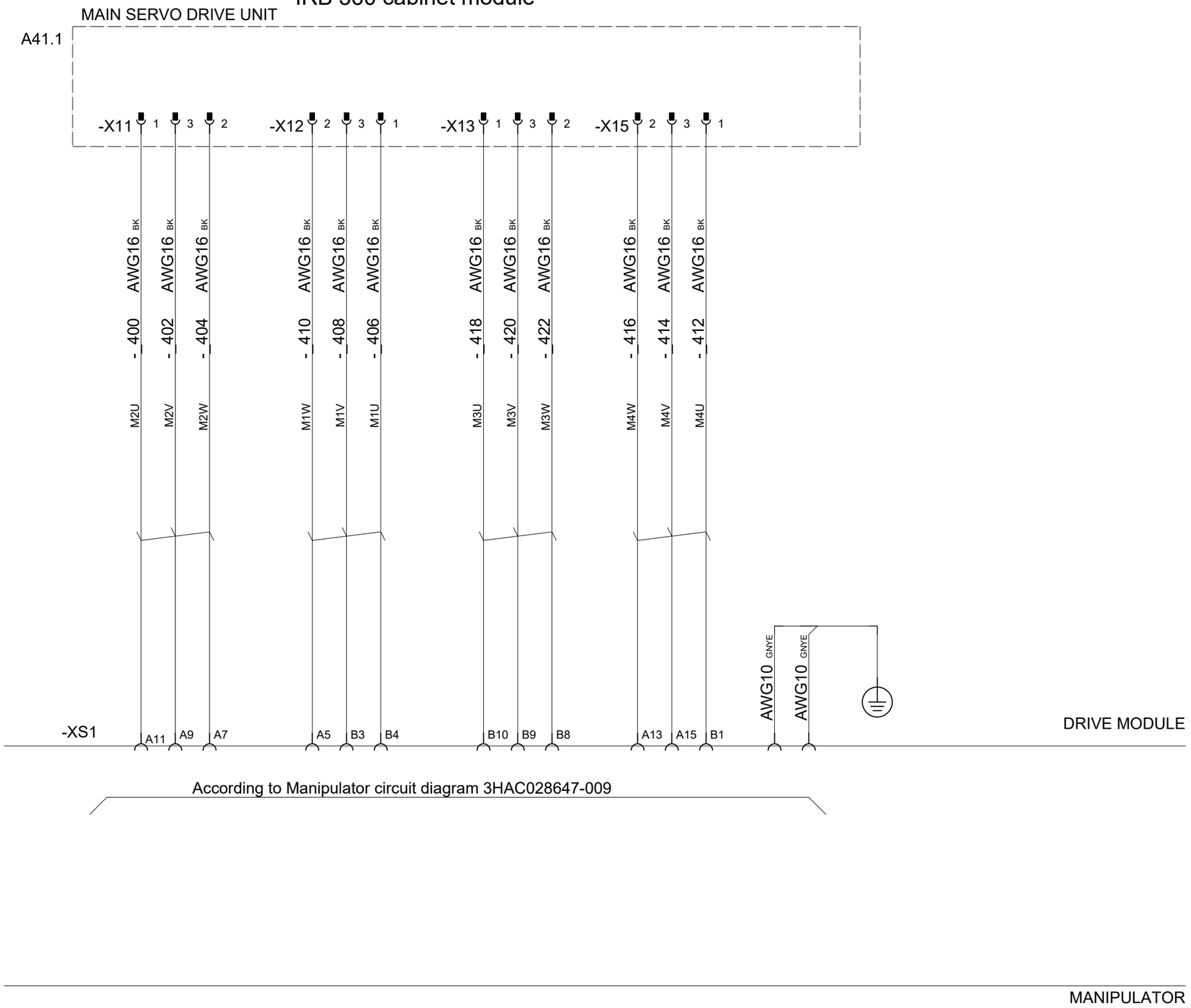
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30					

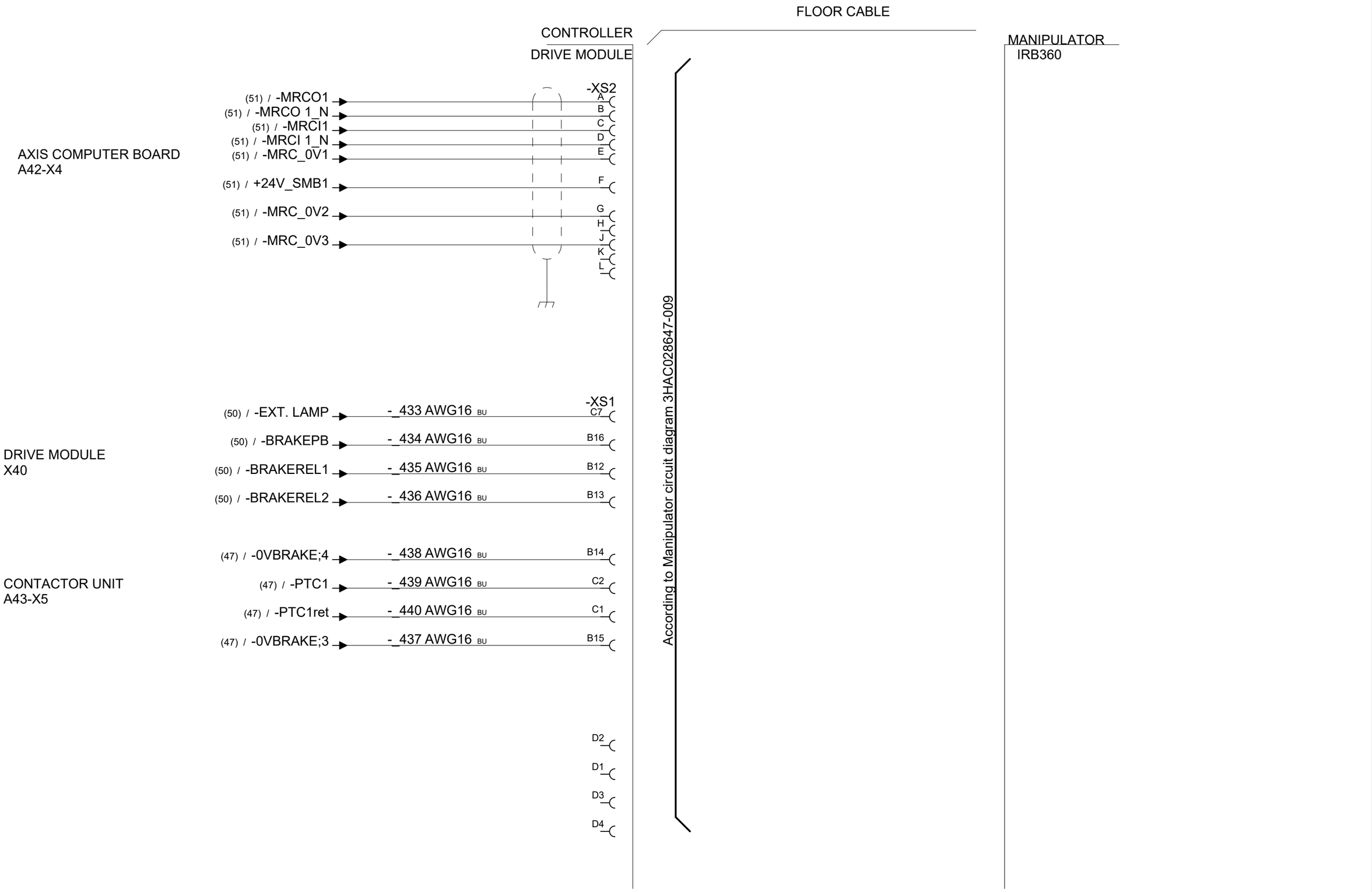


Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL IRB 260	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 63 Next 64 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

IRB 360 cabinet module



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE UNITS IRB 360	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14
					Page 64 Next 65 Total 125



Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 360	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Document no. 3HAC026871-020	Rev. Ind 14
						Page65 Next 66 Total 125

FLOOR CABLE

CONTROL MODULE

MANIPULATOR

Customer Connection

-XP/XT5

-XS/XP5

0,23mm2

R1-CS

1	BK	B5	WH	A	CSA
2	BN	C5	BU	B	CSB
3	RD	D5	WH	C	CSC
4	OG	A6	OG	D	CSD
5	YE	B6	WH	E	CSE
6	GN	C6	GN	F	CSF
7	BU	D6	WH	G	CSG
8	VT	A7	BN	H	CSH
9	GY	B7	WH	J	CSJ
10	WH	C7	GY	K	CSK
11	WH/BK	D7	RD	L	CSL
12	WH/BN	A8	BU	M	CSM

According to Manipulator circuit diagram 3HAC028647-009

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER SIGNAL IRB 360	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14

CONTROLLER

CONTROL MODULE

FLOOR CABLE

MANIPULATOR

Customer Connection

-XP/XT5.1

AWG24 OG

-XS/XP5

0,23mm2

1	625	B5	WH	1	
2	626	C5	BU	2	
3	627	D5	WH	3	
4	628	A6	OG	4	
5	629	B6	WH	5	
6	630	C6	GN	6	
7	631	D6	WH	7	
8	632	A7	BN	8	
9	633	B7	WH	9	
10	634	C7	GY	10	
11	635	D7	RD	11	
12	636	A8	BU	12	

XP/XT5.2

13	637	B8	RD	13	
14	638	C8	OG	14	
15	639	D8	RD	15	
16	640	A9	GN	16	
17	641	B9	RD	17	
18	642	C9	BN	18	
19	643	D9	RD	19	
20	644	A10	GY	20	
21	645	B10	BK	21	
22	646	C10	BU	22	
23	647	D10	BK	23	

+R1-CS

A	1
B	2
C	3
D	4
E	5
F	6
G	7
H	8
J	9
K	10
L	11
M	12
N	13
P	14
R	15
S	16
T	17
U	18
V	19
W	20
X	21
Y	22
Z	23

XP6

AWG18 OG

AWG18

1	648	A1	RD	1	
2	649	B1	BU	2	
3	650	C1	GN	3	
4	651	D1	YE	4	
5	652	A2	WH	5	
6	563	B2	BK	6	
7	654	C2	BN	8	
8	655	D2	VT	9	
9	656	A3	OG	10	
10	657	B3	PK	11	
11	658	C3			
12	659	D3	GNYE	12	

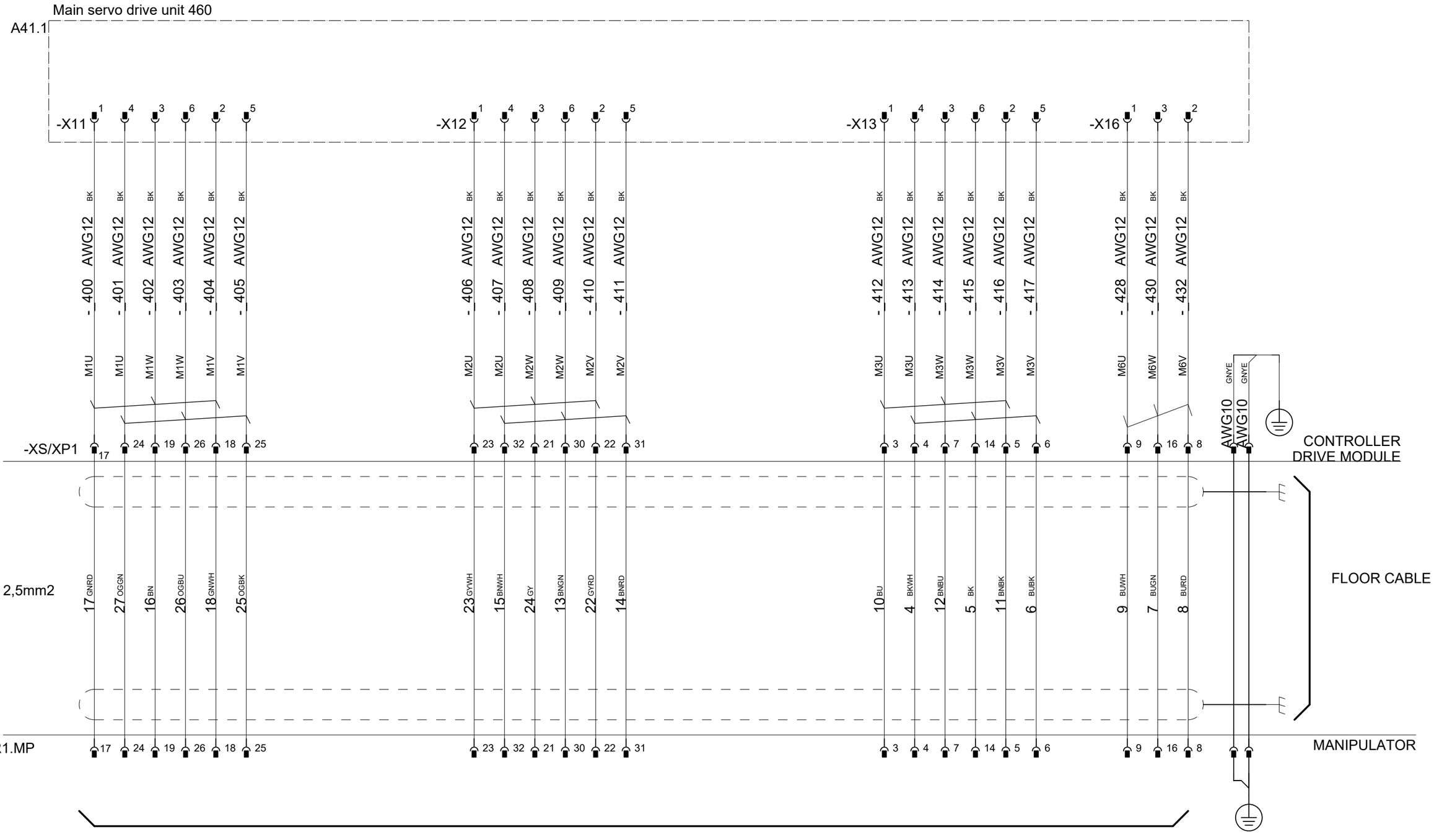
+R1-CP

A	1
B	2
C	3
D	4
E	5
F	6
H	8
J	9
K	10
L	11
M	12

AWG16 GNYE

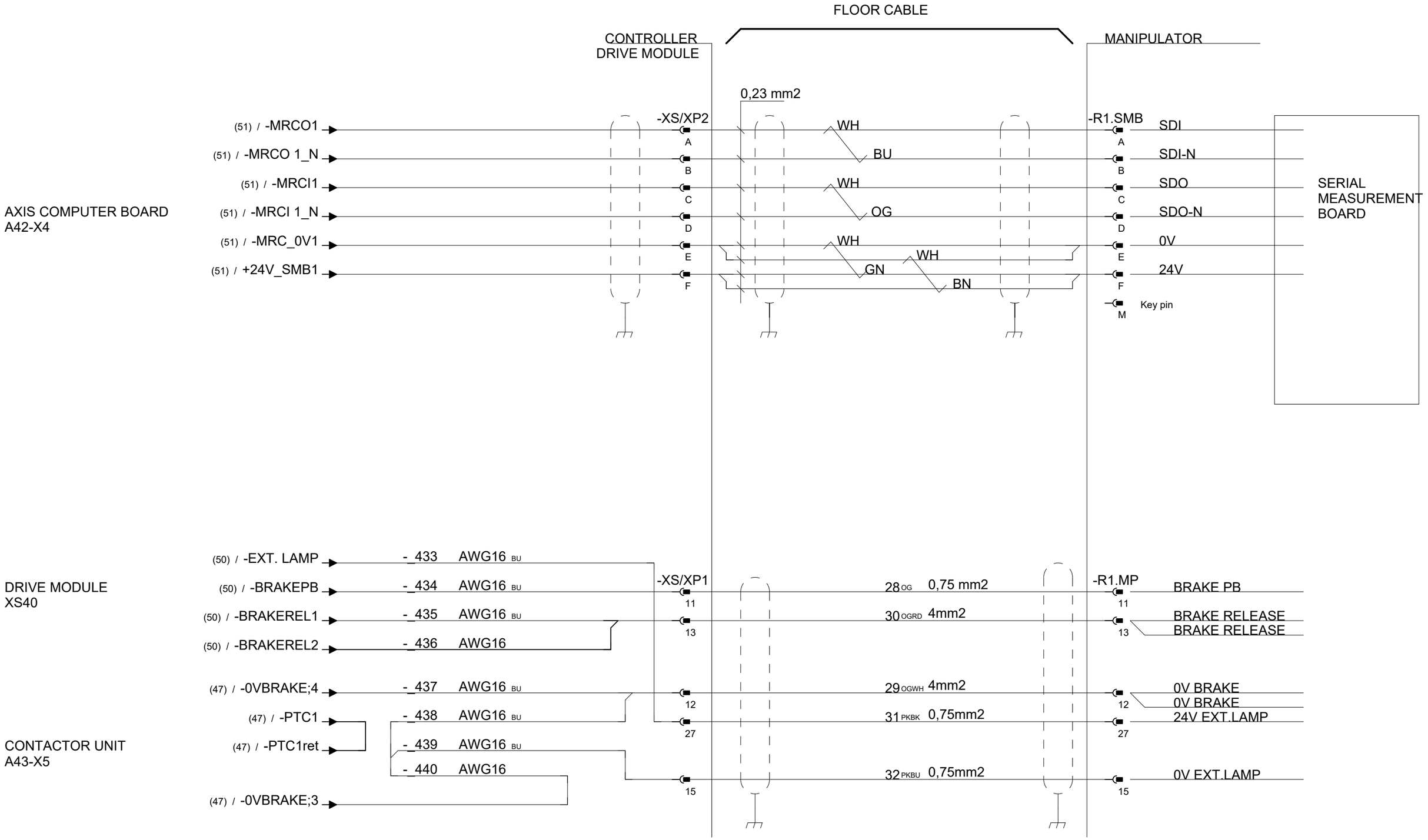
Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL SINGLE CABINET IRB 360	Status: Approved	Plant: = Location: + Sublocation:+	
					Document no. 3HAC026871-020	Rev. Ind 14	Page66.1 Next 67 Total 125
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30						

IRB 460 cabinet module

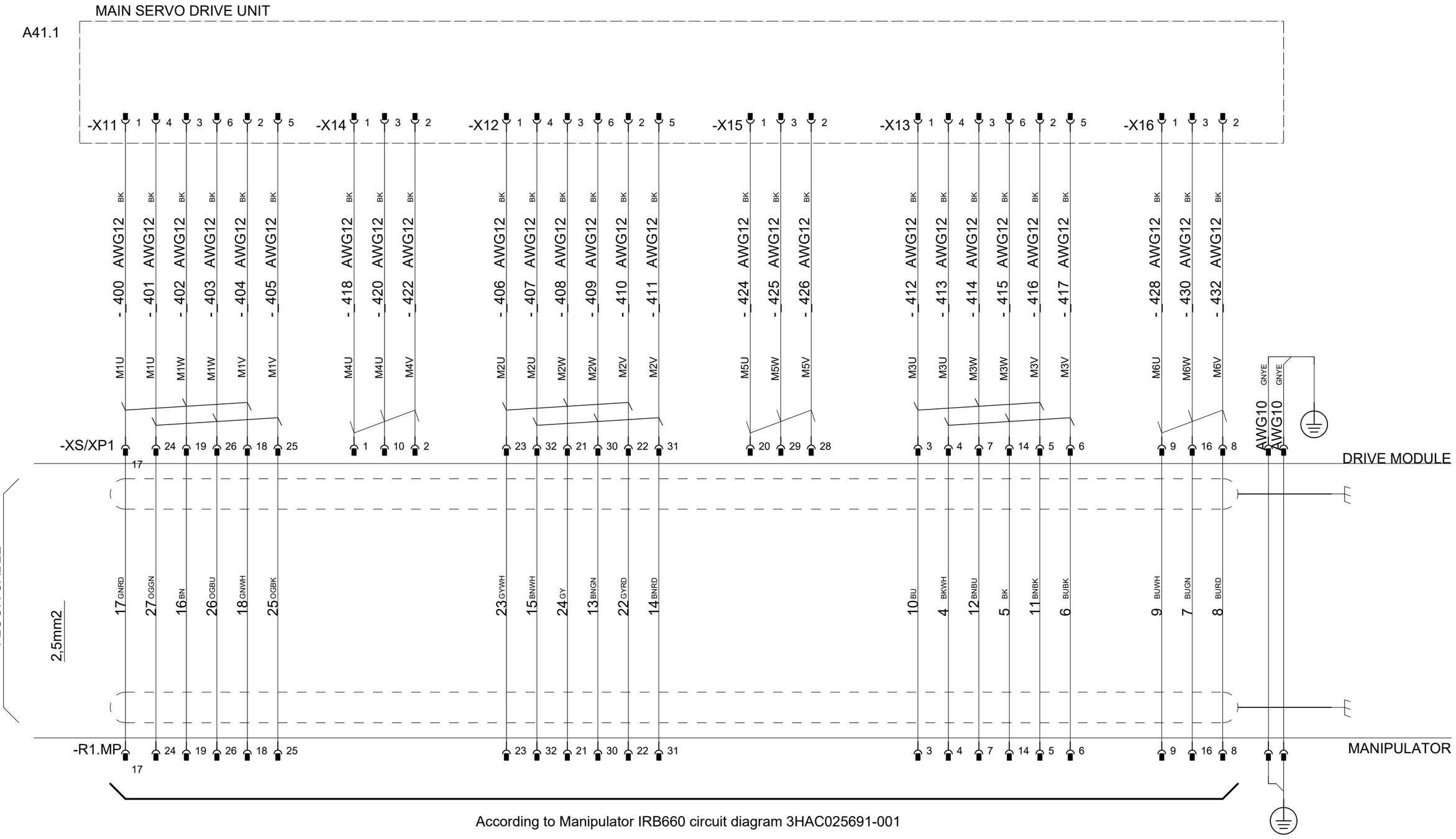


According to Manipulator circuit diagram 3HAC036446-005

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 460	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page67 Next 68 Total 125



Latest revision:		Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 460	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 / Page68 / Next 69 / Total 125



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 660, 760	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
					Page 69 Next 70 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				

FLOOR CABLE

DRIVE MODULE

MANIPULATOR

0,23 mm2

AXIS COMPUTER BOARD
A42-X4

-XS/XP2

-SMB

(51) / -MRCO1 — A — WH — A — SDI

(51) / -MRCO 1_N — B — BU — B — SDI-N

(51) / -MRCI1 — C — WH — C — SDO

(51) / -MRCI 1_N — D — OG — D — SDO-N

(51) / -MRC_0V1 — E — WH — E — 0V

(51) / +24V_SMB1 — F — GN — F — 24V

(51) / -MRC_0V2 — G

H

(51) / -MRC_0V3 — J

SERIAL MEASUREMENT BOARD

AWG16 BU — 1 — BU — EXT.LAMP — L — RD — L — EXT.LAMP

-DP1 AWG16

1

2 BU

AWG16

M

DRIVE MODULE
XP40

-XS/XP1

-MP

(50) / -EXT. LAMP — -_433 — AWG16 BU

(50) / -BRAKEPB — -_434 — AWG16 BU — 11 — 30 OGRD 0,75 mm2 — 11 — BRAKE PB

(50) / -BRAKEREL1 — -_435 — AWG16 BU — 13 — 28 OG 4,0 mm2 — 13 — BRAKE RELEASE

(50) / -BRAKEREL2 — -_436 — AWG16 BU — BRAKE RELEASE

CONTACTOR UNIT
A43-X5

(47) / -0VBRAKE;4 — -_437 — AWG16 BU — 12 — 29 OGWH 4,0 mm2 — 12 — 0V BRAKE

(47) / -PTC1 — -_439 — AWG16 BU — 27 — 31 PKBK 0,75 mm2 — 27 — PTC

(47) / -PTC1ret — -_440 — AWG16 BU — 15 — 32 PKWH 0,75 mm2 — 15 — 0V PTC

(47) / -0VBRAKE;3 — -_438 — AWG16 BU — 0V BRAKE

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 660, 760	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 70 Next 71 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

1	2	3	4	5	6	7	8

Customer Connection

-XP/XT6

-XP/XT5.1

-XP/XT5.2

-XP/XT5.3

Single cabinet

CONTROL MODULE

-713 AWG20
BK
BN
RD
OG
YE
GN
BU
VT

-711 AWG24
BK
BN
RD
OG
YE
GN
BU
VT

-712 AWG24
1/WH
1/BU
2/WH
2/OG
3/WH
3/GN
4/WH
4/BN

-711 AWG24
GY
WH
WH/BK
WH/BN
WH/RD
WH/OG
WH/YE or PK
WH/GN or Light GN

-713 AWG20
GY
WH
WH/BK
WH/BN
WH/RD
WH/OG
WH/YE
WH/GN
WH/BU
WH/VT
WH/GY or Light GN
BN/BK or RD/BK

AWG16

-XS/XP13
A1
A2
A3
A4
B1
B2
B11
B12
B13
B14
C19
C21
B7
B8
B9
B10
B3
B4
B5
B6
C16
C17
C18
C20
B22
B23
B24
B25
B15
B16
B18
B19
B20
B21
C10
C11
C12
C13
C14
C15

FLOOR CABLE

w26 1mm2
1
2
3
4
GNYE
SH

W27
BKog 0,23mm2
bu 0,23mm2
WHog 0,23mm2
og 0,23mm2
WHgn 0,23mm2
gn 0,23mm2

W28
GN AWG24
BN AWG24
WH AWG24
BU AWG24
WH AWG24
OG AWG24
WH AWG24
GN AWG24
WH AWG24
BN AWG24
RD AWG24
OG AWG24
RD AWG24
RD AWG24

W27
WHbn 0,23mm2
bn 0,23mm2
WHgy 0,23mm2
gy 0,23mm2
RDbu 0,23mm2
bu 0,23mm2

MANIPULATOR

-R1.CP/CS
D1
D6
D3
D4
PE
B1 B2 B11 B12 B13 B14 C19 C21 B7 B8 B9 B10
B3 B4 B5 B6 C16 C17 C18 C20
B15 B16 B18 B19 B20 B21
CS

Latest revision:			Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL IRB460, 660, 760	Status: Approved Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14 Page 71 Next 72 Total 125

CONTROL MODULE | FLOOR CABLE | MANIPULATOR

Customer Connection

OPTION : DEVICENET

A35 -X2 (82.1)

1	2/BK	V-	-707	-XS/XP13 F2	AWG22 BK	AWG24	R1 CP/CS B23 0V
2	1/BU	CAN_L		F4		BU	A4 CAN_L
3	Bare wire	SHIELD					
4	1/WH	CAN_H		F3		WH	A3 CAN_H
5	2/RD	V+		F1	RD		B22 +24V CAN

OPTION : PROFIBUS
Option: 803-4

A33 -(DP-M)1 (83.1) (89.1) (100.1) (101.1)

1B	1/RD	RXD/TXD-P	-709	-XS/XP13 F5	RD	+R1 CP/CS A5 RXD/TXD-P
1A	1/GN	RXD/TXD-N		F6	GN	A6 RXD/TXD-N

According to PARAMULTI Option:
(93) / ProfiNet/Ethernet IP sheet ◄

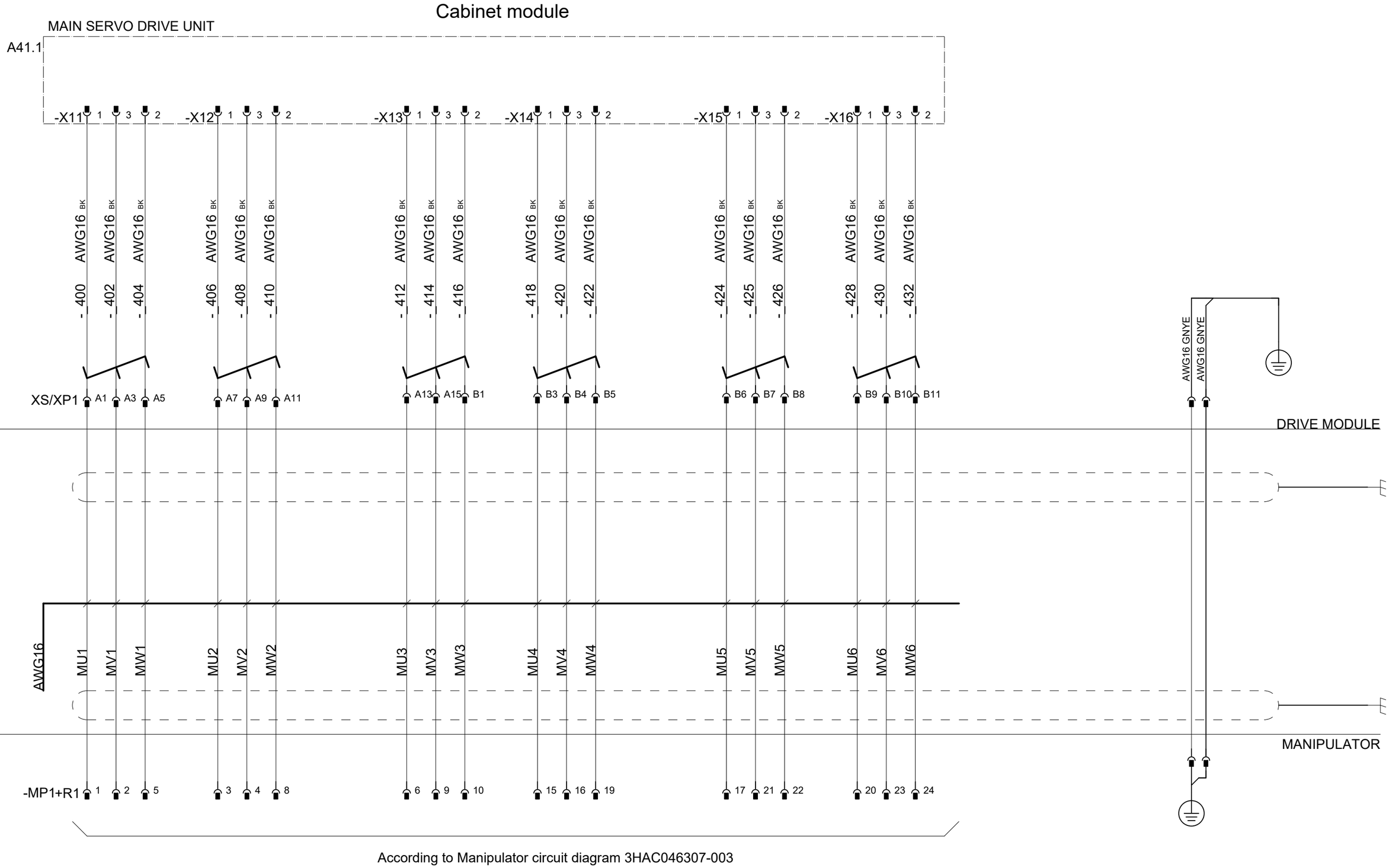
(94) / 5.TXRX+ ►	XP9 1	AWG22 YE	1	R1.ETHERNET 1 RX+
(94) / 5.TXRX- ►	2	WH	2	2 RX-
(94) / 5.RXTX+ ◄	3	OG	3	3 TX+ ProfiNet//Ethernet
(94) / 5.RXTX- ◄	4	BU	4	4 TX-

PARABUSCOM

PARAMULTI

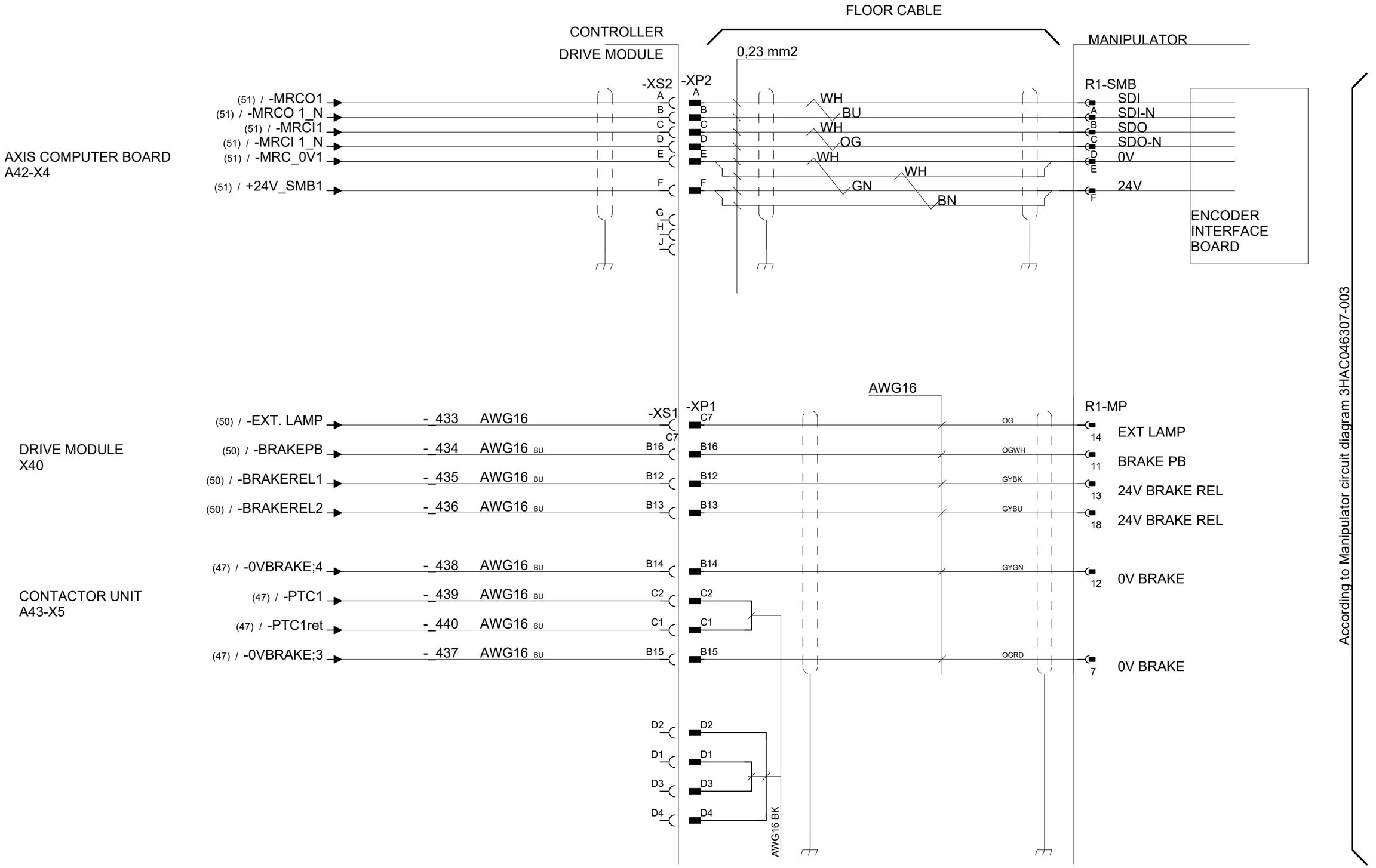
According to Manipulator diagram 3HAC044246-002 r00

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CAN, PROf-bus,CP/CS,Profinet IRB460, 660, 760	Status: Approved	Plant: = Location: + Sublocation:+
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



According to Manipulator circuit diagram 3HAC046307-003

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 1200	Status: Approved	Plant: = Location: + Sublocation: +
				Document no. 3HAC026871-020	Rev. Ind 14
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				Page 72.1 Next 72.2 Total 125



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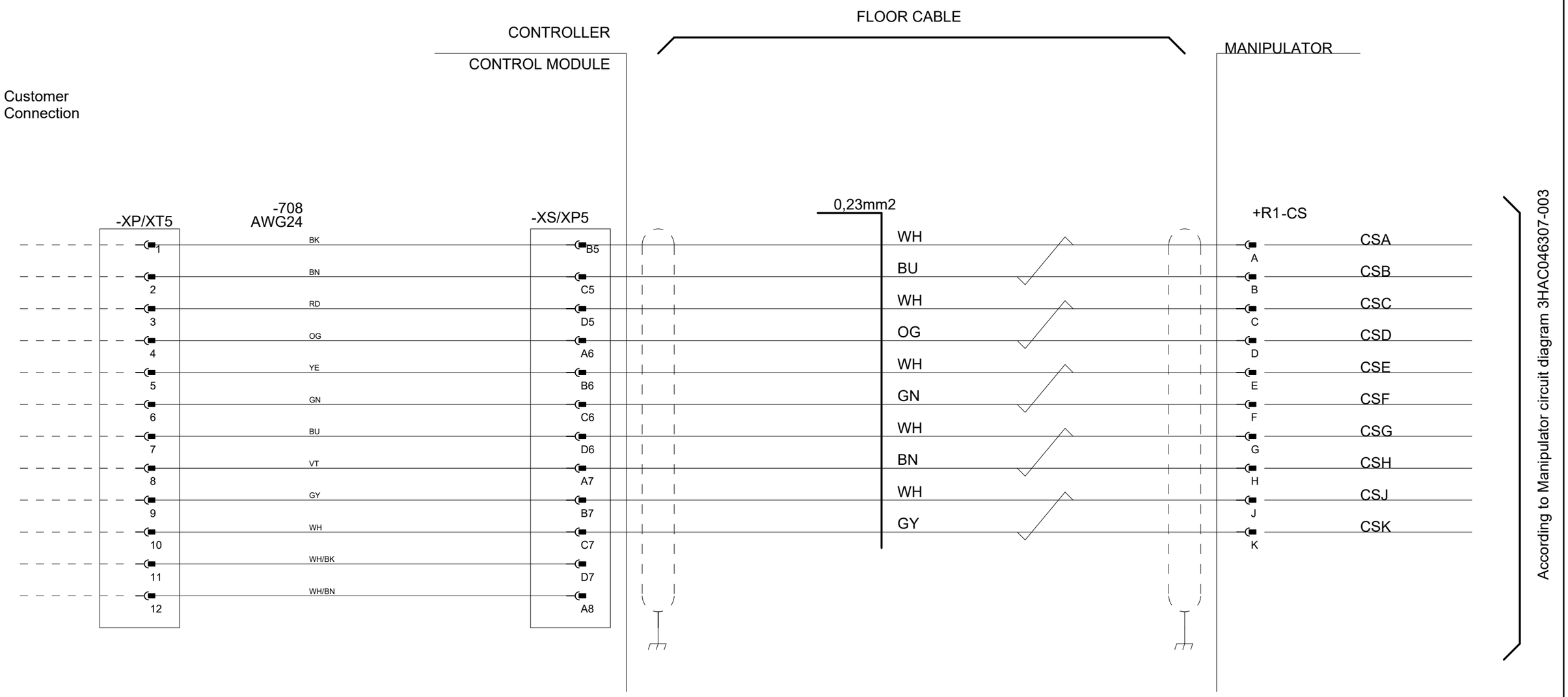

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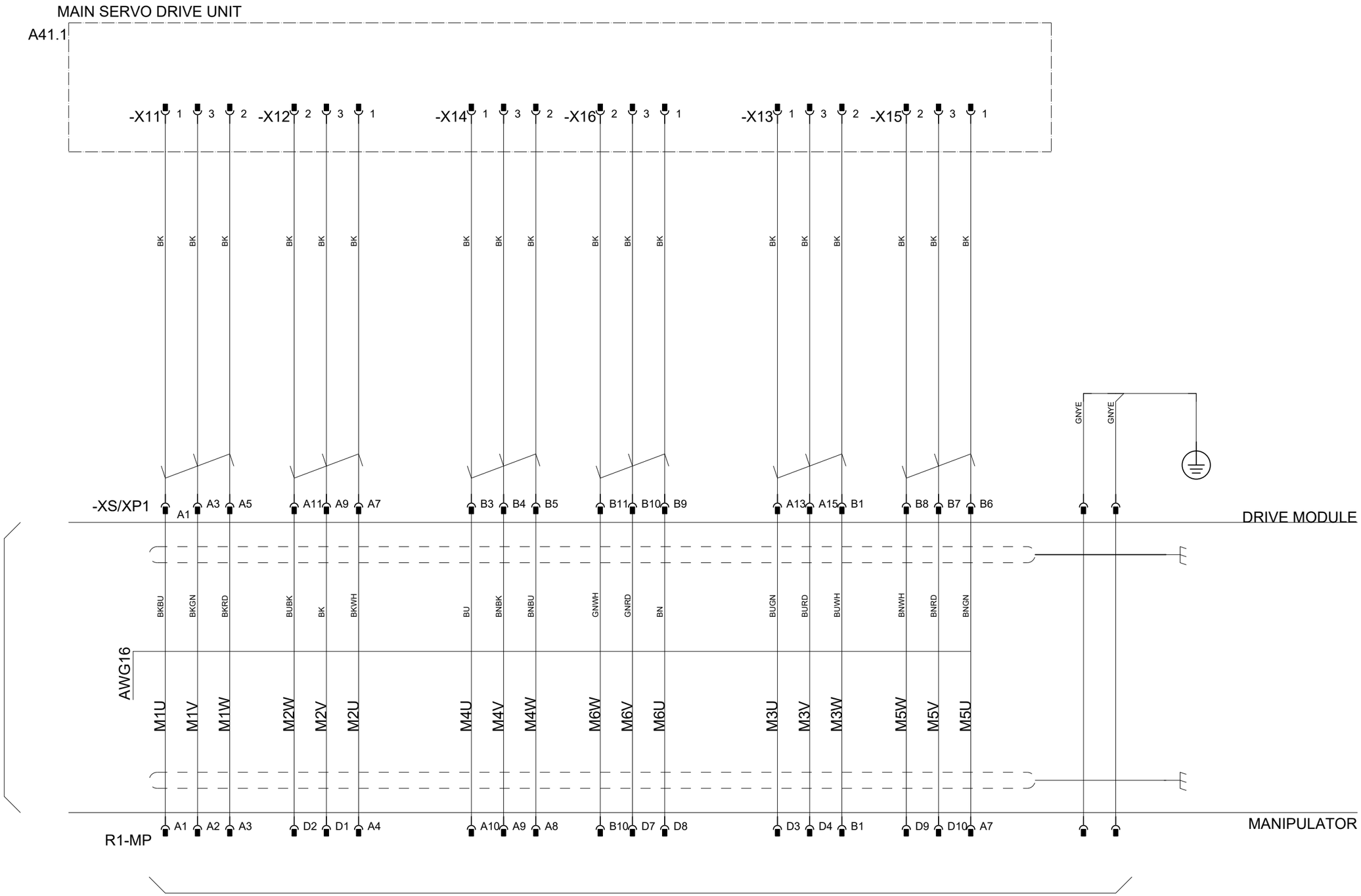
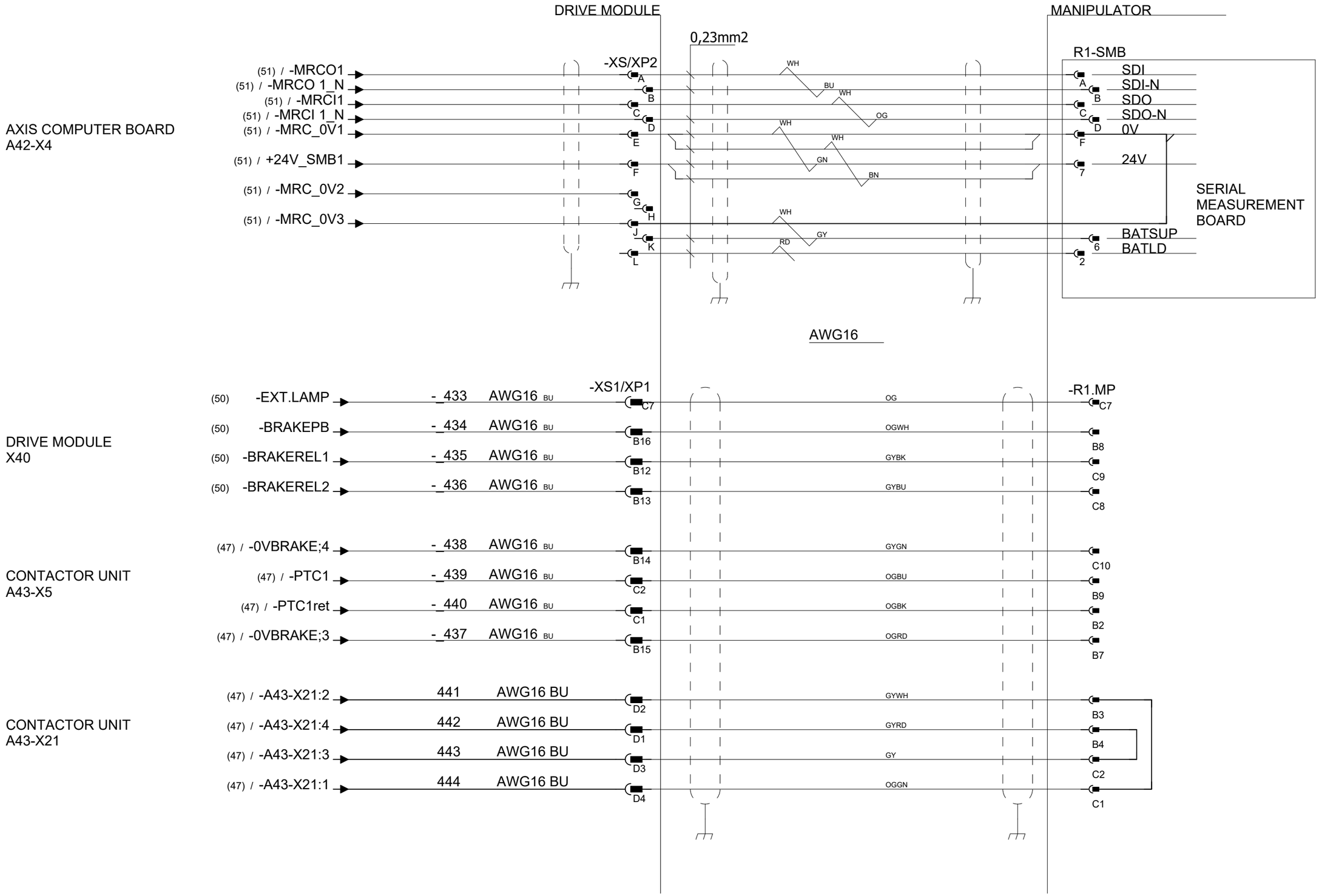
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



According to Manipulator circuit diagram 3HAC021351-003

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE UNIT IRB 1600/1660	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14
					Page 73 Next 74 Total 125



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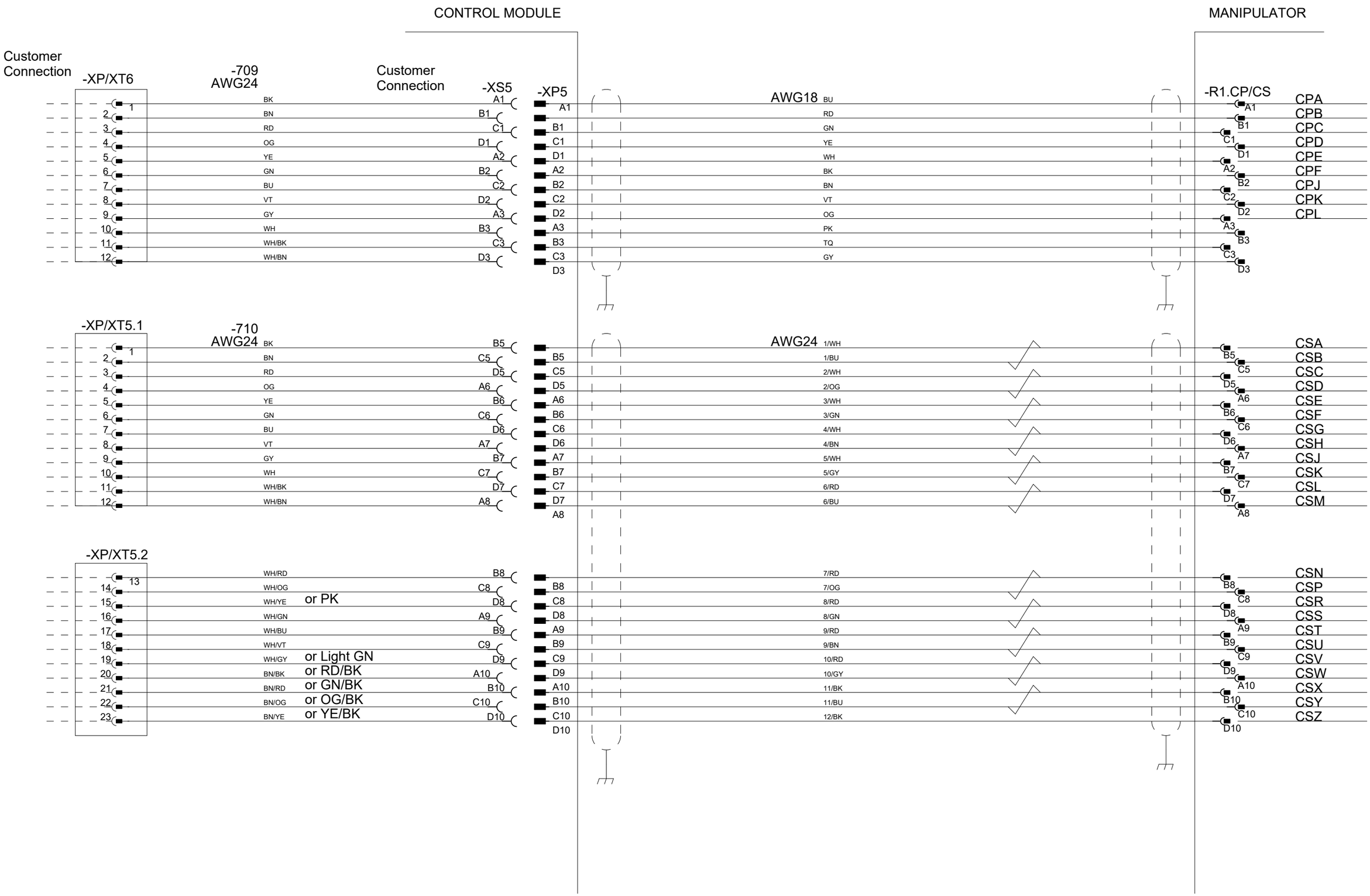
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



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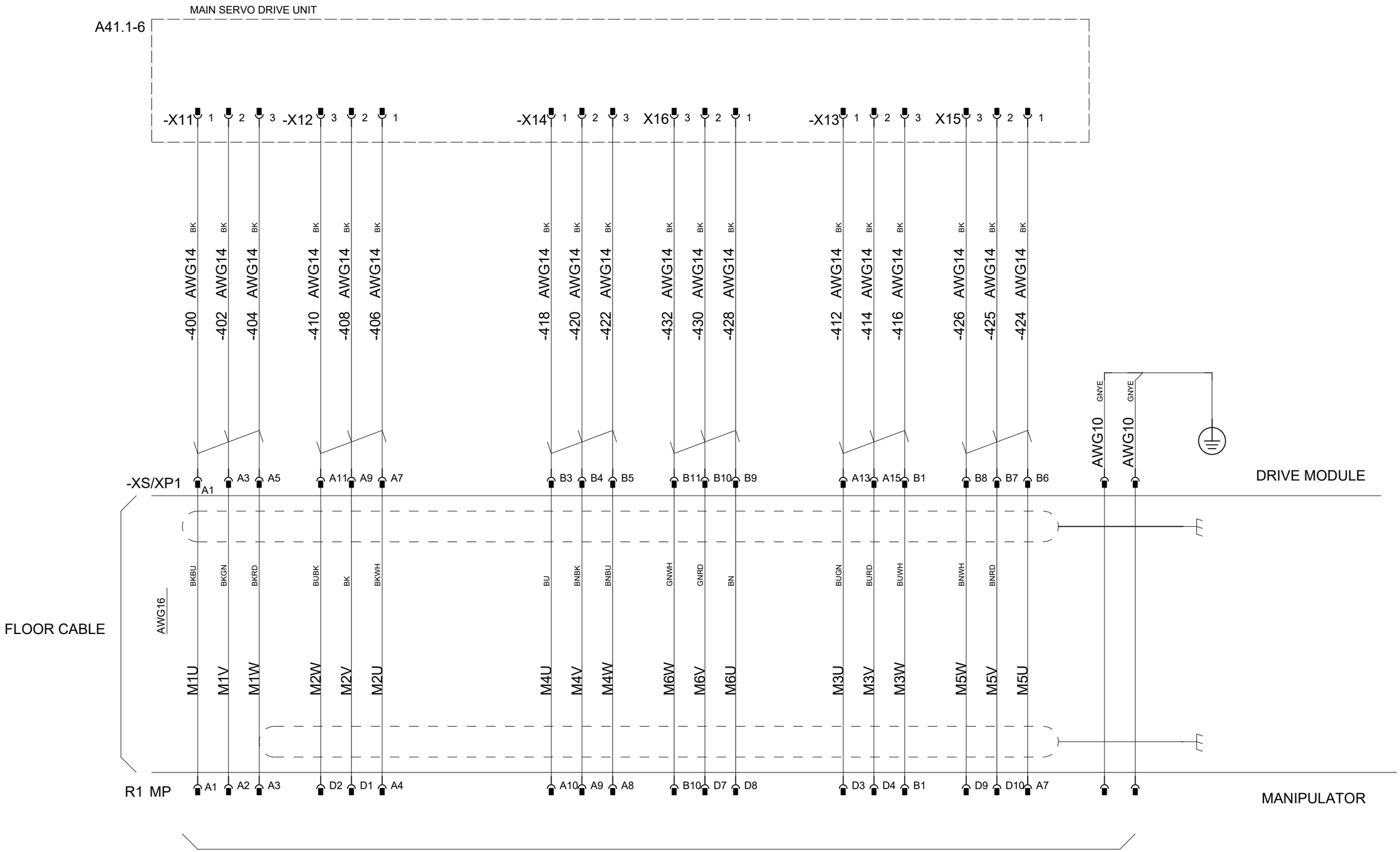
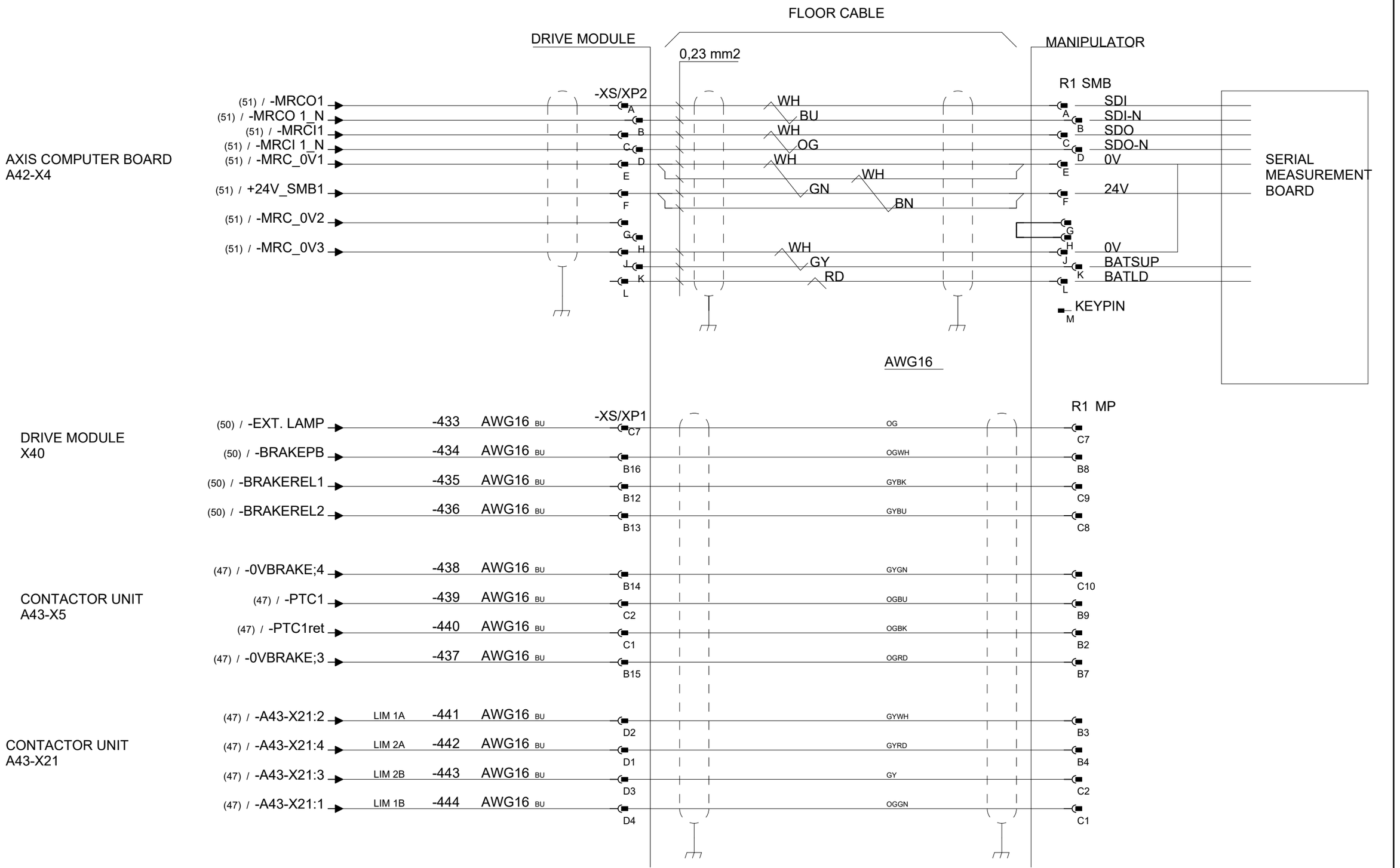
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30						



According to Manipulator circuit diagram 3HAC6670-3

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE UNIT IRB 2400	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



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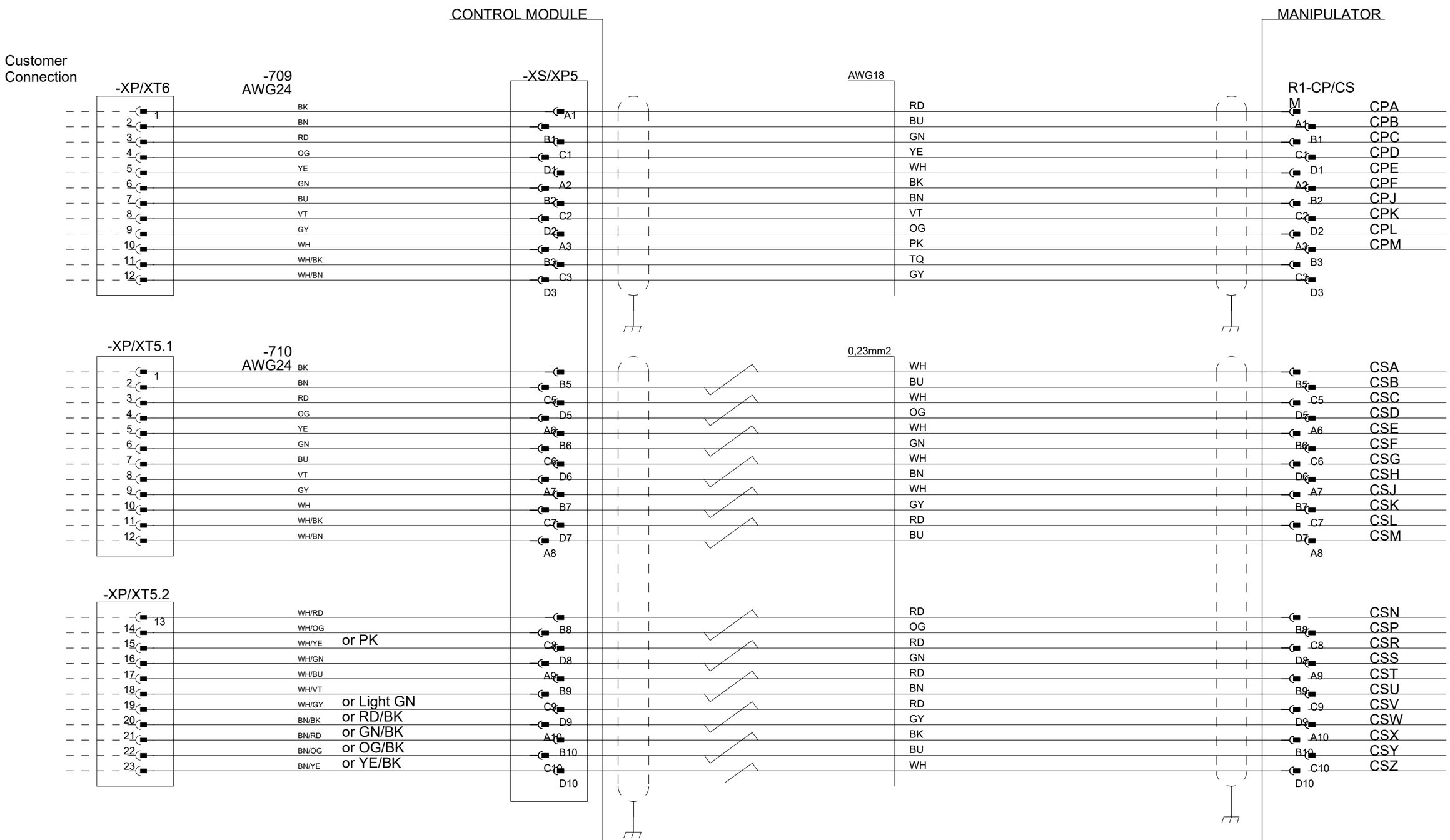
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30						



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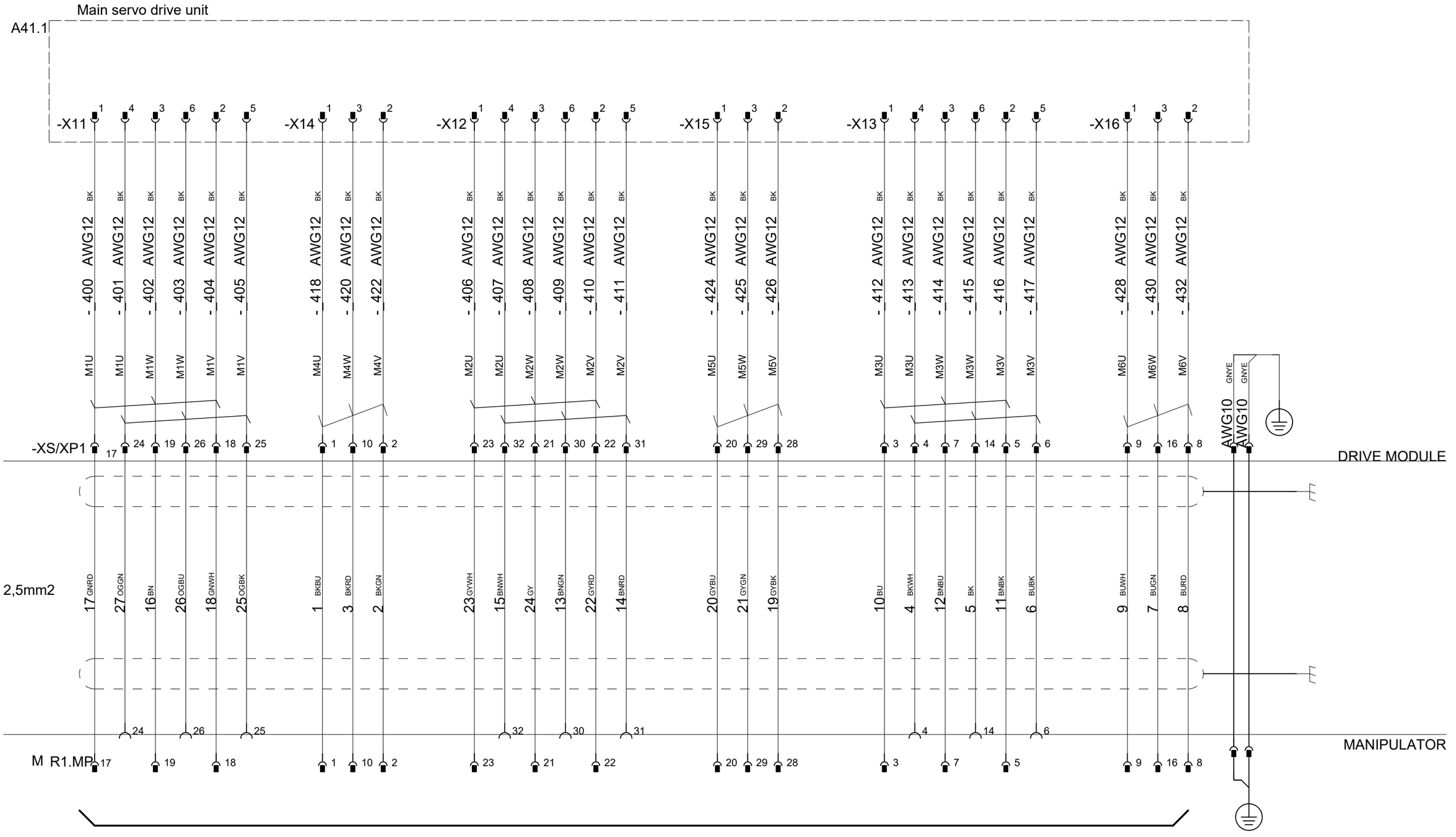
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



According to Manipulator circuit diagram 3HAC029570-007

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 2600	Status: Approved	Plant: = Location: + Sublocation: +
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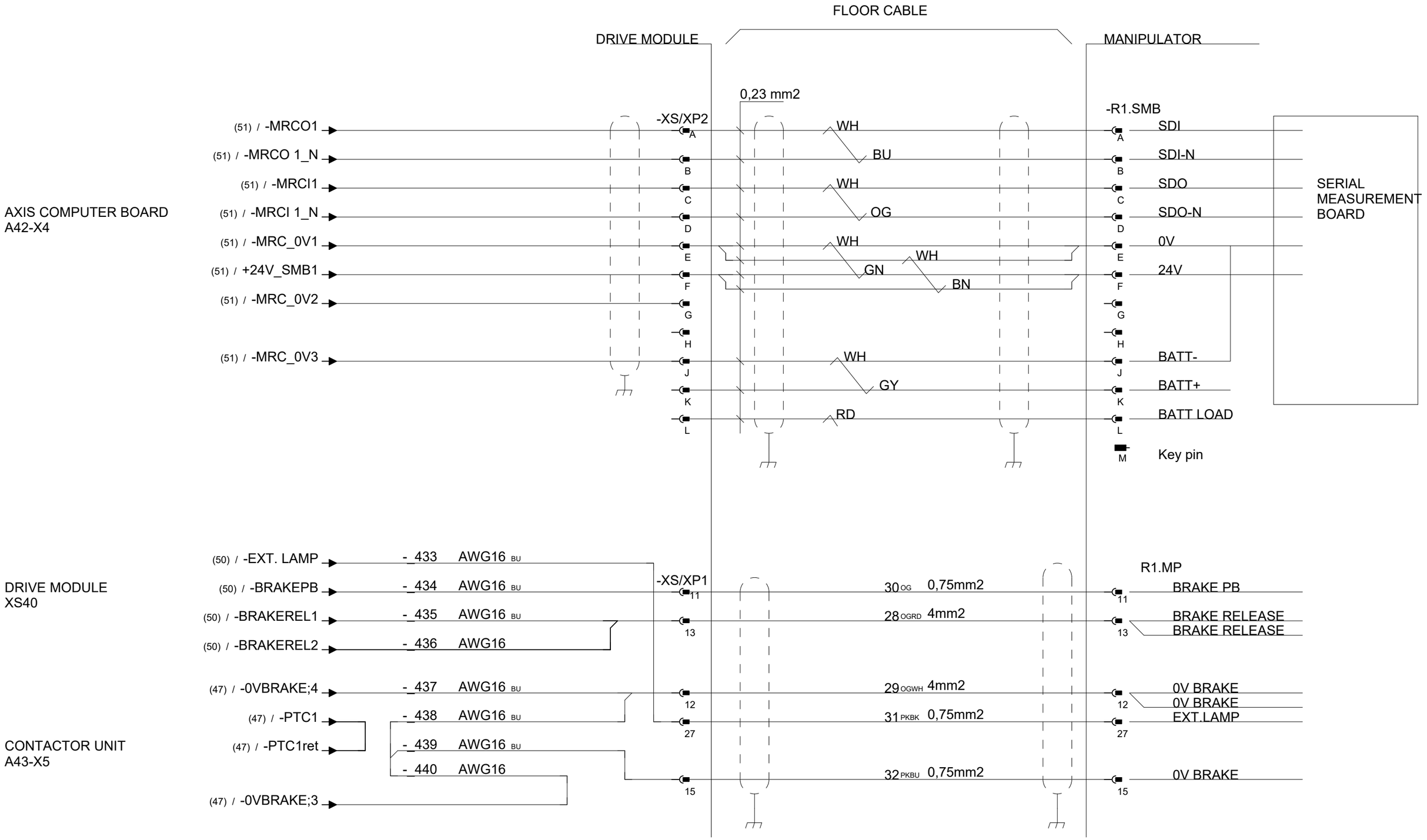
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30				Page 79 Next 80 Total 125



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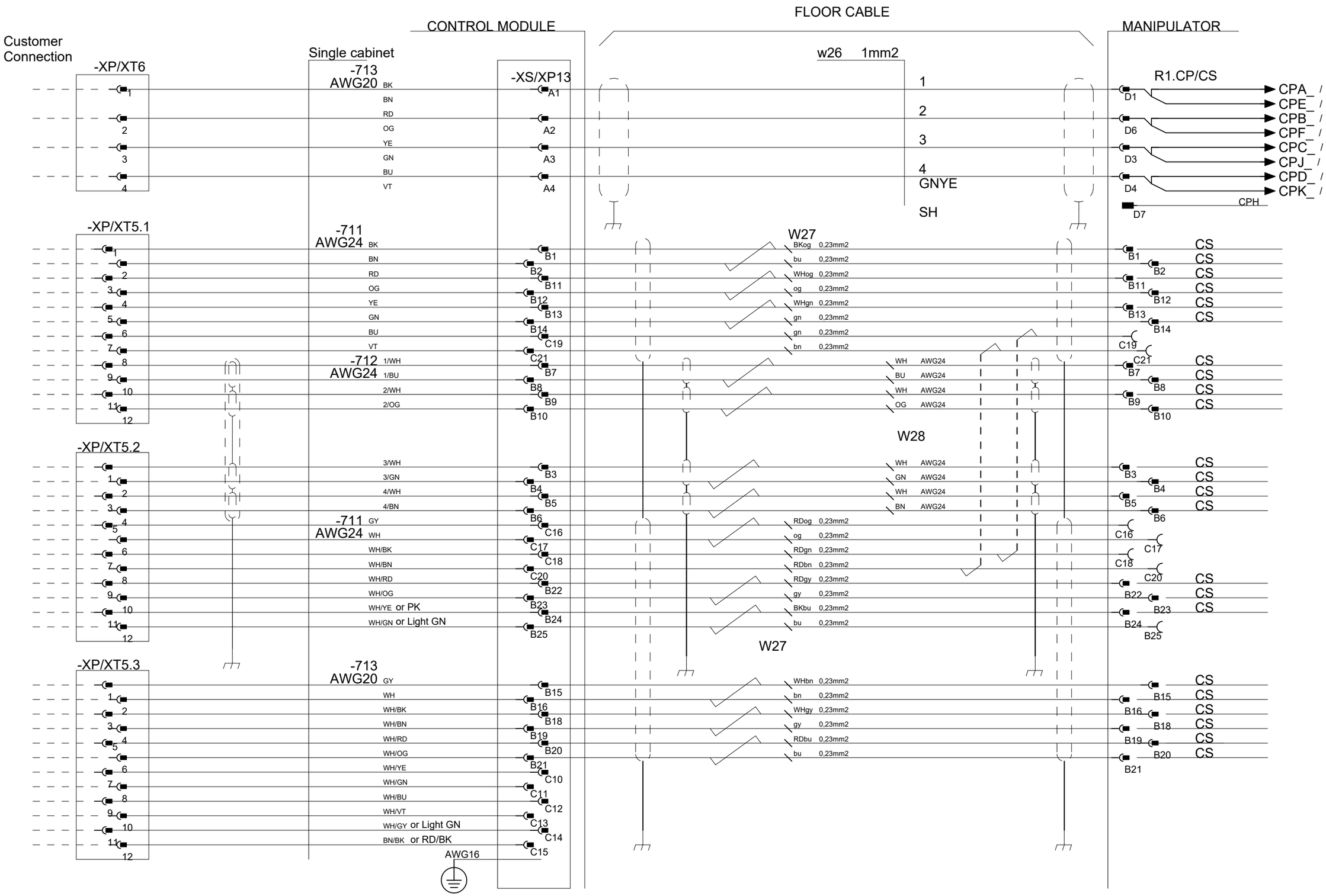
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



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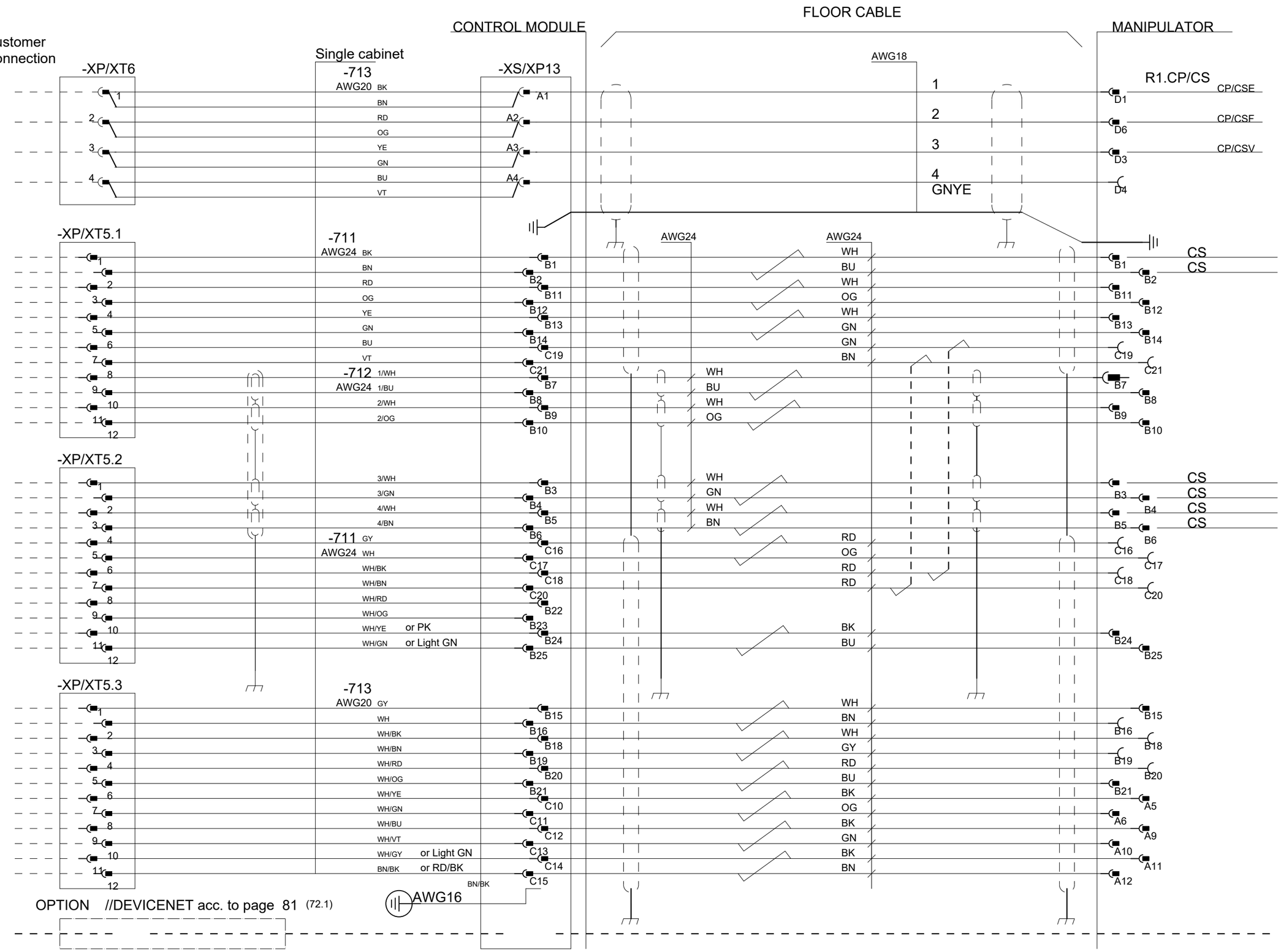
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page81 Next 82 Total 125



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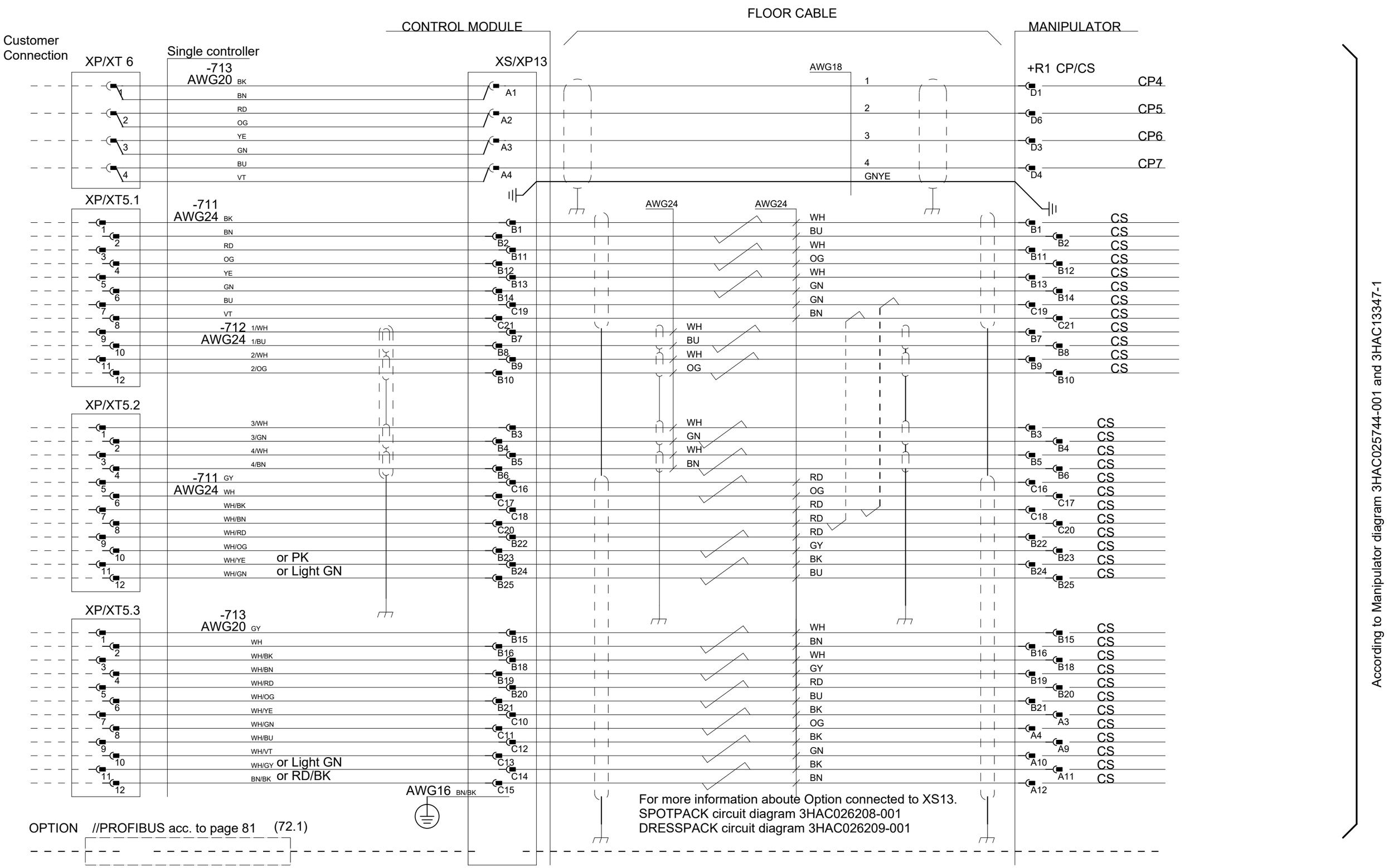

According to Manipulator diagram 3HAC025744-001 and 3HAC13347-1

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL PROFI BUS IRB 2600	Status: Approved	Plant: = Location: + Sublocation:+
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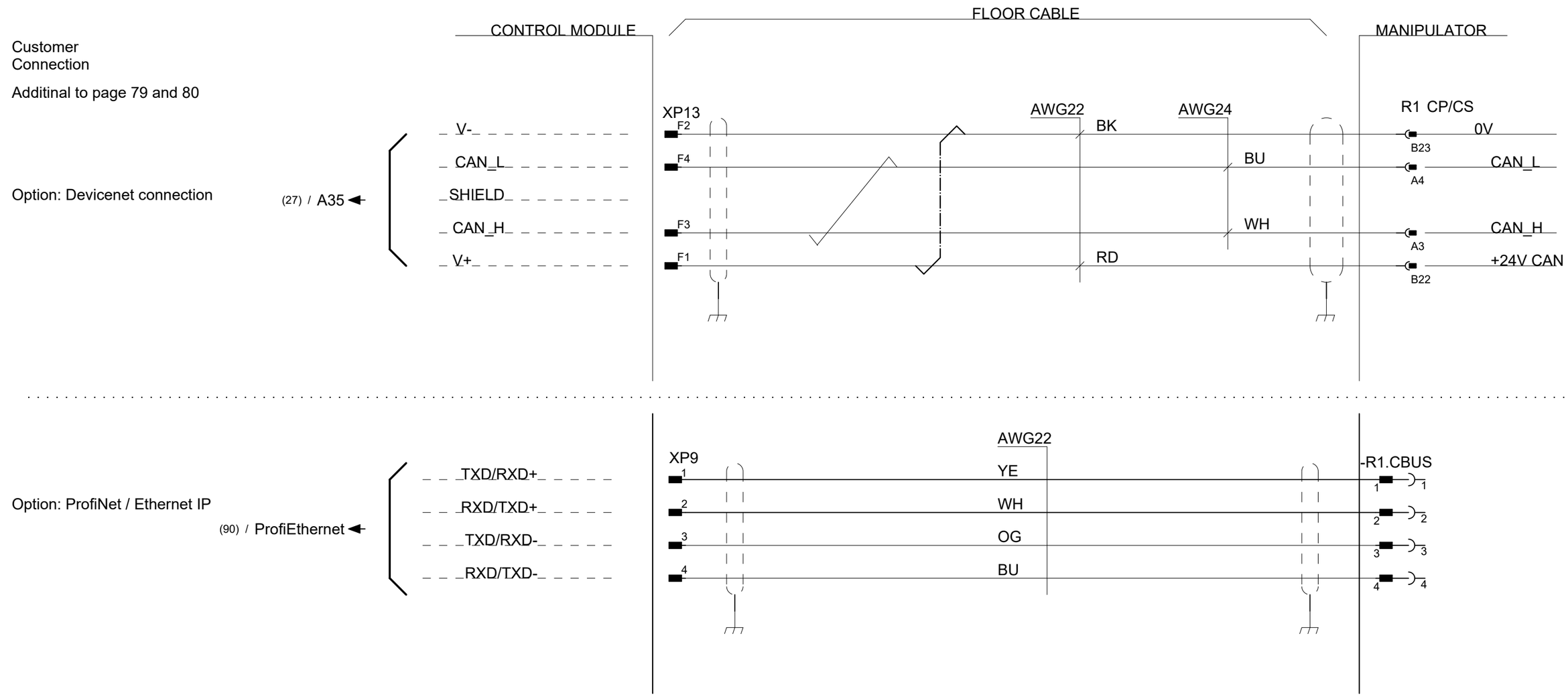
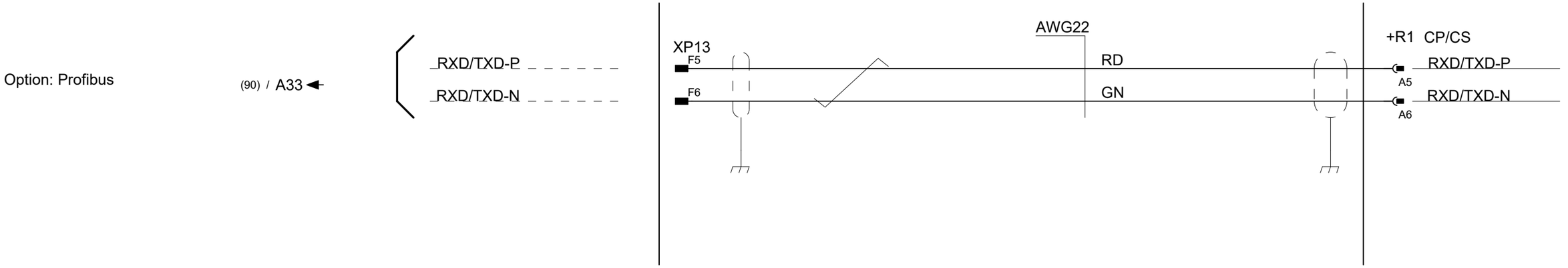
Customer
Connection

Additinal to page 79 and 80





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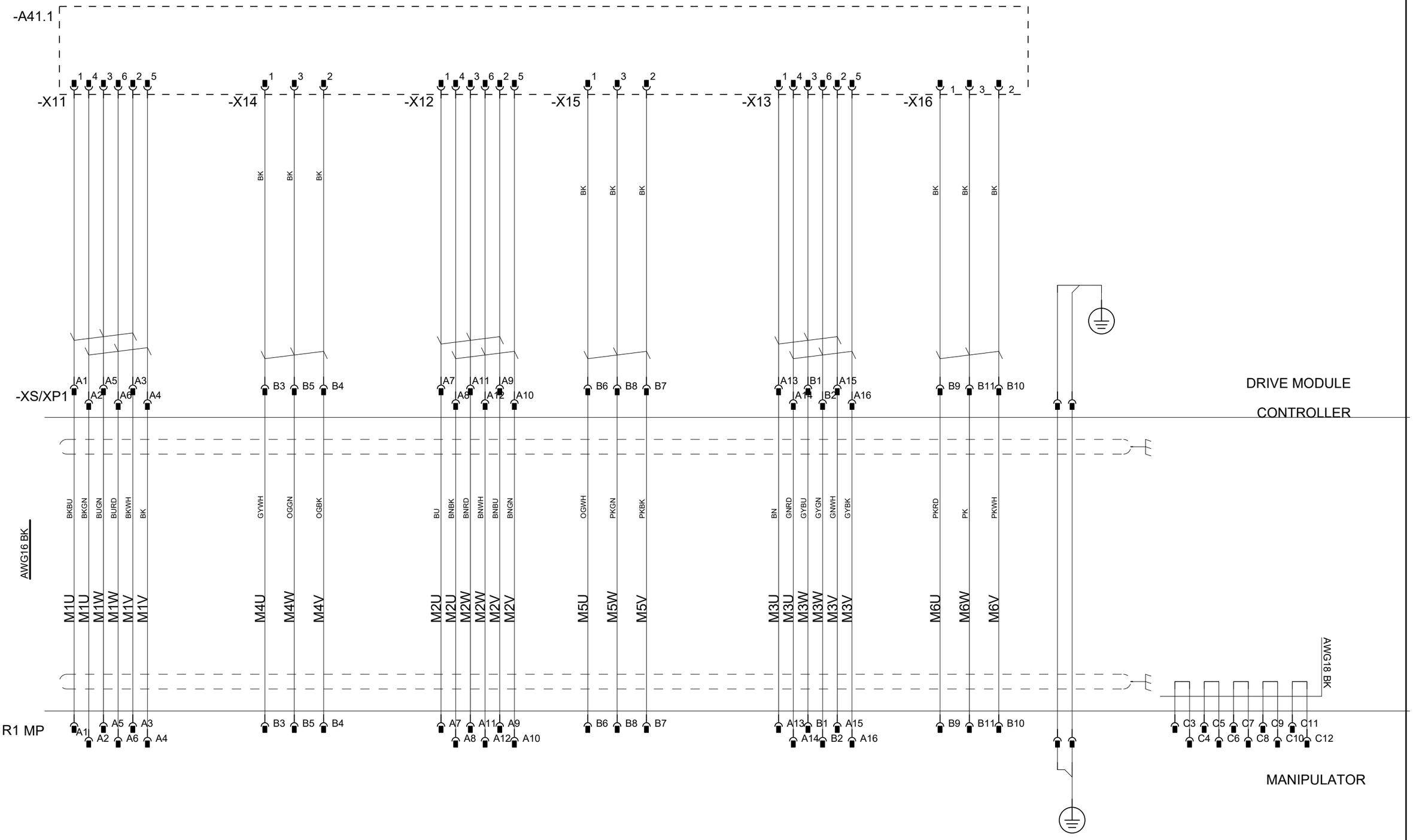
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 4400	Status: Approved	Plant: = Location: + Sublocation: +
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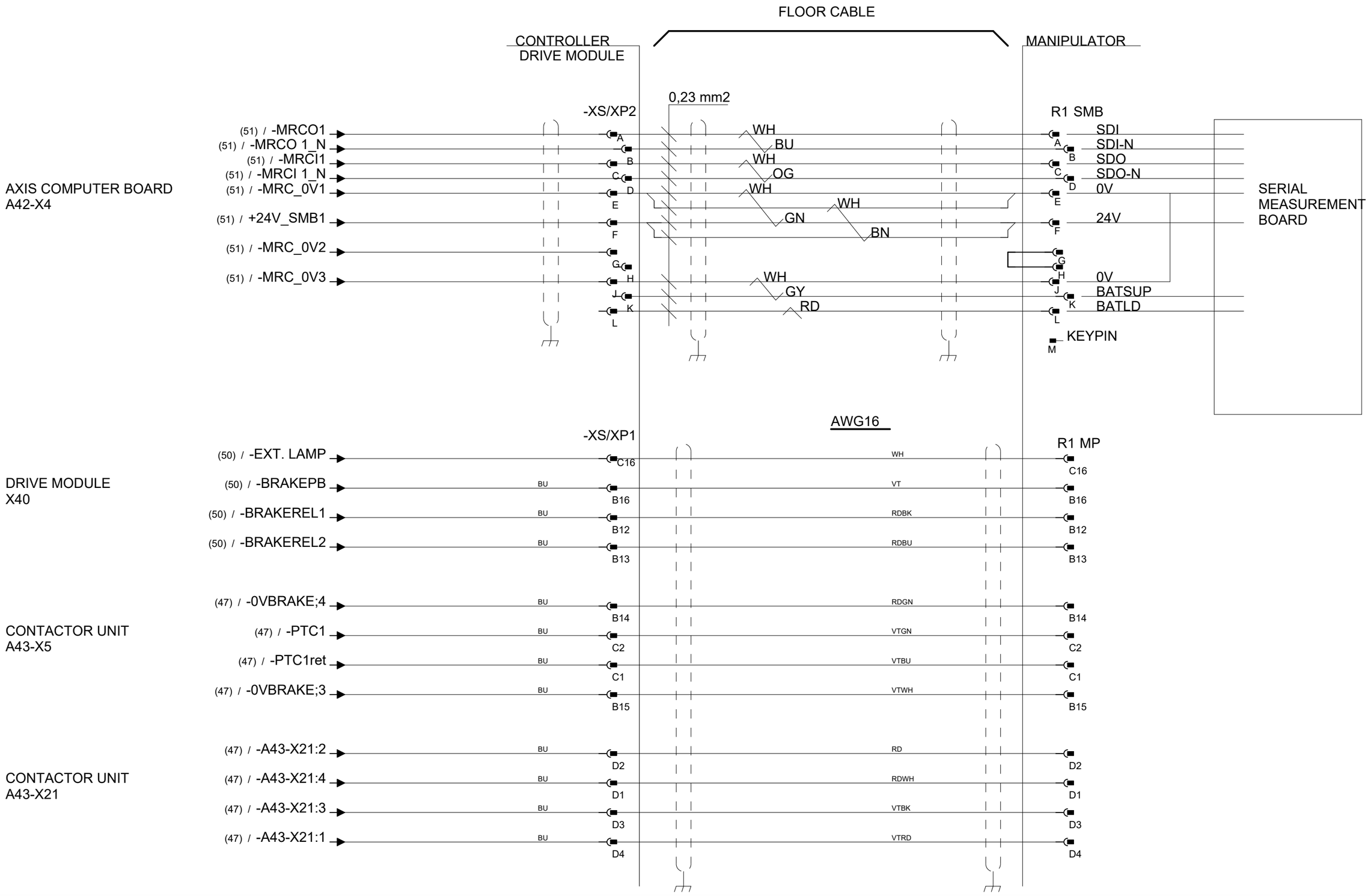

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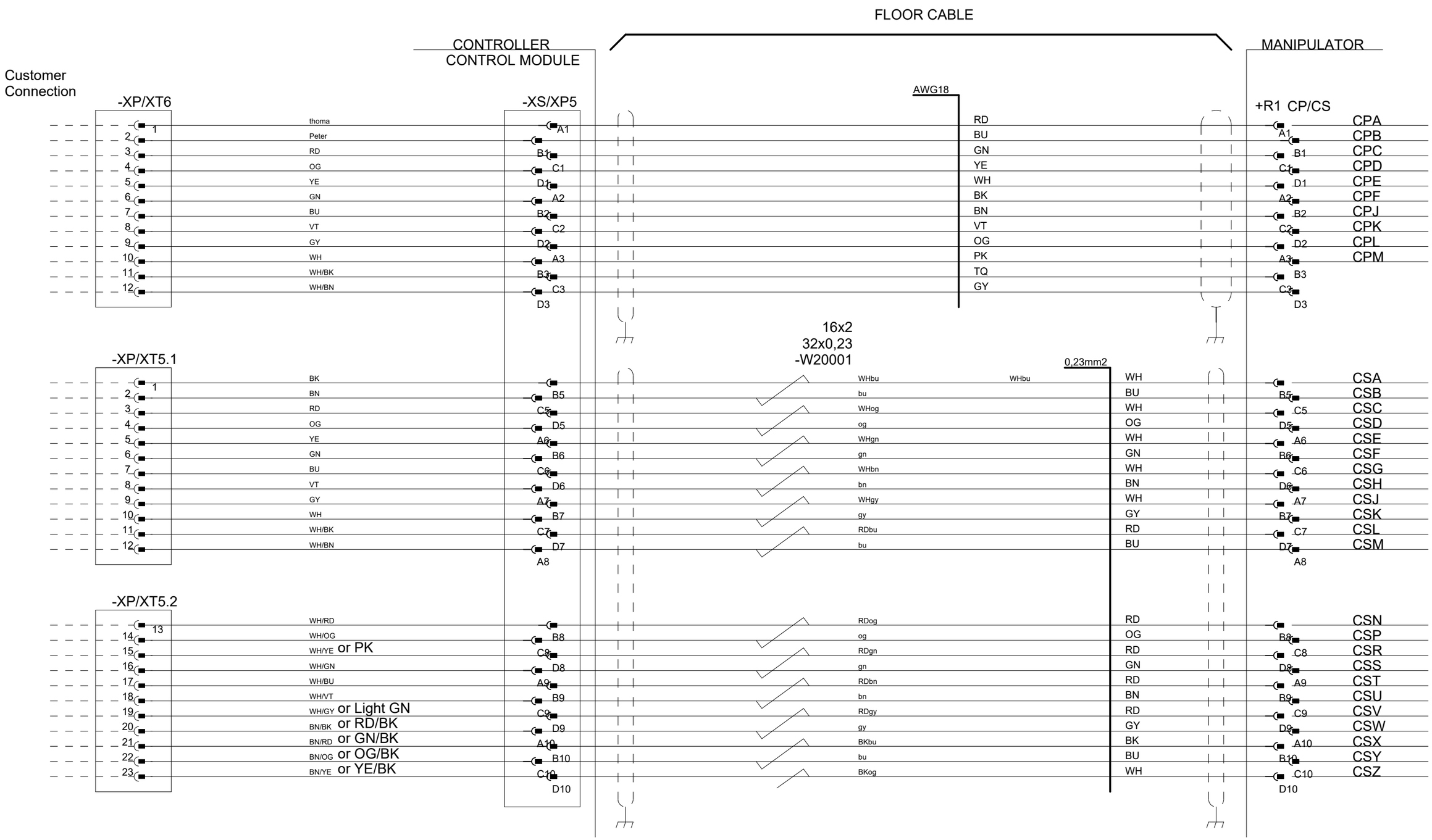
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



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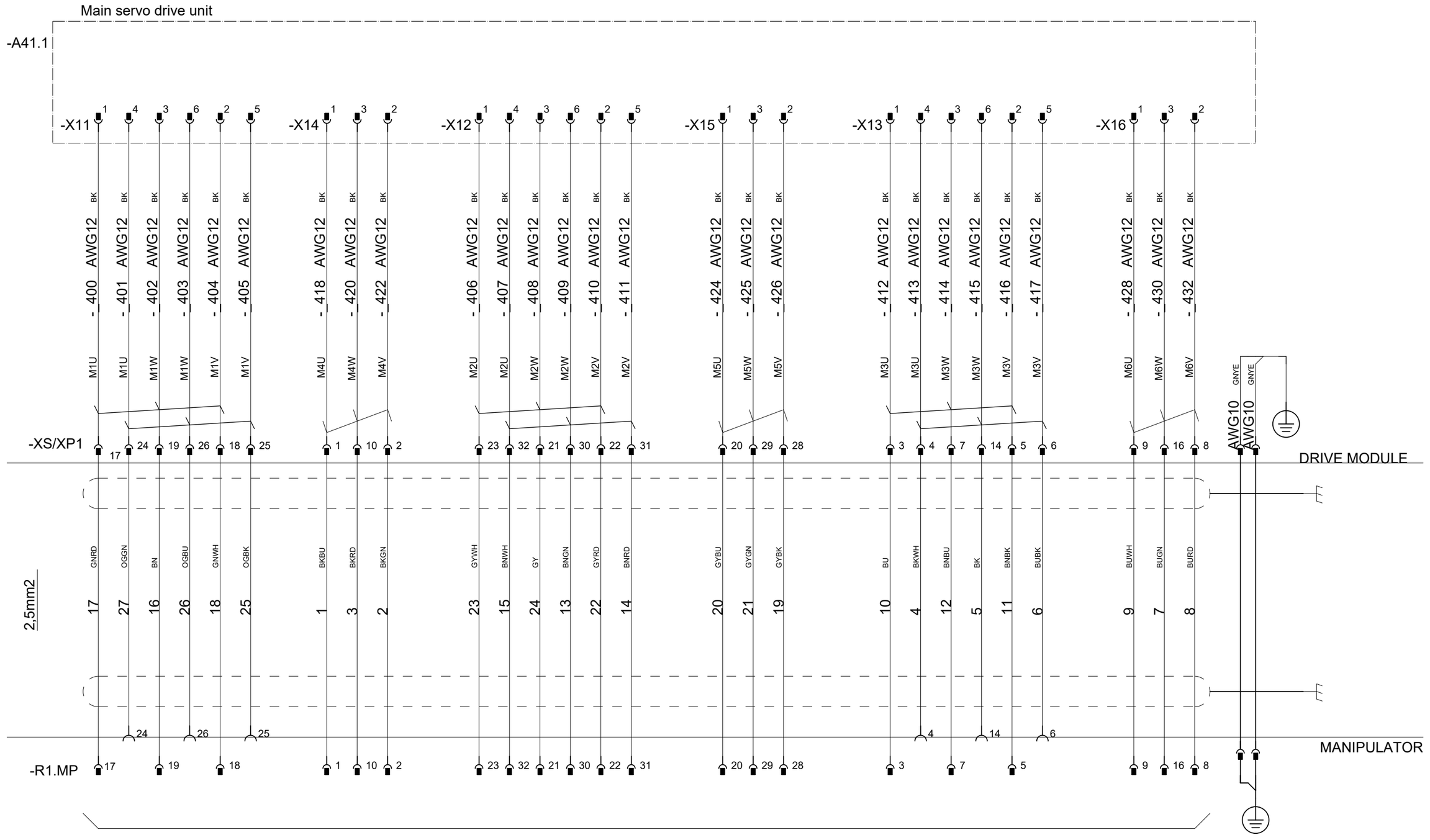

According to Manipulator circuit diagram 3HAC029038-003

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 4600	Status: Approved	Plant: = Location: + Sublocation: +
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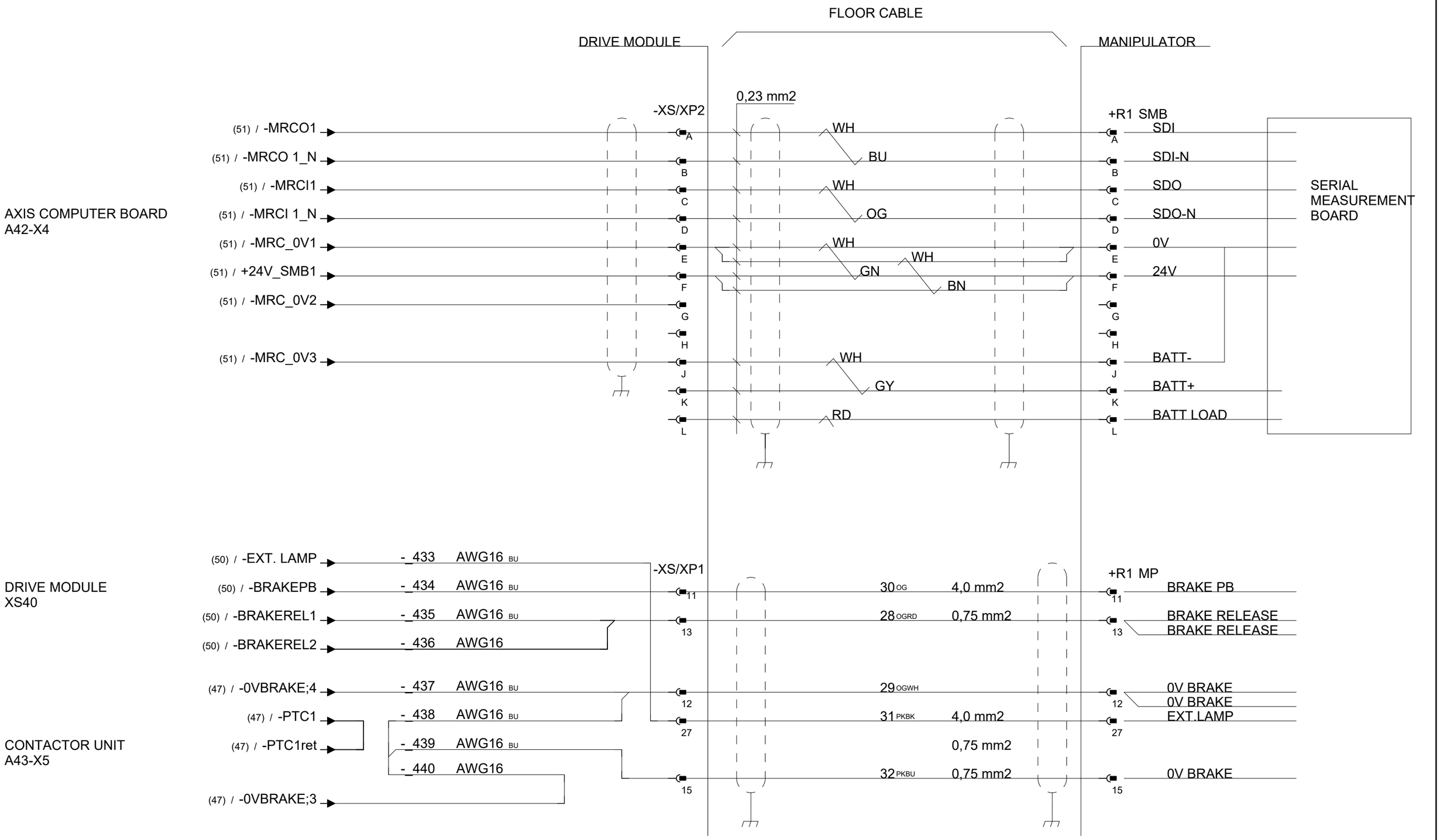
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page 85 Next 86 Total 125



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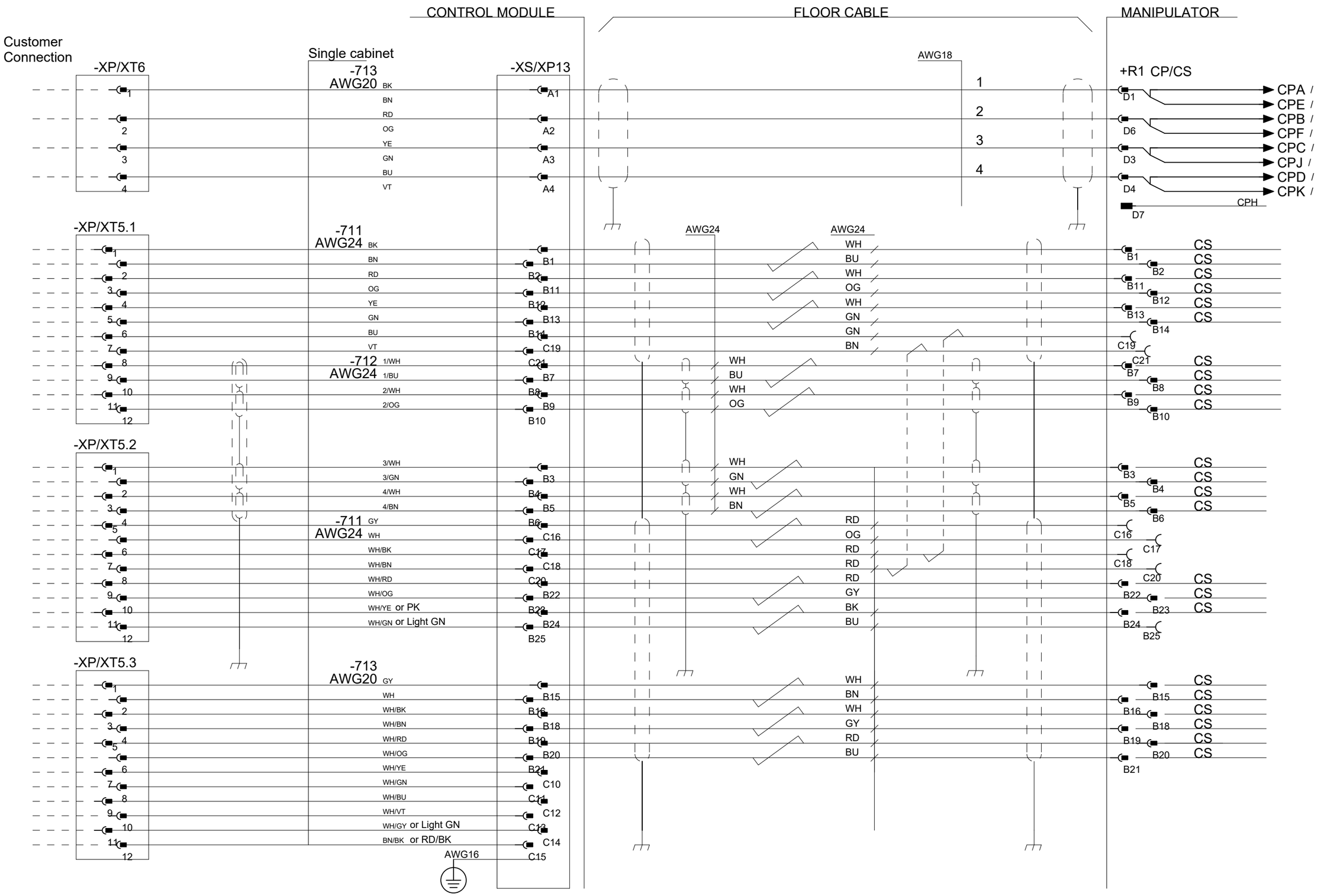
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



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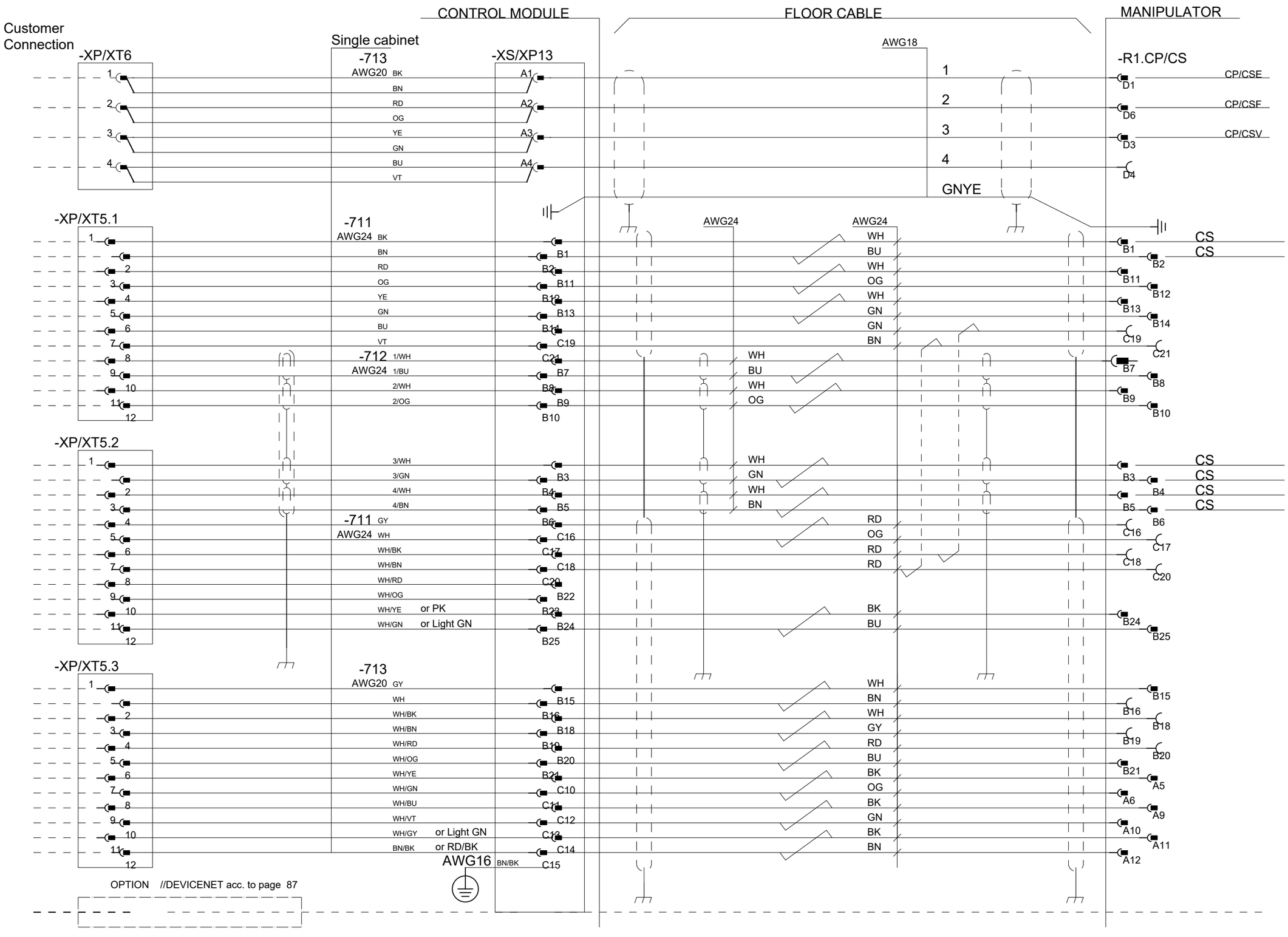

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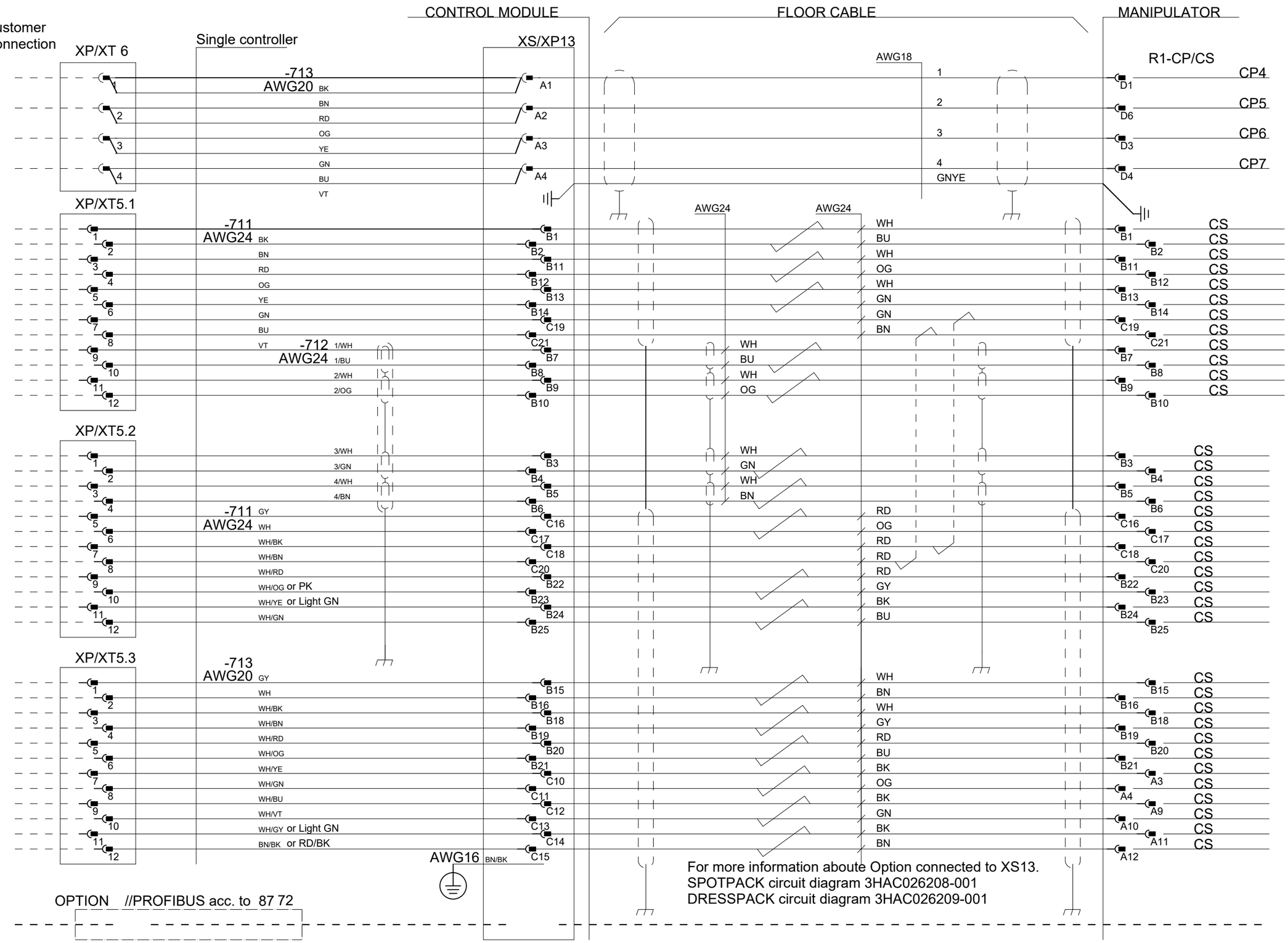
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30		

Status: Approved	Plant: = Location: + Sublocation:+		
Document no. 3HAC026871-020	Rev. Ind 14	Page88 Next 89 Total 125	



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

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL PROFI BUS IRB 4600	Status: Approved	Plant: = Location: + Sublocation:+	
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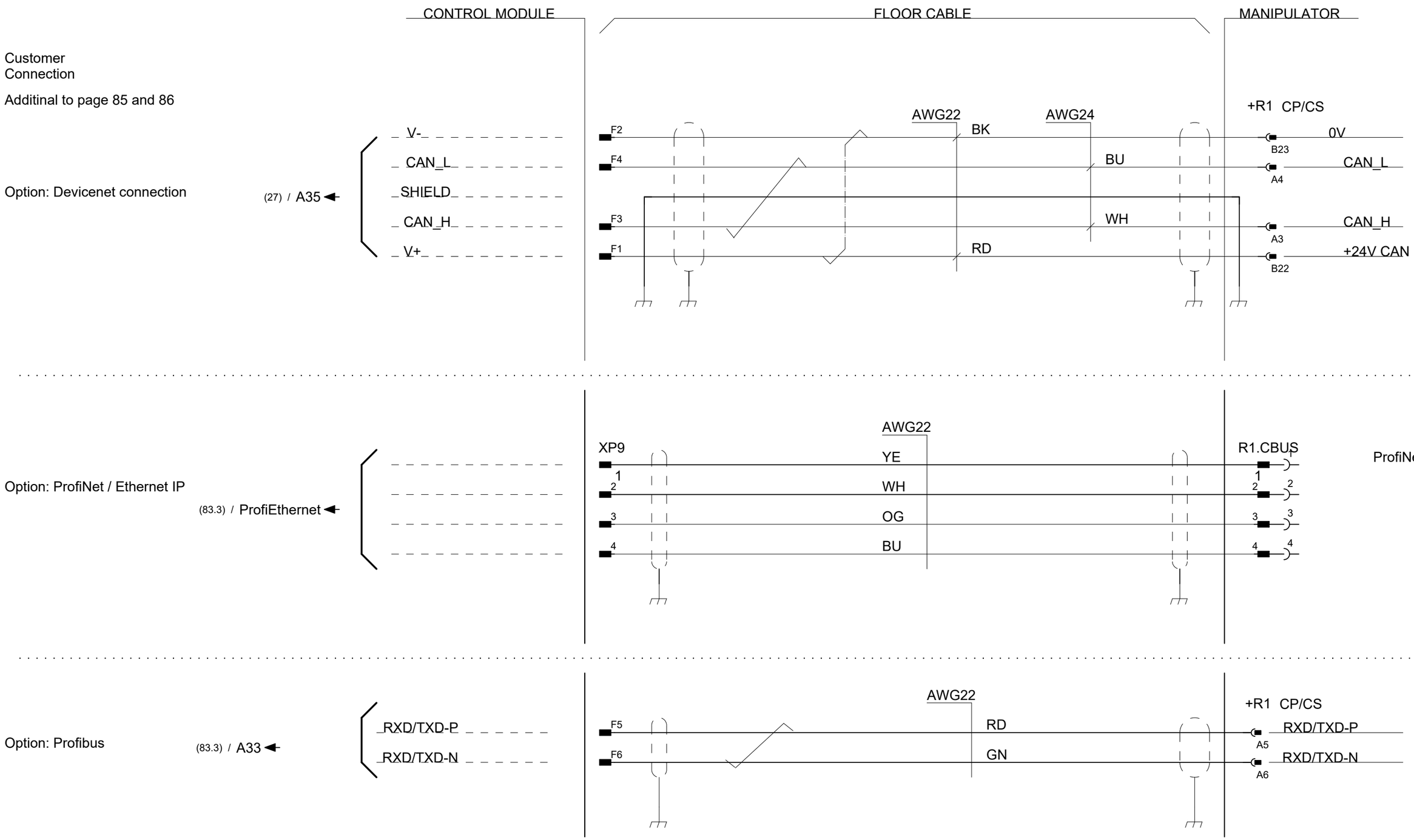

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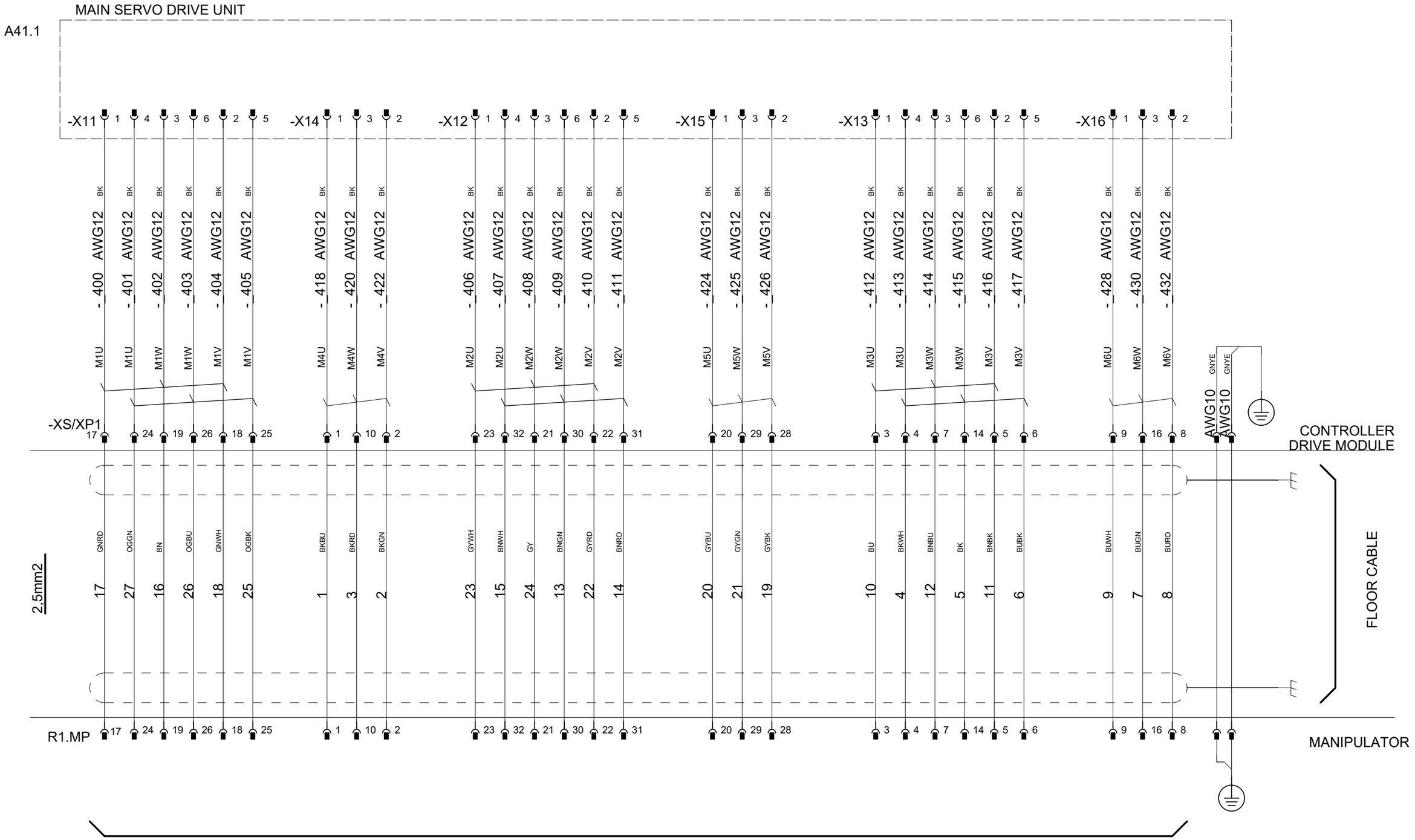
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				Page90 Next 91 Total 125



According to manipulator circuit diagram 3HAC043446-005 r00

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 6700	Status: Approved	Plant: = Location: + Sublocation: +	
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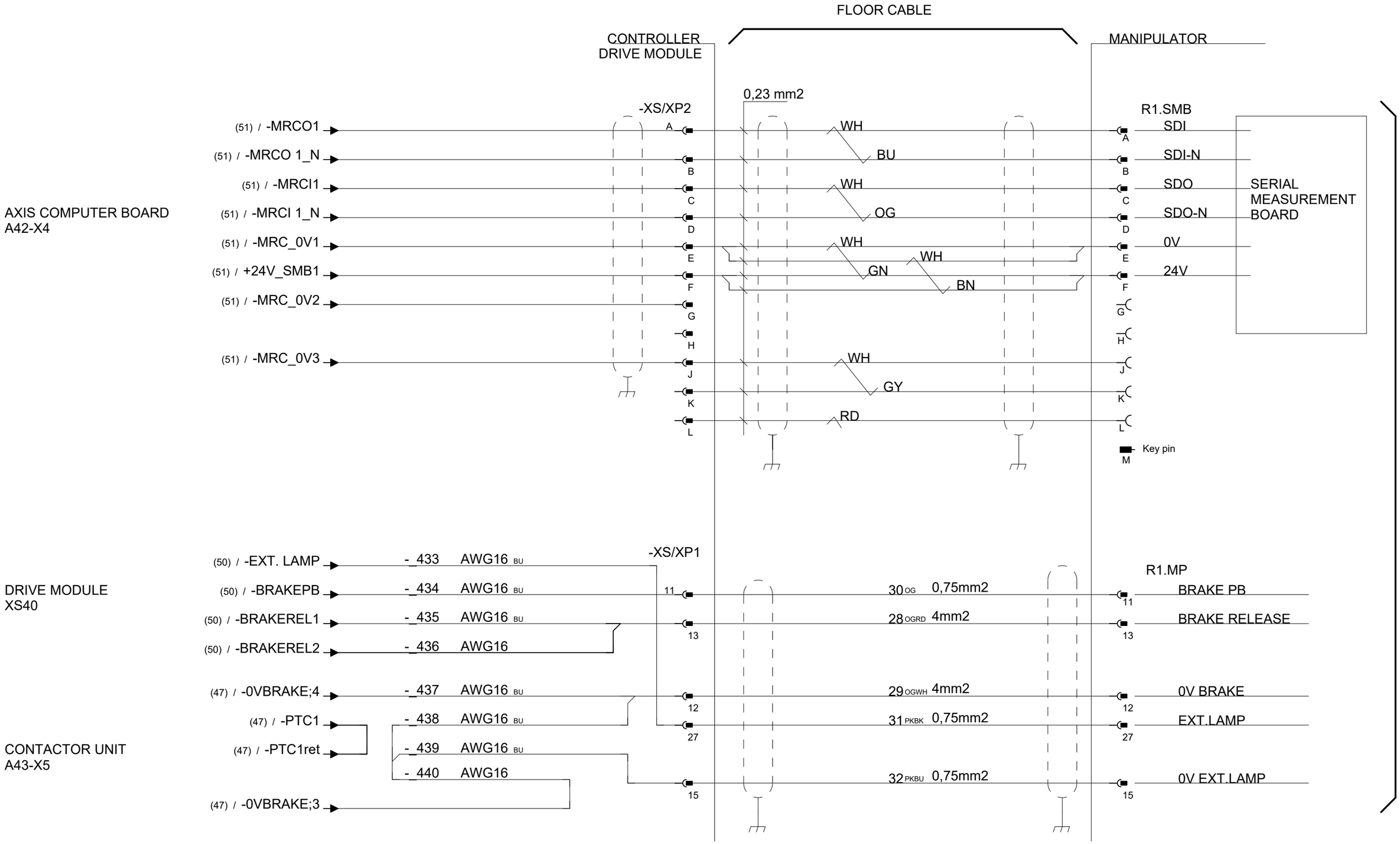
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



According to manipulator circuit diagram 3HAC043446-005 r00

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CONTROL CABLE IRB 6700	Status: Approved	Plant: = Location: + Sublocation: +
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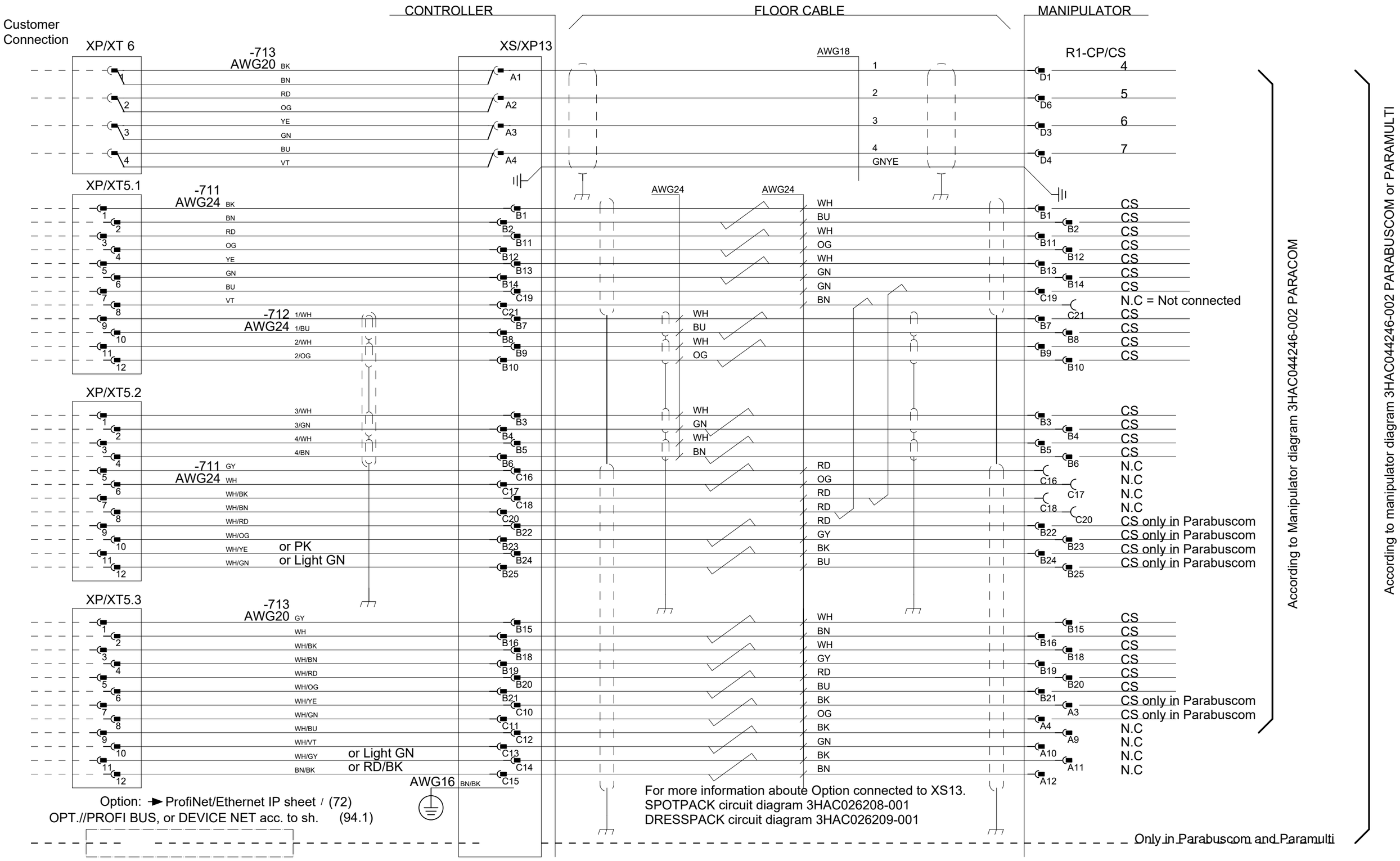

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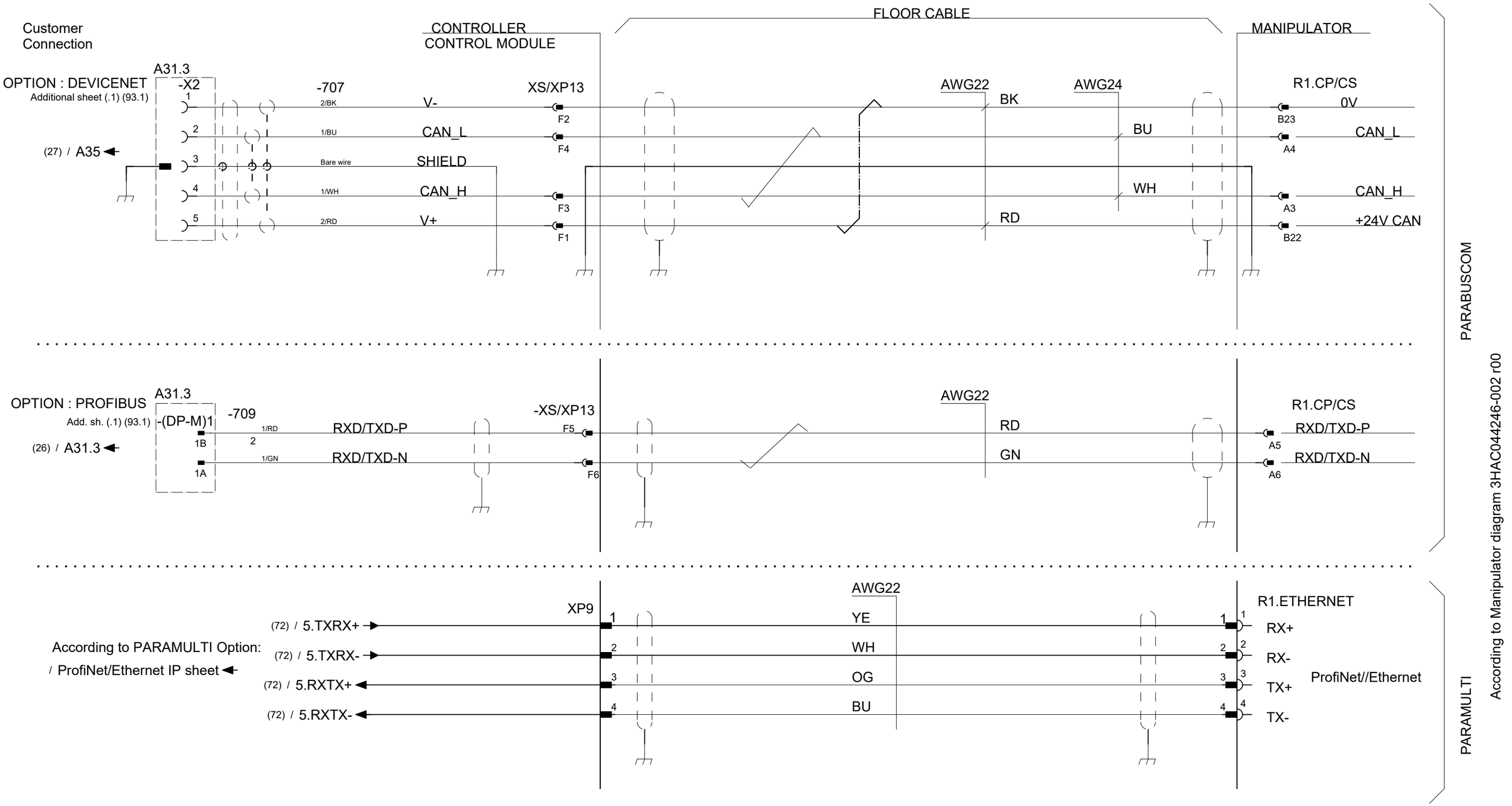
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



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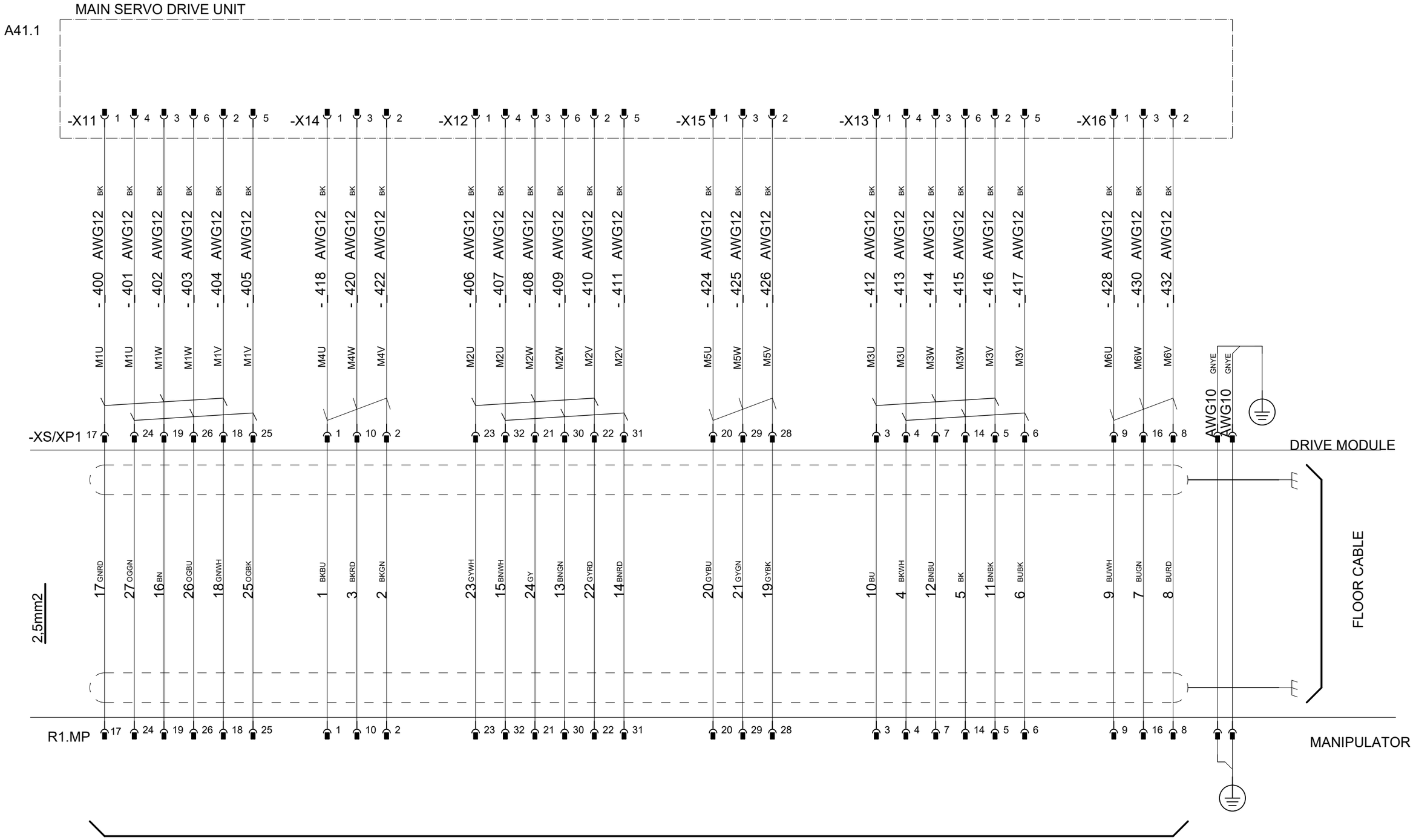

According to Manipulator IRB66XX - 76XX circuit diagram 3HAC025744-001

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D SERVO DRIVE SYSTEM IRB 66xx - 76xx	Status: Approved	Plant: = Location: + Sublocation: +	
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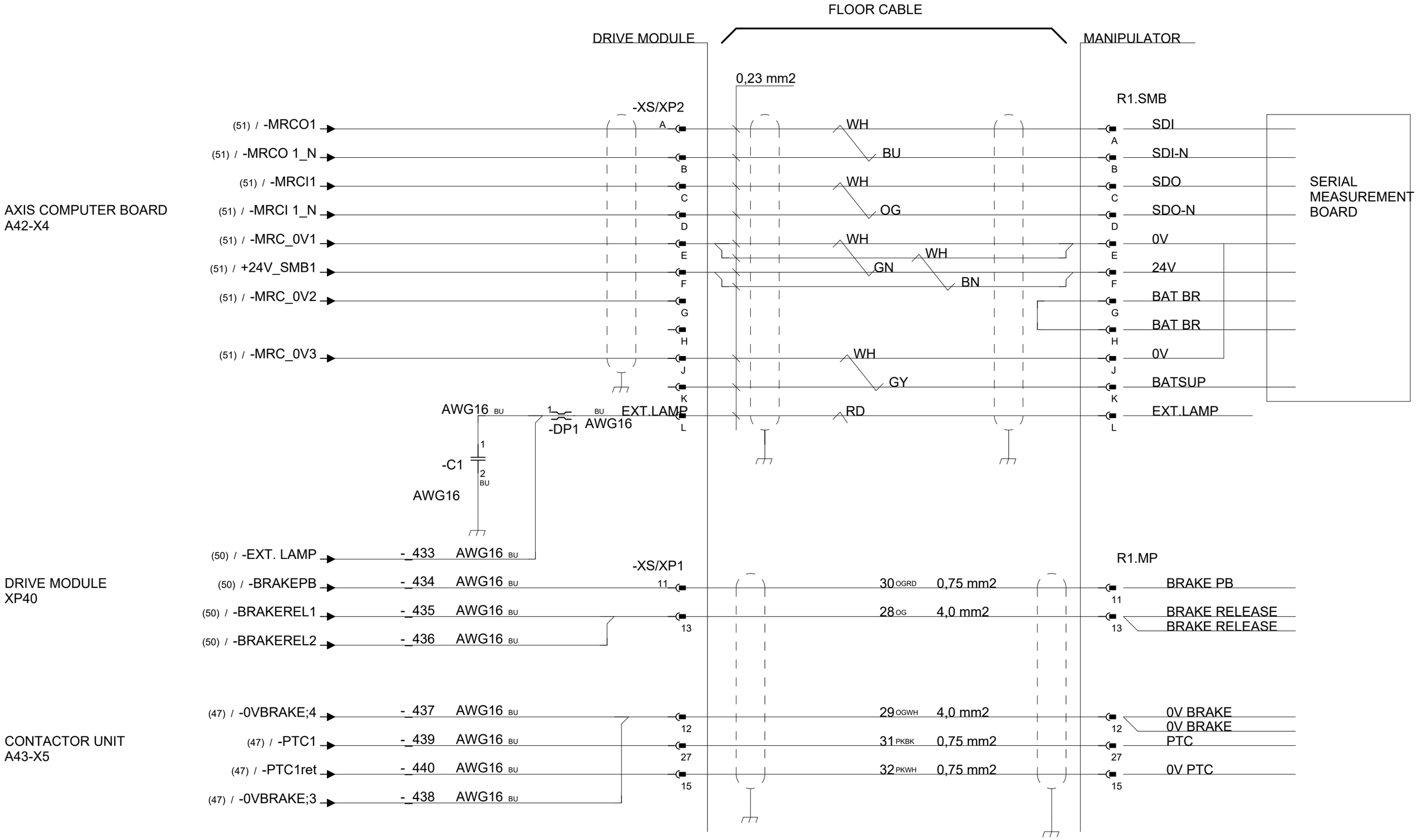

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Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					

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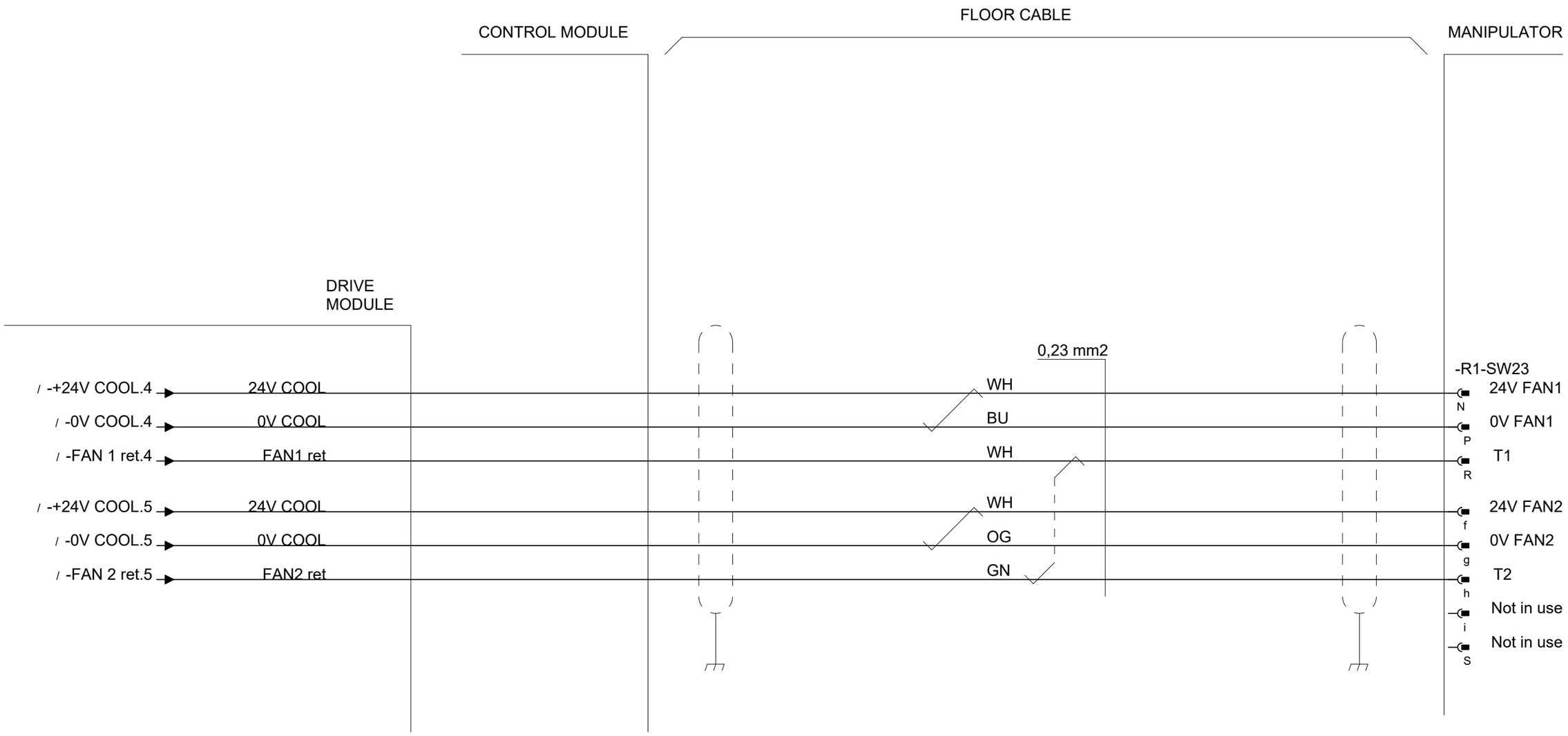
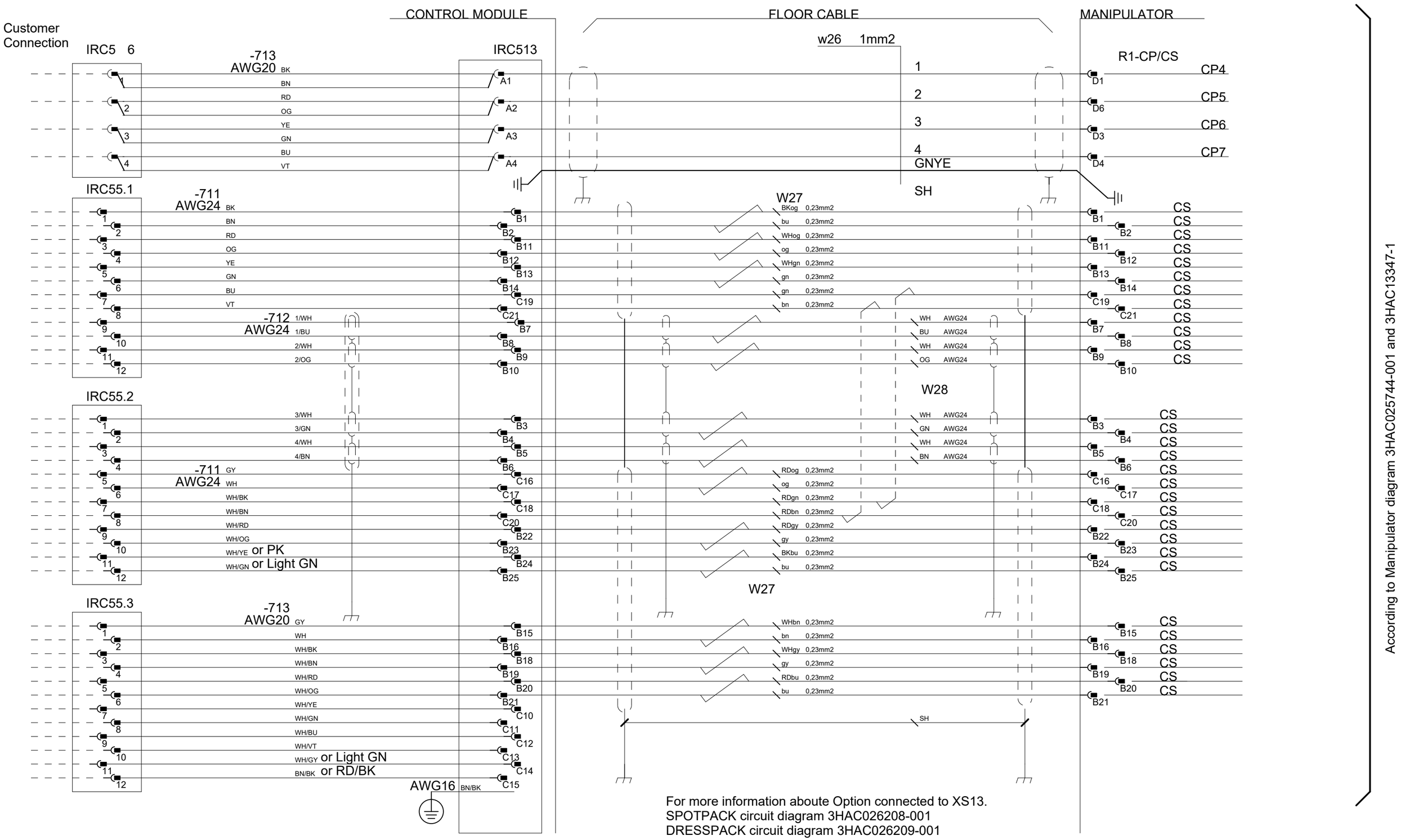


Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D COOLING AXES 1/2 IRB 6600 - 7600	Status: Approved	Plant: = Location: + Sublocation: +
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14



For more information aboute Option connected to XS13.
SPOTPACK circuit diagram 3HAC026208-001
DRESSPACK circuit diagram 3HAC026209-001

Latest revision:		ABB	Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL IRB 6600 - 7600	Status: Approved	Plant: = Location: + Sublocation:+
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Customer Connection

Additinal to page 93, 94 and 95

CONTROL MODULE

FLOOR CABLE

MANIPULATOR

Option: Devicenet connection

(27) / A35 ◄

V-
CAN_L
SHIELD
CAN_H
V+

F2 — AWG22 BK — R1.CP/CS 0V (B23)
F4 — AWG24 BU — CAN_L (A4)
F3 — WH — CAN_H (A3)
F1 — RD — +24V CAN (B22)

Option: Profibus

/ A33 ◄

RXD/TXD-P
RXD/TXD-N

XP13
F5 — AWG22 RD — R1.CP/CS RXD/TXD-P (A5)
F6 — GN — RXD/TXD-N (A6)

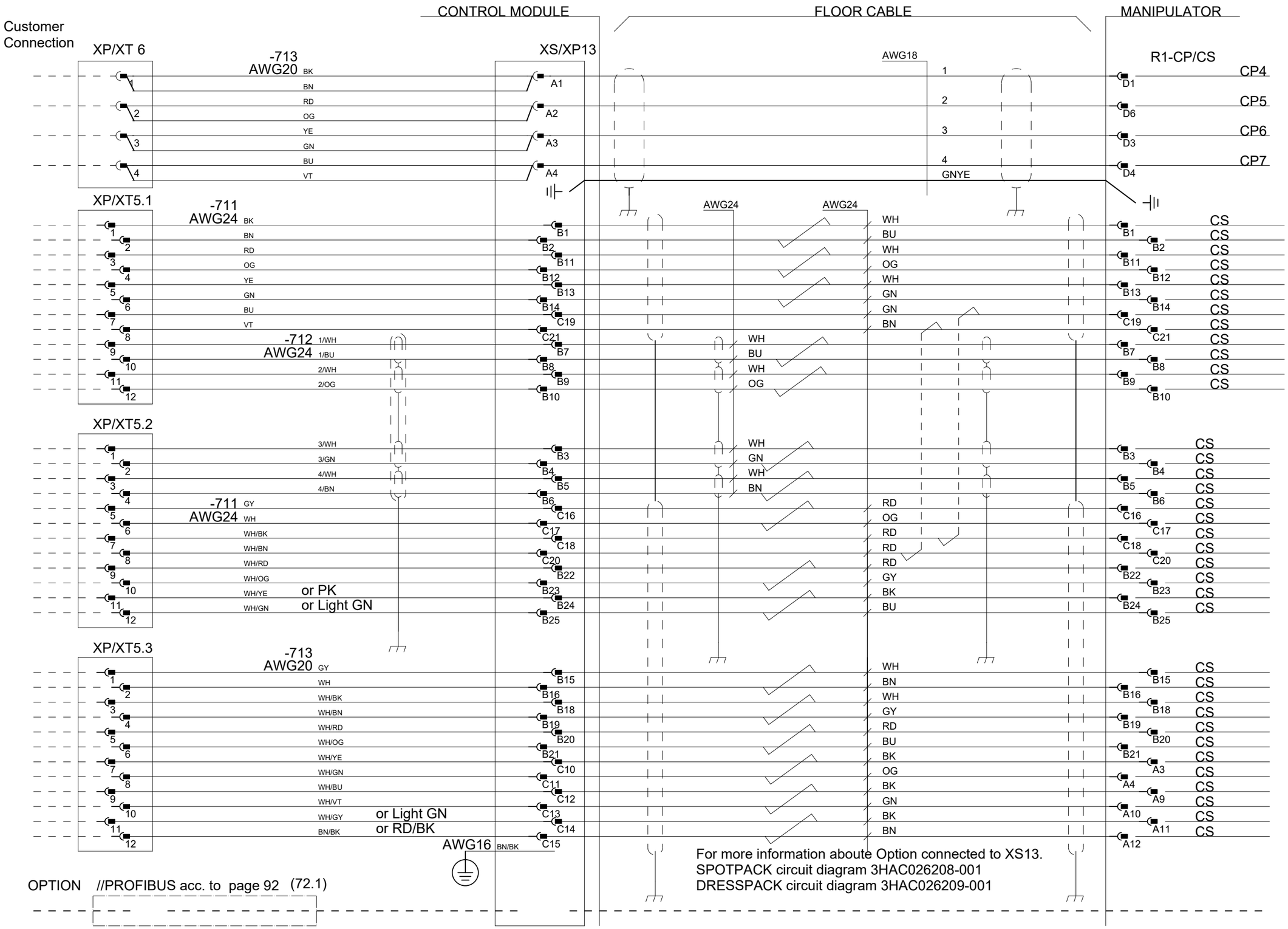
Option: ProfiNet / Ethernet IP
6600, 6620,6640, 6650s, 7600

/ ProfiEthernet ◄

-XP9
1 — AWG22 YE — -R1.CBUS 1
2 — WH — 2 — ProfiNet//Ethernet
3 — OG — 3
4 — BU — 4

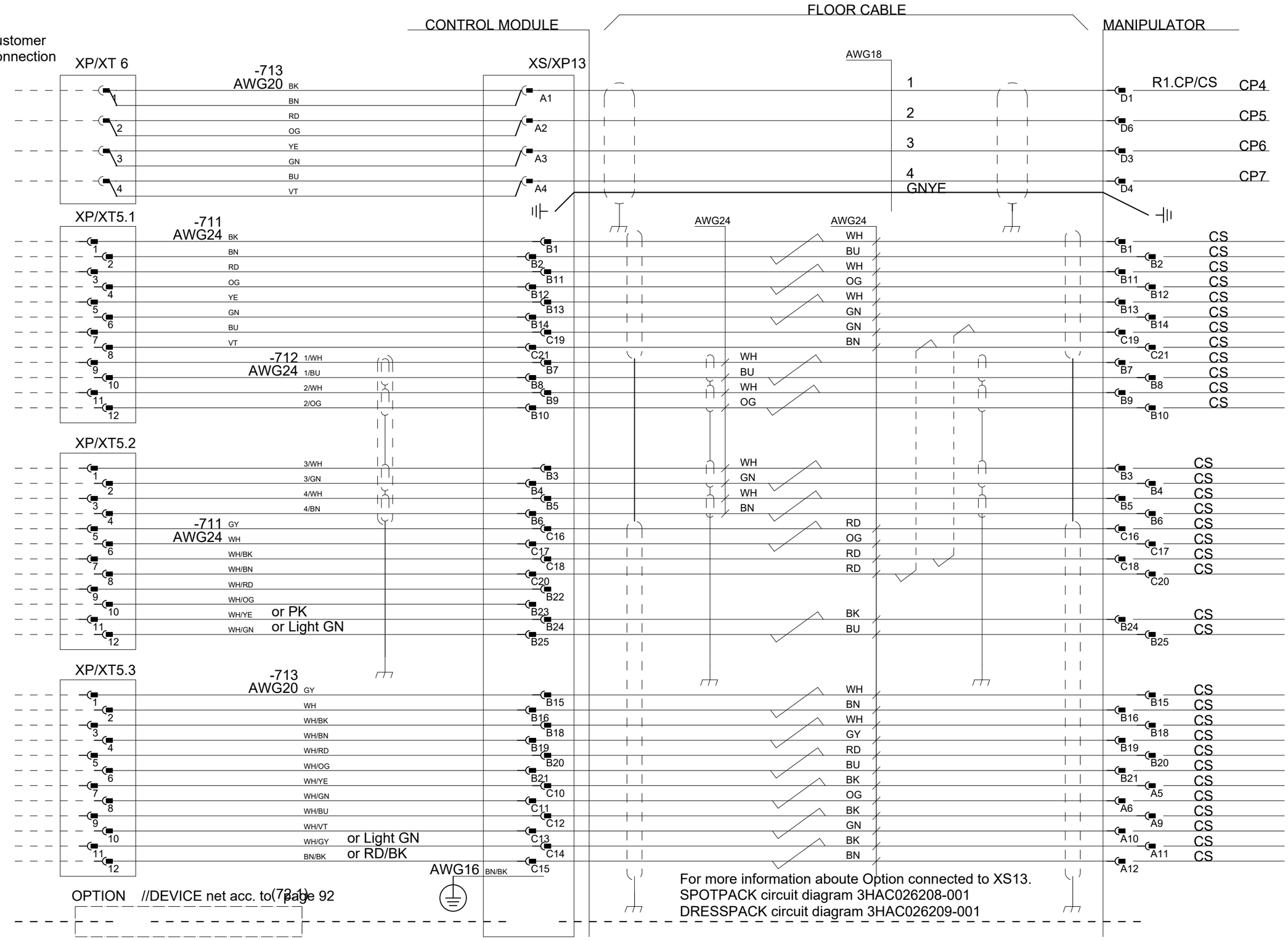
According to Manipulator diagram 3HAC025744-001 and 3HAC13347-1

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D DevNet//IBUS//PBUS ADDITION TO CP/CS IRB 6600 - 7600	Status: Approved	Plant: = Location: + Sublocation: +	
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30			Document no. 3HAC026871-020	Rev. Ind 14	Page99 Next 100 Total 125



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

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL PROFI BUS IRB 6600 - 7600	Status: Approved	Plant: = Location: + Sublocation: +	
				Document no. 3HAC026871-020	Rev. Ind 14	Page 100 Next 101 Total 125
Prepared by, date: A Hägglund	Approved by, date: S Hällgren 2023-10-30					



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

Latest revision:		ABB Lab/Office: RA/RDP	PMC DESIGN 14 Rel: 23D CUSTOMER POWER/SIGNAL DEVICE NET IRB 6600 - 7600	Status: Approved	Plant: = Location: + Sublocation:+
				Document no. 3HAC026871-020	Rev. Ind 14
					Page 101 Next Total 125
Prepared by, date:A Hägglund	Approved by, date:S Hällgren 2023-10-30				