

ABB INDUSTRIAL DRIVES

# Installation of ACH580-34, ACQ580-34, ACS880-14 and ACS880-34 drive modules in Rittal VX25 enclosure

Supplement





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Supplement

Table of contents



2. Cabinet construction



3. Electrical installation





# Table of contents

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## 1 Introduction to the supplement

Contents of this chapter .....	9
Applicability .....	9
Safety instructions .....	9
Target audience .....	9
Related documents .....	10
Terms and abbreviations .....	10

## 2 Cabinet construction

Contents of this chapter .....	13
Limitation of liability .....	13
Technical data .....	13
Cooling .....	14
Thermal protection .....	15
Degree of protection .....	15
Installation example .....	15
Installation instructions .....	16
Layout .....	17
Installation stages .....	18
Overview of kits .....	19
Stage 1: Frame, bottom plate and PE busbar .....	20
Stage 2: $du/dt$ filter .....	21
Stage 3: Common busbars and output terminals .....	22
Stage 4: Main switch-disconnector .....	23
Stage 5: Module installation parts .....	24
Stage 6: Module installation .....	25
Control unit and cooling fans supply .....	26
Stage 7: Shrouds .....	27
Cabinet ventilation .....	28

## 3 Electrical installation

Contents of this chapter .....	29
Limitation of liability .....	29
Electrical safety precautions .....	29
Instructions in other manuals .....	30
Power connections .....	31
Connection diagram .....	31
Preparing the cable ends and making 360-degree grounding at the cable entry .....	32
Connecting the control cables .....	33
Routing the control cables inside the enclosure .....	34
Installing option modules, connecting a PC .....	34

## 4 Installation checklist

Contents of this chapter .....	35
Checklist .....	35

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**5 Ordering information**

Contents of this chapter .....	37
Kit code key .....	37
Cabinet configuration .....	38
Rittal VX25 enclosure .....	40
Du/dt filter .....	41
Selection tables .....	41
ACH580-34 and ACQ580-34 .....	41
ACS880-14 and ACS880-34 .....	41
Ordering codes .....	41
Installation parts .....	41
Output busbars .....	42
Sine filter .....	42
Common busbars .....	43
Mechanical installation accessories and tools .....	43
Main switch-disconnector .....	44
Selection tables .....	44
ACH580-34 and ACQ580-34 .....	44
ACS880-14 and ACS880-34 .....	44
Ordering codes .....	44
OT800 .....	44
OT1000/OT1200 .....	45
Fuses .....	46
Shrouds .....	47
Cabinet ventilation .....	47
IP21/IP42 .....	47
Cooling fan .....	47
IP54 .....	48
Cooling fan .....	48
Control panel .....	49
ACH580-34 and ACQ580-34 .....	49
ACS880-14 and ACS880-34 .....	49

**6 Dimension drawings**

Contents of this chapter .....	51
Enclosure .....	52
IP21/IP42 .....	52
IP54 .....	53
Switchgear .....	54
OT_ switch-disconnectors .....	54
OT800E12P (IEC) .....	54
OT800U12P (UL) .....	55
OT1000E12 (IEC)/OT1200U12 (UL) .....	55
OHB150J12P handle .....	56
Fuses .....	57
Du/dt filters .....	58
FOCH0320-50 and FOCH0610-70 .....	58
Cooling fans .....	59
IP21/IP42 .....	59
IP54 .....	59

## 7 Circuit diagrams

Contents of this chapter .....	61
ACQ580-34 main circuit (1/2) .....	62
ACQ580-34 main circuit (2/2) .....	63
ACQ580-34 module control connection .....	64
ACQ580-34 24 V auxiliary voltage distribution .....	65
ACQ580-34 cabinet cooling and fan control .....	66
ACQ580-34 control unit (1/3) .....	67
ACQ580-34 control unit (2/3) .....	68
ACQ580-34 control unit (3/3) .....	69
ACS880-34 main circuit (1/2) .....	70
ACS880-34 main circuit 2/2 .....	71
ACS880-34 module control connection .....	72
ACS880-34 24 V auxiliary voltage distribution .....	73
ACS880-34 cabinet cooling and fan control .....	74
ACS880-34 control unit (1/3) .....	75
ACS880-34 control unit (2/3) .....	76
ACS880-34 control unit (3/3) .....	77

*Further information*





# 1

## Introduction to the supplement

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### Contents of this chapter

This chapter gives the basic information about the manual supplement.

### Applicability

This supplement applies to Rittal VX25 enclosure installations of the following drive modules:

- ACH580-34
- ACQ580-34
- ACS880-14
- ACS880-34.

### Safety instructions

Obey the safety instructions given in the drive hardware manual and other safety instructions delivered with the drive.

### Target audience

This manual is intended for people who plan the installation, install, commission and do maintenance work on the drive, or create instructions for the end user of the drive concerning the installation and maintenance of the drive.

Read the manual before working on the drive. You are expected to know the fundamentals of electricity, wiring, electrical components and electrical schematic symbols.

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## Related documents

Name	Code
<b>Drive hardware manuals</b>	
<i>ACH580-34 drive modules hardware manual</i>	<a href="#">3AXD50000419708</a>
<i>ACQ580-34 drive modules hardware manual</i>	<a href="#">3AXD50000420025</a>
<i>ACS880-14 drive modules (132 to 400 kW) hardware manual</i>	<a href="#">3AXD50000035160</a>
<i>ACS880-34 drive modules (132 to 400 kW) hardware manual</i>	<a href="#">3AXD50000035191</a>
<b>Cabinet installation manual</b>	
<i>Drive modules cabinet design and construction instructions</i>	<a href="#">3AJA0000107668</a>
<b>Quick guides</b>	
<i>ACH580-34 drive modules quick installation guide</i>	<a href="#">3AXD50000424627</a>
<i>ACQ580-34 drive modules quick installation guide</i>	<a href="#">3AXD50000424634</a>
<i>ACS880-14 drive modules (132 to 400 kW, 200 to 450 hp) quick installation guide</i>	<a href="#">3AXD50000212446</a>
<i>ACS880-34 drive modules (132 to 400 kW, 200 to 450 hp) quick installation guide</i>	<a href="#">3AXD50000212453</a>

ACH580-34 manuals

[link list](#)



ACQ580-34 manuals

[link list](#)



ACS880-14 manuals

[link list](#)



ACS880-34 manuals

[link list](#)



[Installation animation](#)



See [www.abb.com/drives/documents](http://www.abb.com/drives/documents) for all manuals on the Internet.

## Terms and abbreviations

Term	Description
Cabinet	An enclosure that consists of one or more cubicles
Cubicle	One section of a cabinet-installed drive. A cubicle is typically behind a door of its own.

<b>Term</b>	<b>Description</b>
Drive module	Frequency converter enclosed in a metal frame or enclosure. Intended for cabinet installation.
VX25	Enclosure system by Rittal ( <a href="http://www.rittal.com">http://www.rittal.com</a> )

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# 2

## Cabinet construction

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### Contents of this chapter

This chapter gives instructions on how to install the modules and additional equipment into a cabinet.

For general instructions, see *Drive modules cabinet design and construction instructions* ([3AUA0000107668](#) [English]).

### Limitation of liability

The installation must always be designed and made according to applicable local laws and regulations. ABB does not assume any liability whatsoever for any installation which breaches the local laws and/or other regulations. Furthermore, if the recommendations given by ABB are not followed, the drive may experience problems that the warranty does not cover.

### Technical data

See the applicable hardware manual for module-specific technical data.

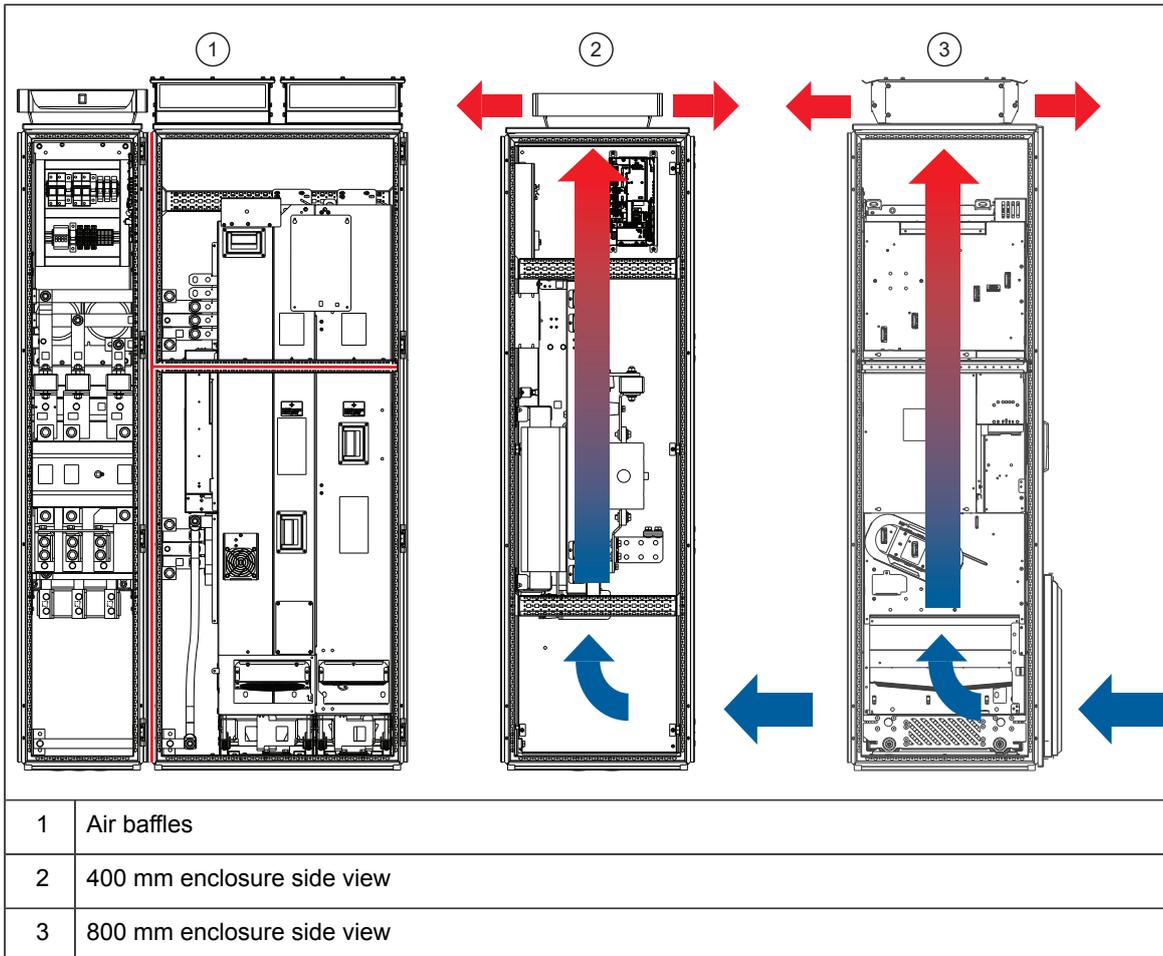
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## Cooling

The drive modules and the related equipment in this manual supplement meet the cooling requirements of Rittal VX25 enclosure and ABB Drives if you obey manufacturer's installation instructions. If you install additional heat-generating equipment in the enclosure, make sure that you upgrade the cooling system accordingly. See the applicable hardware manual for the module-specific cooling data.

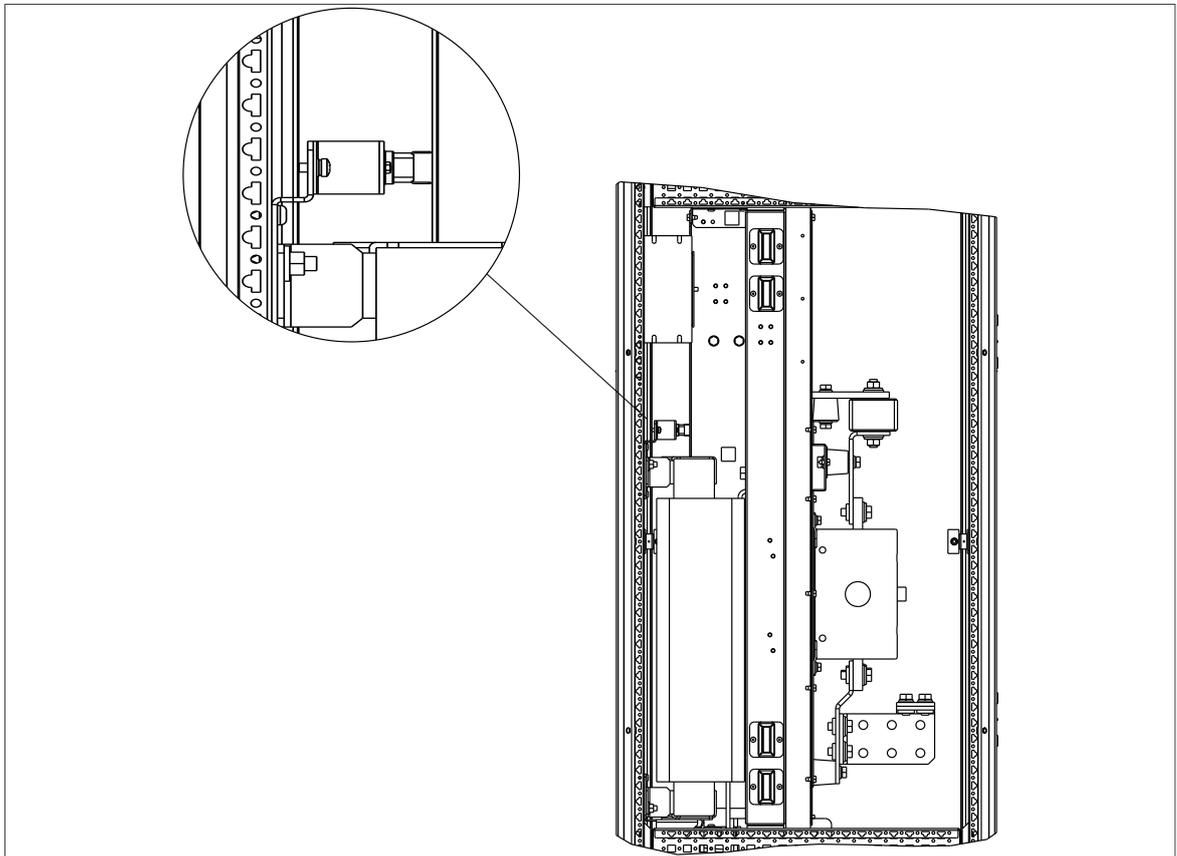
The drawing below shows the air baffles and the air flow inside the cabinet.



## Thermal protection

If you install a  $du/dt$  filter in the cabinet, make sure to also install a thermal sensor to protect the cabinet against overheating in case of a cooling fan failure. The thermal sensor is included in the  $du/dt$  filter installation parts.

Thermal sensor location (400 mm enclosure, side view):



## Degree of protection

Select the cabinet ventilation components according to the necessary degree of protection. See [Cabinet ventilation \(page 47\)](#). The available degrees of protection are IP21, IP42 and IP54.

## Installation example

This section gives an example of how to install the drive and additional equipment into a Rittal VX25 enclosure.

The example includes a table that lists:

- installation stages of different equipment in the order in which the installation into the enclosure should be done
- instruction codes of the step-by-step instructions
- equipment kit codes
- ordering codes.

The example includes also cabinet assembly drawings that show each stage listed in the table. More detailed steps of each stage are described in the kit-specific assembly drawings.

## ■ Installation instructions

For general instructions, see *Drive modules cabinet design and construction instructions* ([3AUJA0000107668](#) [English]).

The tightening torques are listed in the kit-specific assembly drawings. See the hardware manual for the tightening torques of the drive module input and output terminals.

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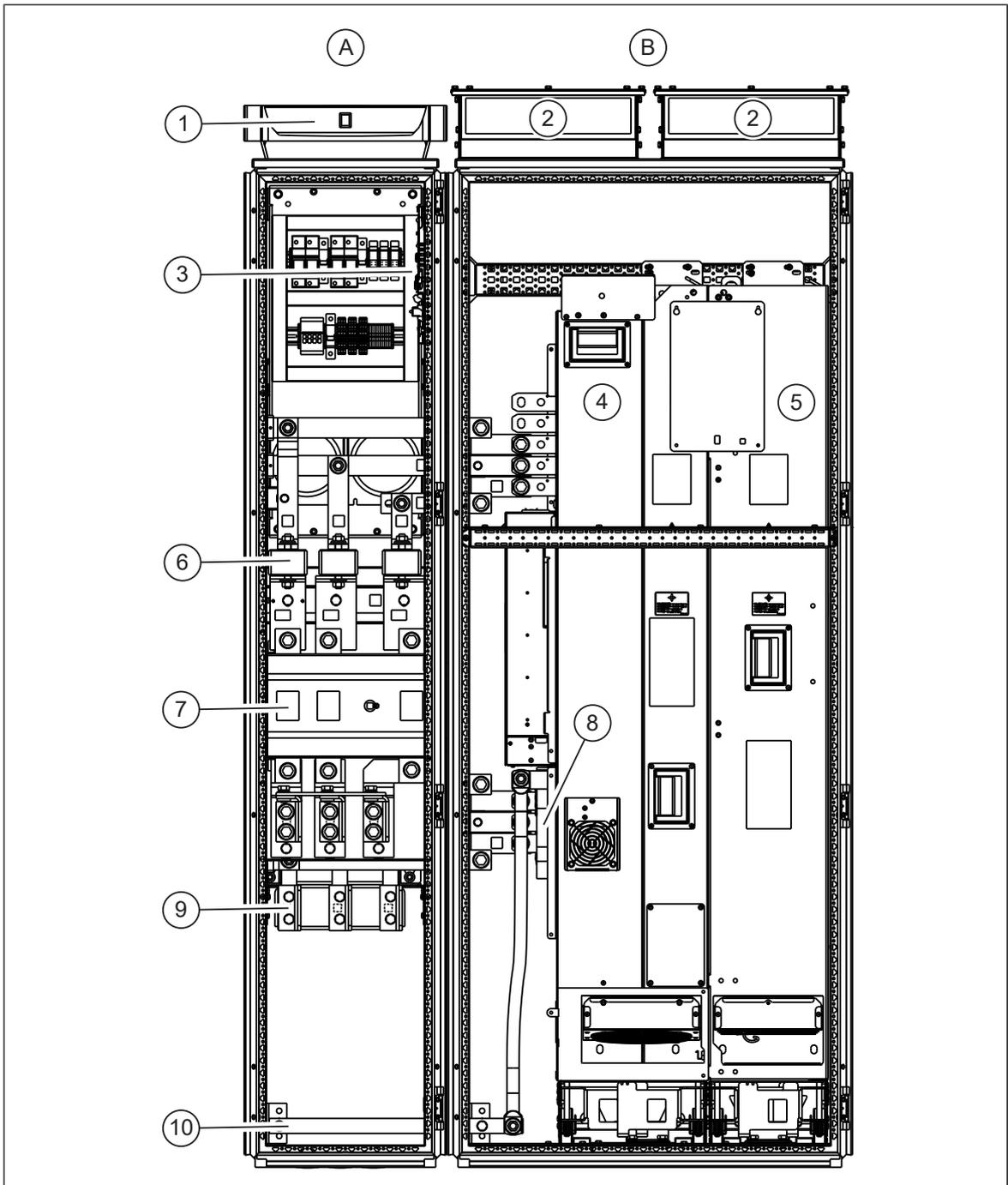
### **WARNING!**

Remove the code labels attached to mechanical parts such as busbars, shrouds and sheet metal parts before installation. They may cause bad electrical connections, or, after peeling off and collecting dust in time, cause arcing or block the cooling air flow.

---



■ Layout



A	Rittal VX25 enclosure 400 mm	5	LCL filter module
B	Rittal VX25 enclosure 800 mm	6	Fuses
1	Rittal roof vent	7	Main switch-disconnector
2	Air outlets	8	Common mode filter
3	Control unit (at the side)	9	Du/dt filter (optional)
4	Drive module	10	PE busbar

## ■ Installation stages

#	Installation stage	Instruction code	Kit code	Ordering code
1	Frame	3AXD50000851843	-	See <i>Rittal VX25 enclosure (page 40)</i> .
	Bottom plate		-	
	PE busbar		-	
2	Du/dt filter	-	-	See <i>Ordering codes (page 41)</i> .
	Du/dt filter installation parts	3AXD50000850136	KIT A-4-11-VX311	3AXD50000819010
3	Common busbars	3AXD50000850587	KIT A-4-11-VX211	3AXD50000818884
	Output busbars (if you do not install du/dt filter)	3AXD50000850365	KIT A-4-11-VX312	3AXD50000819027
4	Main switch-disconnector	-	-	See <i>Ordering codes (page 44)</i> .
	OT800 busbars	3AXD50000850600	KIT A-4-11-VX213	3AXD50000818907
	OT1000/OT1200 busbars	3AXD50000850594	KIT A-4-11-VX212	3AXD50000818891
5	Module installation parts	3AXD50000851782	KIT A-8-11-VX111	3AXD50000818877
6	Drive module	-	-	-
7	Shrouds	3AXD50000851805	KIT A-48-11-VX411	3AXD50000819041
8	Air inlet IP21 / IP42	3AUA0000116875	KIT A-8-X-026	3AUA0000117009
	Air outlet IP21 / IP42	3AUA0000115290	KIT A-4-X-060	3AUA0000114967
	Air inlet IP54	3AXD50000010001	KIT A-8-X-029	3AXD50000009186
	Air outlet IP54	3AXD50000010284	KIT A-4-X-064	3AXD50000009187

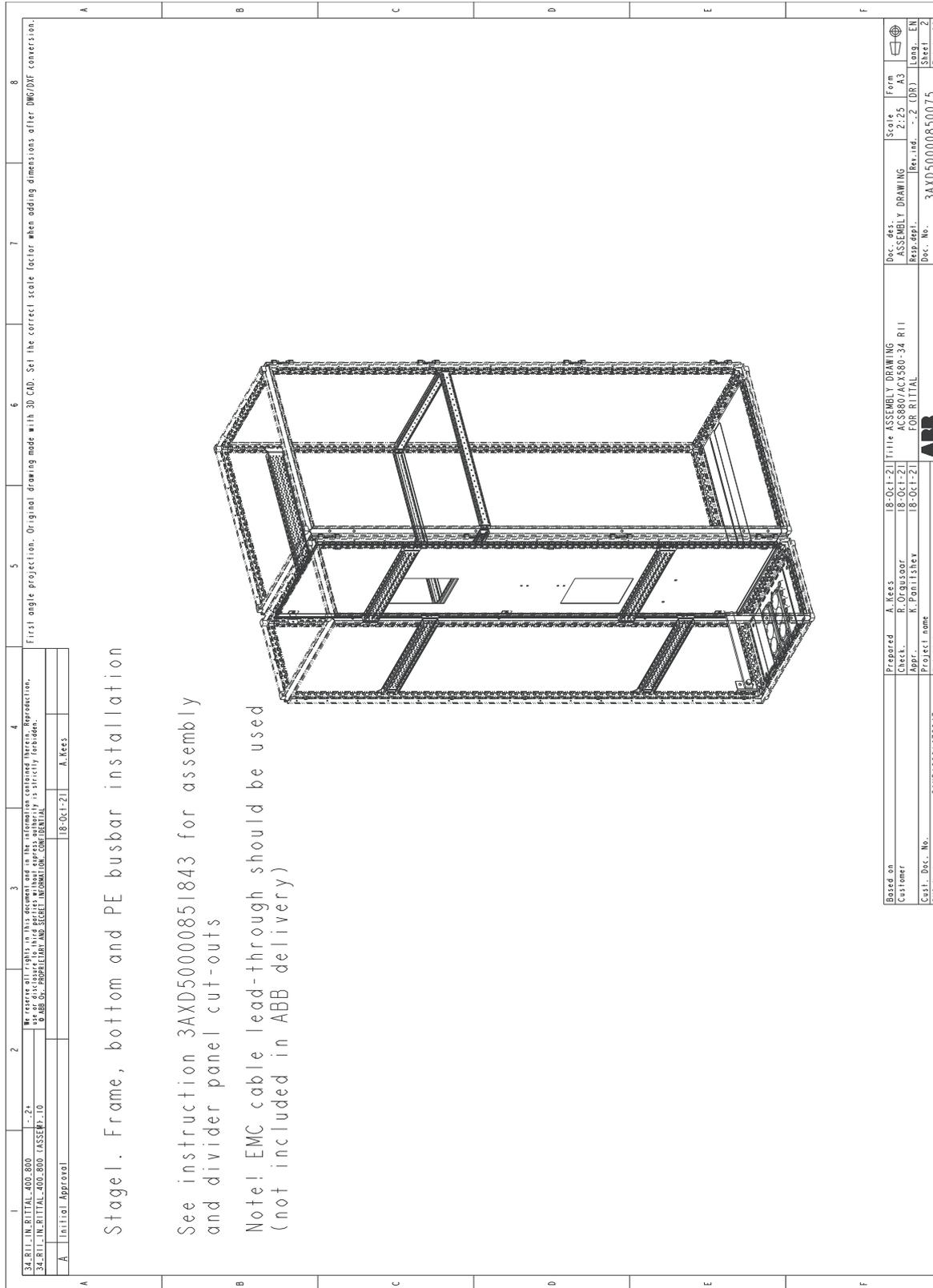


Overview of kits

1	2	3	4	5	6	7	8
<p>34-R11L IN RITTAL_400-800...-24                  34-R11L IN RITTAL_400-800_ (ASSEMBLY)_10</p> <p style="font-size: small;">We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure, in any form or by any means, without express authority is strictly forbidden.                  Alle Rechte vorbehalten. Nachdruck, Vervielfältigung und Verbreitung, auch auszugsweise, ist ohne schriftliche Genehmigung der RITTAL AG.</p> <p style="font-size: small;">Prepared by: A. Kees                  Checked by: R. Orquizaor                  Approved by: K. Pohl 13/10/17                  Project name: 34XD10001413647                  DWG Number: 34XD10001413647</p>							
<p><b>A</b> Initial Approval</p> <p style="text-align: right;">18-Oct-21 A. Kees</p>							
<p><b>KITS FOR ACS880-14/34, ACH580-34, ACQ580-34 R11 MODULES IN RITTAL VX25 AND TS8 400+800x600x2000 CABINET</b></p>							
<p><b>14/34 COMMON BUSBARS W400</b>                  KIT A-4-11-VX211                  Ordering code: 3AXD50000818884</p>							
<p><b>14/34 MODULE INST. PARTS W800</b>                  KIT A-8-11-VX111                  Ordering code: 3AXD50000818877</p>							
<p><b>OTT1000/OTT1200/OTT800UL BUSBARS</b>                  KIT A-4-11-VX212                  Ordering code: 3AXD50000818891</p>							
<p><b>OT800E BUSBARS</b>                  KIT A-4-11-VX213                  Ordering code: 3AXD50000818907</p>							
<p><b>OUTPUT BUSBARS (WITHOUT DUDT)</b>                  KIT A-4-11-VX312                  Ordering code: 3AXD50000819027</p>							
<p><b>DUDT FILTER INST. PARTS</b>                  KIT A-4-11-VX311                  Ordering code: 3AXD50000819010</p>							
<p><b>SHROUDS W400+800</b>                  KIT A-48-11-VX411                  Ordering code: 3AXD50000819041</p>							
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Stage 1: Frame, bottom plate and PE busbar



First angle projection. Original drawing made with 3D CAD. Set the correct scale factor when adding dimensions after DWG/DXF conversion.

34-RIT-IN-RITTAL_400-800	..2*	3	4	7	8
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34-RIT-IN-RITTAL_400-800_CASSETTE_10					
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A Initial Approval			A.Kees		
			18-Oct-21		

Stagel. Frame, bottom and PE busbar installation

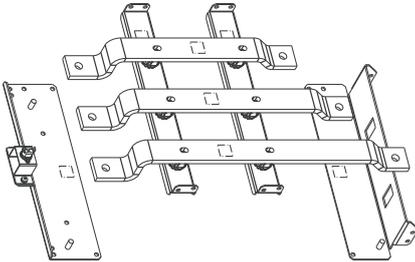
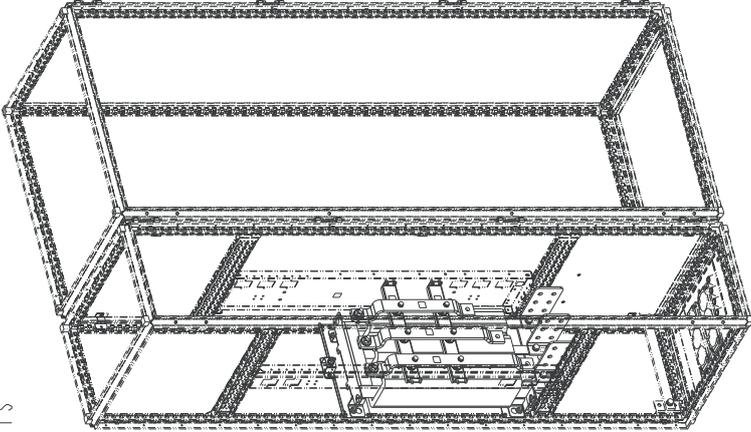
See instruction 3AXD50000851843 for assembly and divider panel cut-outs

Note! EMC cable lead-through should be used (not included in ABB delivery)

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	Weight kg					Total 11



Stage 2: Du/dt filter

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<p>First angle projection. Original drawing made with 3D CAD. Set the correct scale factor when adding dimensions after DWG/DXF conversion.</p>																															
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B							F																								
C							F																								
D	<p>DUDT FILTER INST. PARTS                  KIT A-4-11-VX311                  Ordering code: 3AXD50000819010</p>						F																								
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Stage 3: Common busbars and output terminals

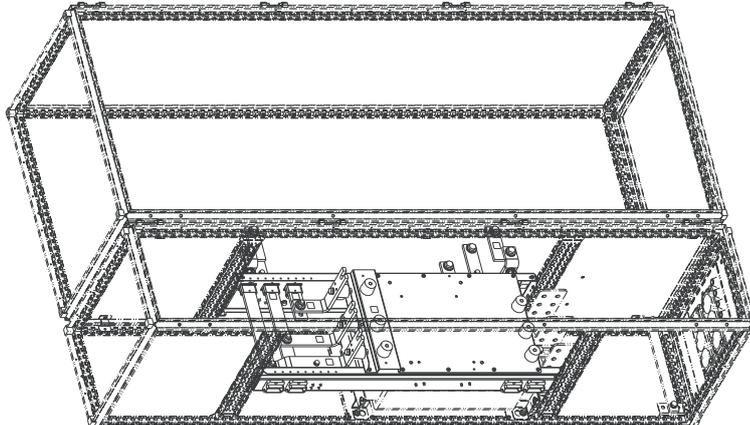
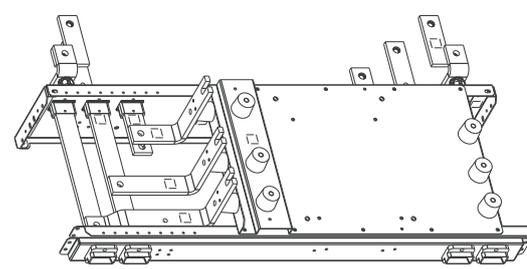
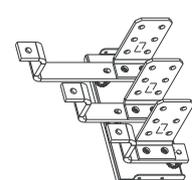
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34-RIT-EN-RITTAL\_400-800 (ASSEMBL-10)

Initial Approval

18-Oct-21 A.Kees

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Scale 2:25

Form A3

Responsible Resp.depl. Rev.ind. -2 (DR)

Long. EN

Sheet 4

Doc. No. 3AXD50000850075

Total 11

Stage3. Common busbars and output terminals installation

14734 COMMON BUSBARS W400

KIT A-4-11-VX211

Ordering code: 3AXD50000818884

Instruction code: 3AXD50000850587

OUTPUT BUSBARS (IF NO DUDT)

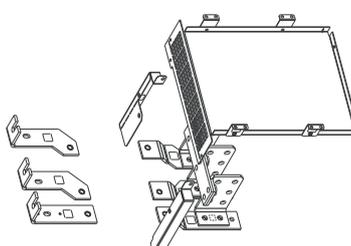
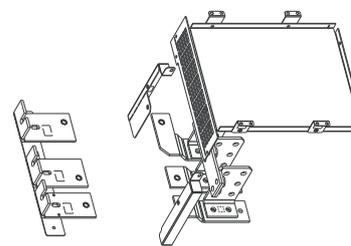
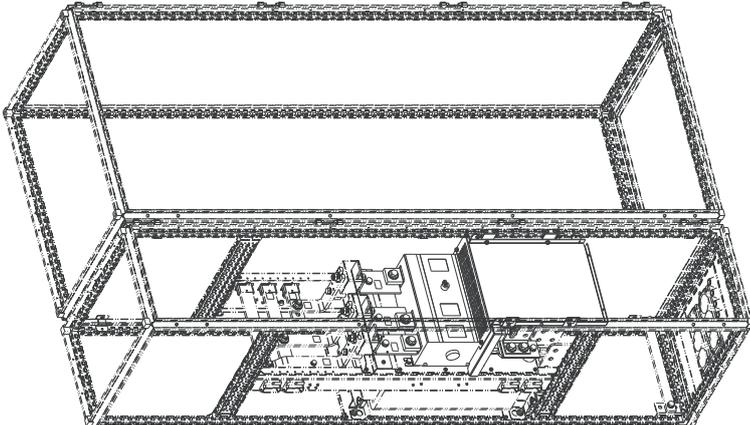
KIT A-4-11-VX312

Ordering code: 3AXD50000819027

Instruction code: 3AXD50000850365

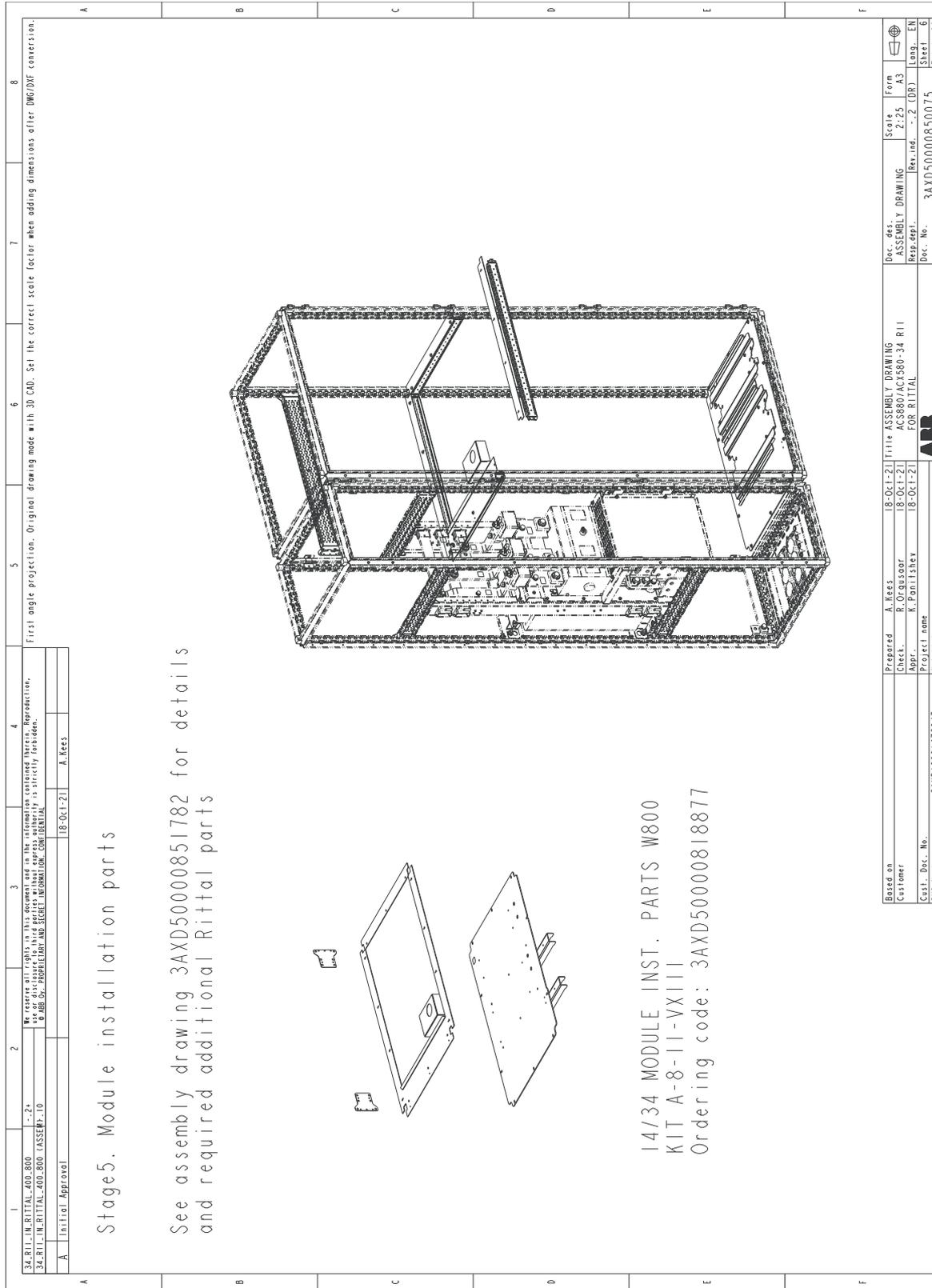
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DMS Number	Project name					Weight	kg	Total	11	

Stage 4: Main switch-disconnector

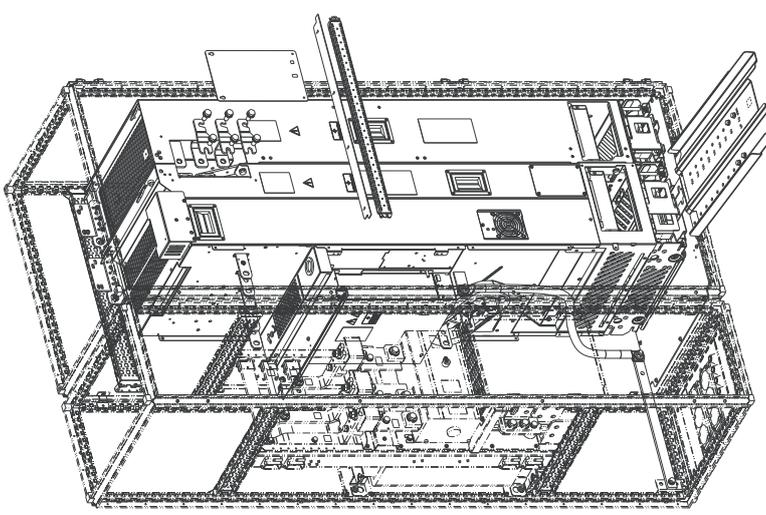
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<p>34-R11-IN-RITTAL_400-800...-24                  34-R11-IN-RITTAL_400-800 (ASSEMBLY)...10</p> <p style="font-size: small;">We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure in third parties without express authority is strictly forbidden.                  Alle rechten voorbehouden. Het verspreiden, kopiëren of openbaar maken van de inhoud van dit document is strafbaar.</p>																																											
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<p>Stage 4. Main switch installation</p>																																											
<p>OT800E BUSBARS                  KIT A-4-11-VX213                  Ordering code: 3AXD50000818907                  Instruction code: 3AXD50000850600</p>																																											
																																											
<p>OT1000E/800UL BUSBARS                  KIT A-4-11-VX212                  Ordering code: 3AXD50000818891                  Instruction code: 3AXD50000850594</p>																																											
																																											
																																											
<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <td>Based on</td> <td>A. Kees</td> <td>18-Oct-21</td> <td>Title</td> <td>ASSEMBLY DRAWING</td> <td>Scale</td> <td>2:25</td> <td>Form</td> <td>AS3</td> </tr> <tr> <td>Customer</td> <td>R. Orquizaor</td> <td>18-Oct-21</td> <td>AC5880/AC580-34 R11</td> <td>FOR RITTAL</td> <td>Doc. No.</td> <td>3AXD50000850075</td> <td>Long.</td> <td>EN</td> </tr> <tr> <td>Proj. name</td> <td>R. Pohlshiev</td> <td>18-Oct-21</td> <td></td> <td></td> <td>Res. ind.</td> <td>- 2 (DR)</td> <td>Sheet</td> <td>2</td> </tr> <tr> <td>DWG Number</td> <td>3AXD10001413647</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Total</td> <td>11</td> </tr> </table>								Based on	A. Kees	18-Oct-21	Title	ASSEMBLY DRAWING	Scale	2:25	Form	AS3	Customer	R. Orquizaor	18-Oct-21	AC5880/AC580-34 R11	FOR RITTAL	Doc. No.	3AXD50000850075	Long.	EN	Proj. name	R. Pohlshiev	18-Oct-21			Res. ind.	- 2 (DR)	Sheet	2	DWG Number	3AXD10001413647						Total	11
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Proj. name	R. Pohlshiev	18-Oct-21			Res. ind.	- 2 (DR)	Sheet	2																																			
DWG Number	3AXD10001413647						Total	11																																			



Stage 5: Module installation parts



## Stage 6: Module installation

1	2	3	4	5	6	7	8																																												
<p>34-R11-IN-RITTAL_400-800 - 1 - 24                  34-R11-IN-RITTAL_400-800 - ASSEMBLY - 10</p>																																																			
<p>We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure in any form without express authority is strictly forbidden.                  A. Kees, RITTAL, RITTAL, RITTAL, RITTAL, RITTAL</p>																																																			
A Initial Approval		18-Oct-21		A. Kees																																															
<p>Stage6. Module installation</p> <p>See module hardware manual for details.</p>																																																			
																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Based on</td> <td>A. Kees</td> <td>18-Oct-21</td> <td>Title</td> <td>ASSEMBLY DRAWING</td> <td>Doc. des.</td> <td>ASSEMBLY DRAWING</td> <td>Scale</td> <td>2:25</td> <td>Form</td> <td>A3</td> </tr> <tr> <td>Customer</td> <td>R. Orquizaor</td> <td>18-Oct-21</td> <td>ACS880/ACS580-34 R11</td> <td>FOR RITTAL</td> <td>Resp. appl.</td> <td></td> <td>Rev. ind.</td> <td>- 2 (DR)</td> <td>Lang.</td> <td>EN</td> </tr> <tr> <td>Proj. No.</td> <td>34XD10001473647</td> <td>18-Oct-21</td> <td></td> <td></td> <td>Doc. No.</td> <td>34XD50000850075</td> <td></td> <td></td> <td>Sheet</td> <td>11</td> </tr> <tr> <td>DWG Number</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Total</td> <td>11</td> </tr> </table>								Based on	A. Kees	18-Oct-21	Title	ASSEMBLY DRAWING	Doc. des.	ASSEMBLY DRAWING	Scale	2:25	Form	A3	Customer	R. Orquizaor	18-Oct-21	ACS880/ACS580-34 R11	FOR RITTAL	Resp. appl.		Rev. ind.	- 2 (DR)	Lang.	EN	Proj. No.	34XD10001473647	18-Oct-21			Doc. No.	34XD50000850075			Sheet	11	DWG Number									Total	11
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Proj. No.	34XD10001473647	18-Oct-21			Doc. No.	34XD50000850075			Sheet	11																																									
DWG Number									Total	11																																									



# Control unit and cooling fans supply

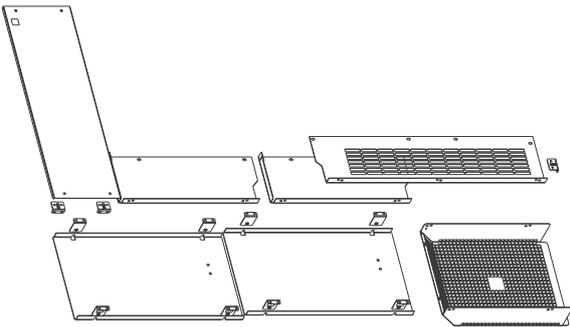
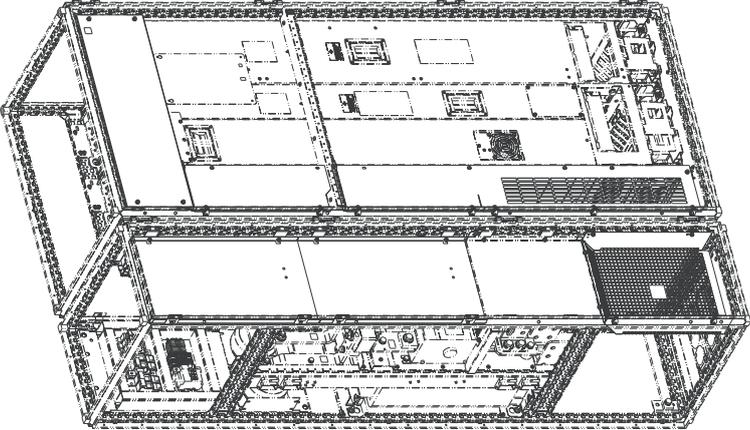


1	2	3	4	5	6	7	8
<p>34-R11-IN-RITTAL_400-800 --2*</p> <p>34-R11-IN-RITTAL_400-800 (ASSEMBLY)</p> <p>We reserve all rights in this document and all the information contained therein. Reproduction, storage in retrieval systems, or distribution in any form is prohibited without the prior written permission of ABB AB. ABB AB, PROPRIETARY AND SECRET INFORMATION. CONFIDENTIAL</p> <p>18-Oct-21 A.Kees</p> <p>A Initial Approval</p>							
<p>Module control unit and cooling fans supply</p>							
A							F
B	<p>Control unit</p> <p>Alternative place for control unit</p> <p>Rittal 8617.560 or 8617.510</p> <p>Rittal 4597.000 2pcs</p>						F
C							F
D							F
E							F
F							F

Based on	Prepared	18-Oct-21	Title	ASSEMBLY DRAWING	Scale	Form
Customer	Check.	18-Oct-21	ACS880/ACX580-34 R11	ASSEMBLY DRAWING	2:25	A3
Proj. name	Appr.	18-Oct-21	FOR RITTAL	Resp. des.	-2 (DR)	Long. EN
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DWG Number	Weight kg					Total 11

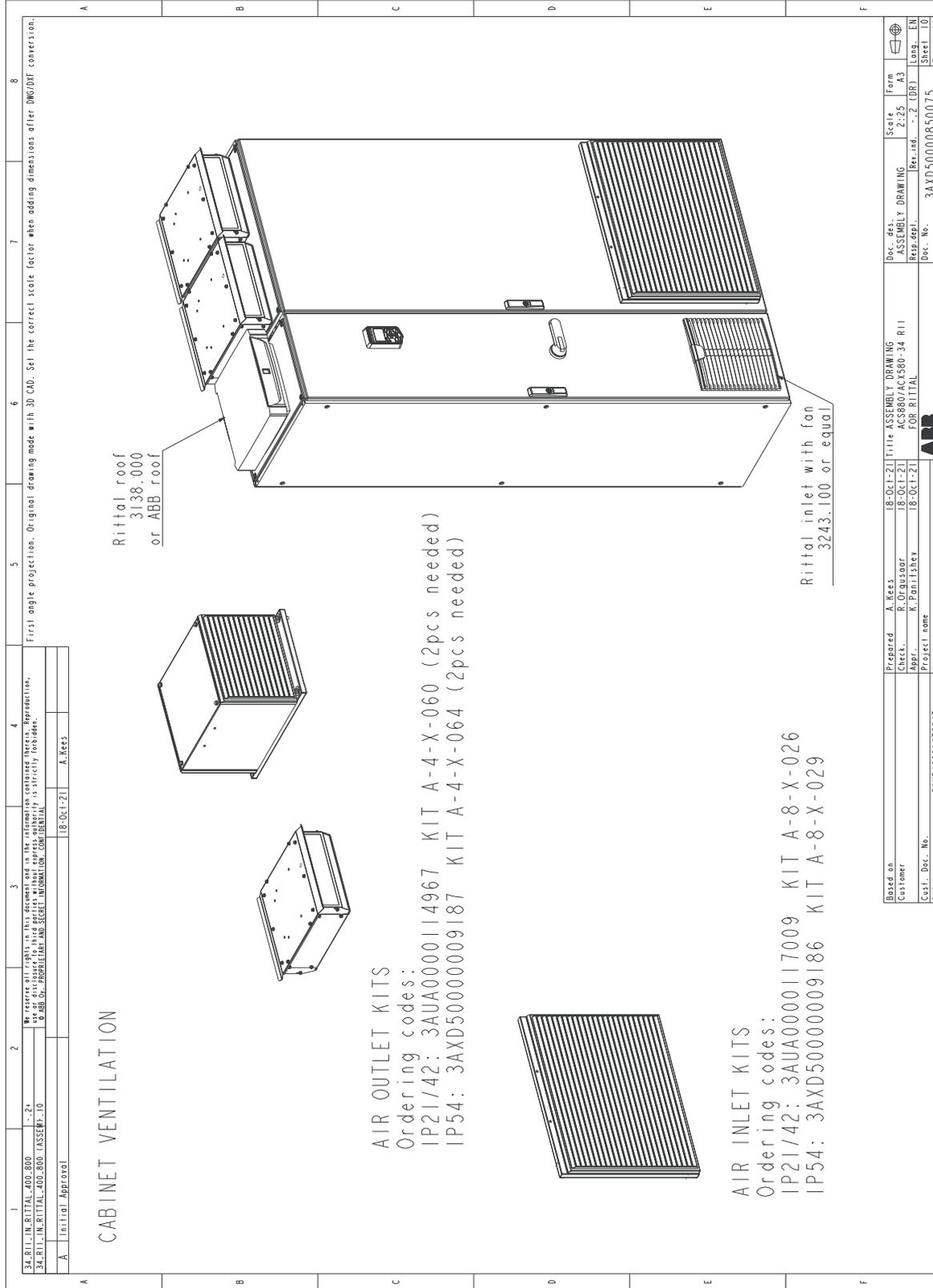


## Stage 7: Shrouds

1	2	3	4	5	6	7	8																																												
<p>3A-R11-IN-RITTAL_400-800...-24                  3A-R11-IN-RITTAL_400-800_ASSEMBLY_10</p>																																																			
<p>We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure for third parties without express authority is strictly forbidden.                  A. Kees, 18-Oct-21</p>																																																			
<p>Initial Approval: A. Kees</p>																																																			
<p>Stage7. Shrouds installation</p> <p>See assembly drawing 3AXD50000851805 for details</p>																																																			
																																																			
<p>SHROUDS W400+800                  KIT A-48-II-VX411                  Ordering code: 3AXD50000819041</p>																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Based on</td> <td>A. Kees</td> <td>18-Oct-21</td> <td>Title</td> <td>ASSEMBLY DRAWING</td> <td>Doc. des.</td> <td>ASSEMBLY DRAWING</td> <td>Scale</td> <td>2:25</td> <td>Form</td> <td>A3</td> </tr> <tr> <td>Customer</td> <td>R. Orquizaor</td> <td>18-Oct-21</td> <td></td> <td>ACS880/ACS380-34 R11</td> <td>Resp. appl.</td> <td></td> <td>Rev. no.</td> <td>- 2 (DR)</td> <td>Long.</td> <td>EN</td> </tr> <tr> <td>Cell. Des. No.</td> <td>K. Pohl 13161v</td> <td>18-Oct-21</td> <td></td> <td>FOR RITTAL</td> <td>Doc. No.</td> <td>3AXD50000850075</td> <td></td> <td></td> <td>Sheet</td> <td>11</td> </tr> <tr> <td>DWG Number</td> <td>3AXD10001413647</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Total</td> <td>11</td> </tr> </table>								Based on	A. Kees	18-Oct-21	Title	ASSEMBLY DRAWING	Doc. des.	ASSEMBLY DRAWING	Scale	2:25	Form	A3	Customer	R. Orquizaor	18-Oct-21		ACS880/ACS380-34 R11	Resp. appl.		Rev. no.	- 2 (DR)	Long.	EN	Cell. Des. No.	K. Pohl 13161v	18-Oct-21		FOR RITTAL	Doc. No.	3AXD50000850075			Sheet	11	DWG Number	3AXD10001413647								Total	11
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DWG Number	3AXD10001413647								Total	11																																									



Cabinet ventilation



# 3

## Electrical installation

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### Contents of this chapter

This chapter describes the electrical installation of the modules.

### Limitation of liability

The installation must always be designed and made according to applicable local laws and regulations. ABB does not assume any liability whatsoever for any installation which breaches the local laws and/or other regulations. Furthermore, if the recommendations given by ABB are not followed, the drive may experience problems that the warranty does not cover.

### Electrical safety precautions

These electrical safety precautions are for all personnel who do work on the drive, motor cable or motor.

**WARNING!**

Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur.

If you are not a qualified electrical professional, do not do installation or maintenance work.

Go through these steps before you begin any installation or maintenance work.

- 
1. Clearly identify the work location and equipment.
  2. Disconnect all possible voltage sources. Make sure that re-connection is not possible. Lock out and tag out.
    - Open the main disconnecting device of the drive.
    - Open the charging switch if present.
-

- Open the disconnecter of the supply transformer. (The main disconnecting device in the drive cabinet does not disconnect the voltage from the AC input power busbars of the drive cabinet.)
  - Open the auxiliary voltage switch-disconnector (if present), and all other possible disconnecting devices that isolate the drive from dangerous voltage sources.
  - If you have a permanent magnet motor connected to the drive, disconnect the motor from the drive with a safety switch or by other means.
  - Disconnect all dangerous external voltages from the control circuits.
  - After you disconnect power from the drive, always wait 5 minutes to let the intermediate circuit capacitors discharge before you continue.
3. Protect any other energized parts in the work location against contact.
  4. Take special precautions when close to bare conductors.
  5. Measure that the installation is de-energized. Use a quality voltage tester. If the measurement requires removal or disassembly of shrouding or other cabinet structures, obey the local laws and regulations applicable to live working (including – but not limited to – electric shock and arc protection).
    - Before and after measuring the installation, verify the operation of the voltage tester on a known voltage source.
    - Make sure that the voltage between the drive input power terminals (L1, L2, L3) and the grounding (PE) busbar is zero.
    - Make sure that the voltage between the drive output terminals (T1/U, T2/V, T3/W) and the grounding (PE) busbar is zero.

Important! Repeat the measurement also with the DC voltage setting of the tester. Measure between each phase and ground. There is a risk of dangerous DC voltage charging due to leakage capacitances of the motor circuit. This voltage can remain charged for a long time after the drive power-off. The measurement discharges the voltage.
    - Make sure that the voltage between the drive DC terminals (UDC+ and UDC-) and the grounding (PE) terminal is zero.
  6. Install temporary grounding as required by the local regulations.
  7. Ask for a permit to work from the person in control of the electrical installation work.

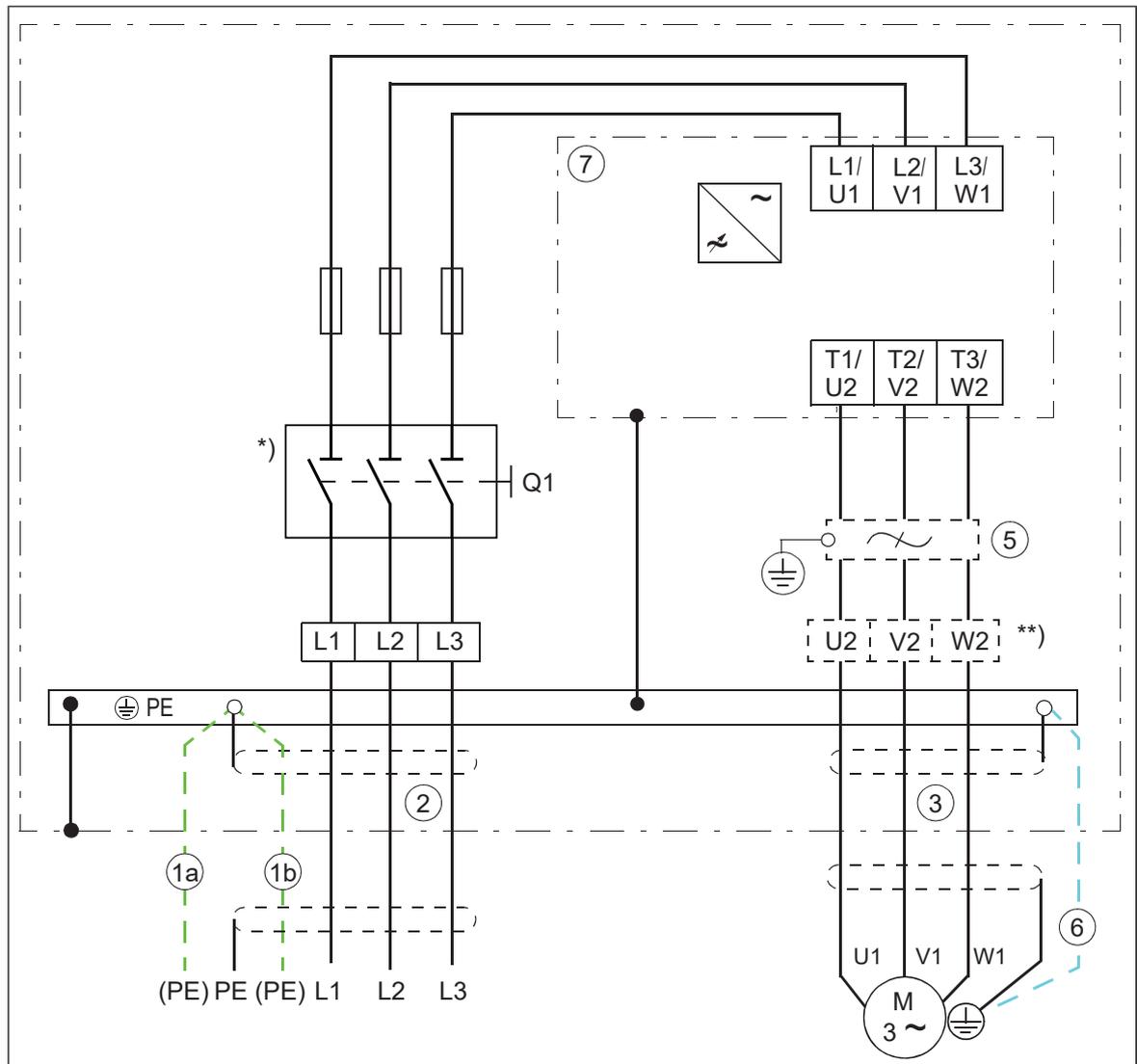
## **Instructions in other manuals**

See the drive hardware manual for the drive-specific instructions.

---

## Power connections

### ■ Connection diagram



1	Use a separate grounding PE cable (1a) or a cable with a separate PE conductor (1b) if the conductivity of the shield does not meet the requirements for the PE conductor.
2	ABB recommends 360-degree grounding if a shielded cable is used. Ground the other end of the input cable shield or PE conductor at the distribution board.
3	ABB requires 360-degree grounding.
4	Output filter
5	Use a separate grounding cable if the shield does not meet the requirements of IEC 61439-1 and there is no symmetrically constructed grounding conductor in the cable.
6	Drive module

If there is a symmetrically constructed grounding conductor on the motor cable in addition to the conductive shield, connect the grounding conductor to the grounding terminal at the drive and motor ends.

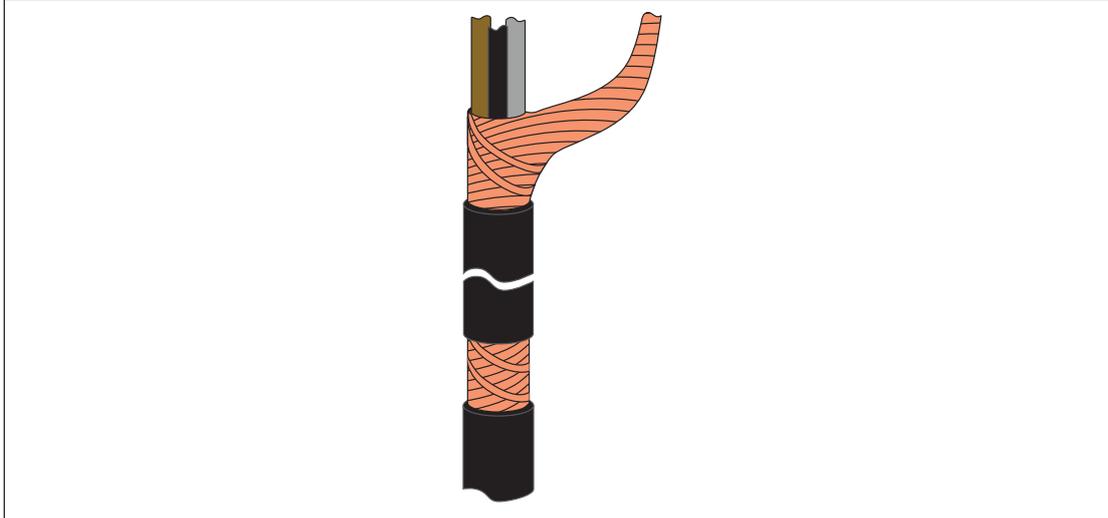
Do not use an asymmetrically constructed motor cable. Connecting its fourth conductor at the motor end increases bearing currents and causes extra wear.

\*) Switch-disconnector

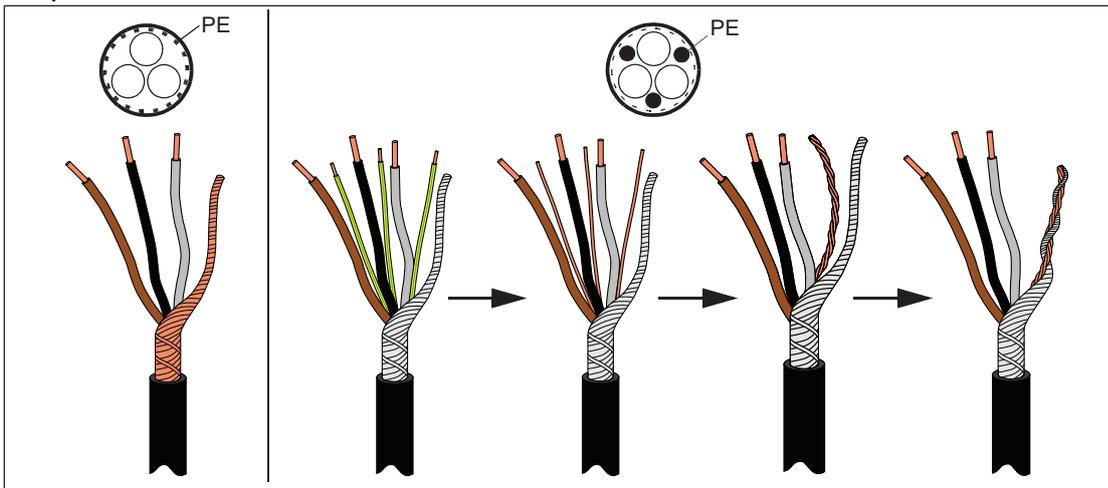
\*\*) Output terminals U2, V2 and W2 are included with du/dt filter.

■ **Preparing the cable ends and making 360-degree grounding at the cable entry**

1. Peel off 3...5 cm (1 1/4 ... 2 in) of the outer insulation of the cables at the cable entries with the conductive sleeves for the 360° high-frequency grounding.



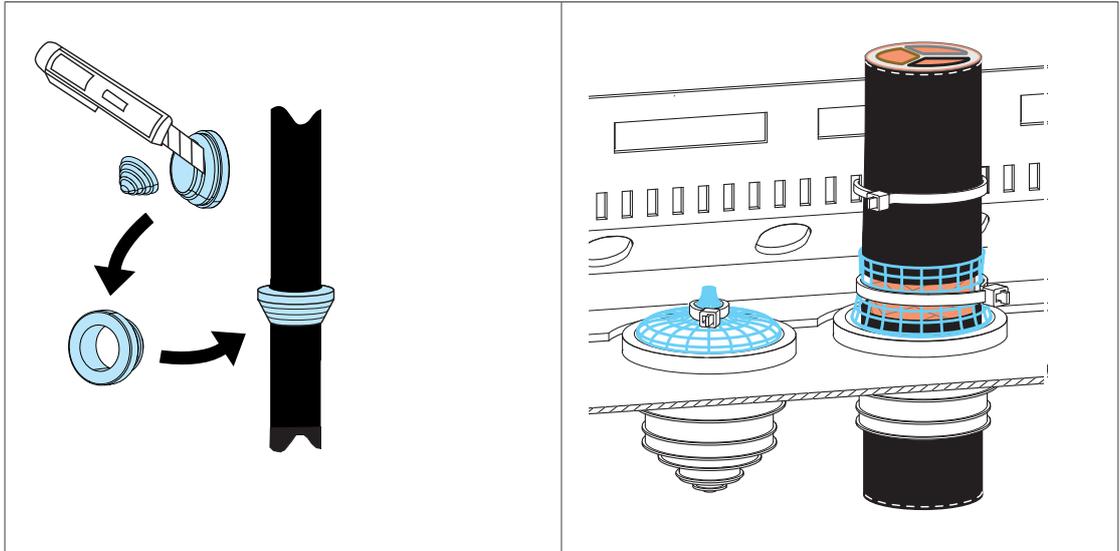
2. Prepare the ends of the cables.



**WARNING!**

Apply grease to stripped aluminum conductors before attaching them to non-coated aluminum cable lugs. Obey the grease manufacturer's instructions. Aluminum-aluminum contact can cause oxidation in the contact surfaces.

3. If fire insulation is used, make an opening in the mineral wool sheet according to the diameter of the cable.
4. Put the cables through the entry plate.
5. Remove rubber grommets from the entry plate for the cables to be connected. Cut adequate holes into the rubber grommets. Put the grommets onto the cables. Put the cables through the entry plate and attach the grommets to the holes.
6. Attach the conductive sleeves to the cable shields with cable ties. Tie up the unused conductive sleeves with cable ties. An example of bottom entry is shown below. For top entry, put the grommet upwards.

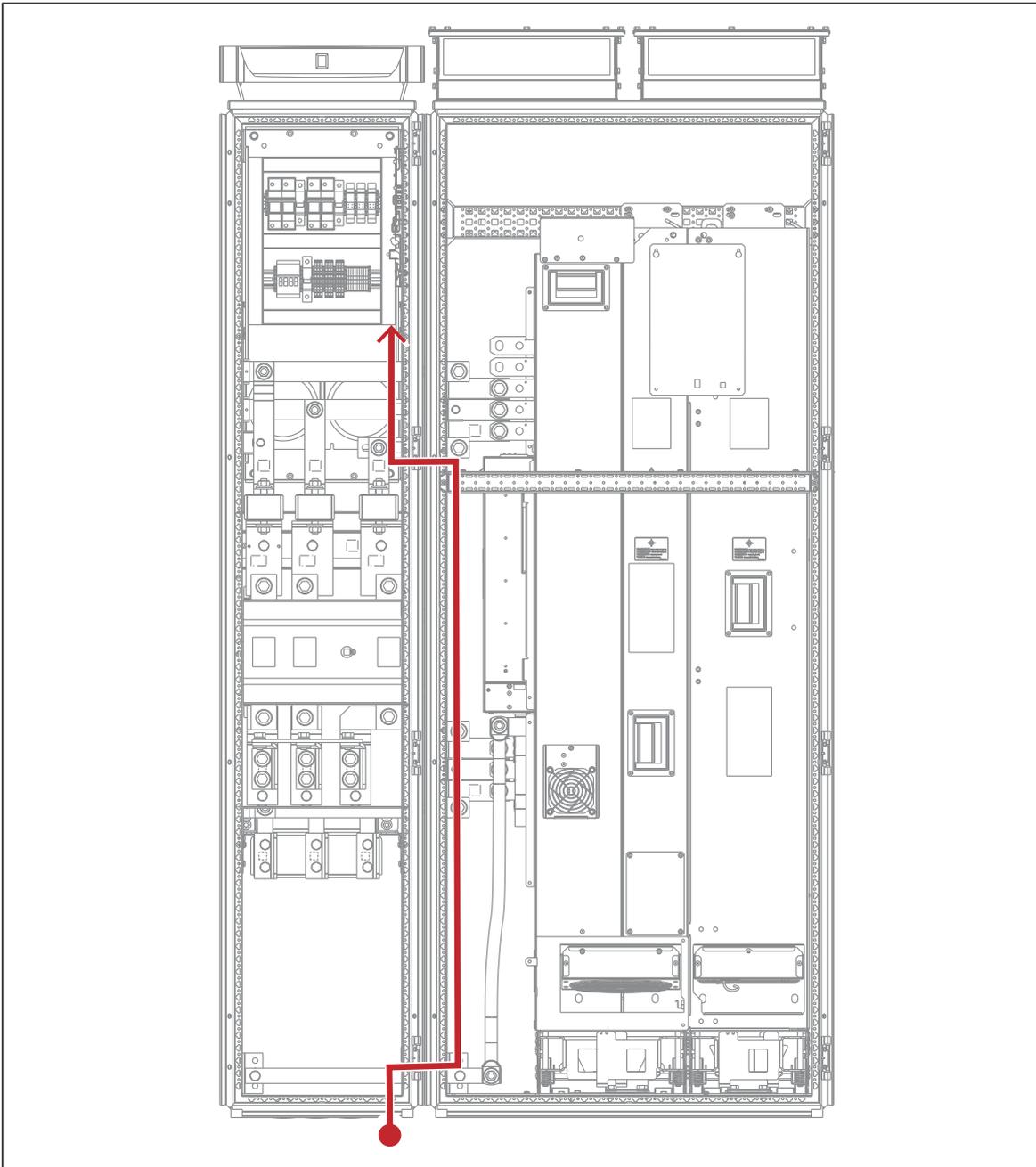


## Connecting the control cables

See the drive module hardware manual for the drive-specific instructions.



■ Routing the control cables inside the enclosure



**Installing option modules, connecting a PC**

See the hardware manual for instructions.

## 4

# Installation checklist

---

## Contents of this chapter

This chapter contains a checklist of the mechanical and electrical installation of the drive.

## Checklist

Examine the mechanical and electrical installation of the drive before start-up. Go through the checklist together with another person.



### WARNING!

Obey the safety instructions of the drive. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrical professional, do not do installation, commissioning or maintenance work.



### WARNING!

Stop the drive and do the steps in section [Electrical safety precautions \(page 29\)](#) before you start the work.

<b>Make sure that ...</b>	<input checked="" type="checkbox"/>
The ambient operating conditions meet the drive ambient conditions specification and enclosure rating (IP code).	<input type="checkbox"/>
The supply voltage matches the nominal input voltage of the drive. See the type designation label.	<input type="checkbox"/>
The insulation resistance of the input power cable, motor cable and motor is measured according to local regulations and the manuals of the drive.	<input type="checkbox"/>
The drive cabinet is attached to the floor, and if necessary due to vibration etc, also by its top to the wall or roof.	<input type="checkbox"/>
The drive module is fastened properly to the enclosure.	<input type="checkbox"/>

---

36 Installation checklist

<b>Make sure that ...</b>	<input checked="" type="checkbox"/>
The cooling air flows freely in and out of the drive. Air recirculation inside the cabinet is not possible (air baffle plates are on place, or there is another air guiding solution).	<input type="checkbox"/>
<b>If the drive is connected to a network other than a symmetrically grounded TN-S system:</b> You have done all the required modifications (for example, you may need to disconnect the EMC filter or ground-to-phase varistor). See the electrical installation instructions.	<input type="checkbox"/>
The enclosures of the equipment in the cabinet have proper galvanic connection to the cabinet protective earth (ground) busbar; The connection surfaces at the fastening points are bare (unpainted) and the connections are tight, or separate grounding conductors have been installed.	<input type="checkbox"/>
The main circuit connections inside the drive cabinet correspond to the circuit diagrams.	<input type="checkbox"/>
The control unit has been connected. See the circuit diagrams.	<input type="checkbox"/>
Appropriate AC fuses and main disconnecting device are installed.	<input type="checkbox"/>
There is an adequately sized protective earth (ground) conductor(s) between the drive and the switchboard, the conductor is connected to correct terminal, and the terminal is tightened to the correct torque. Proper grounding has also been measured according to the regulations.	<input type="checkbox"/>
The input power cable is connected to the correct terminals, the phase order is correct, and the terminals are tightened to the correct torque.	<input type="checkbox"/>
There is an adequately sized protective earth (ground) conductor between the motor and the drive, and the conductor is connected to the correct terminal, and the terminal is tightened to the correct torque. Proper grounding has also been measured according to the regulations.	<input type="checkbox"/>
The motor cable is connected to the correct terminals, the phase order is correct, and the terminals are tightened to the correct torque.	<input type="checkbox"/>
The motor cable is routed away from other cables.	<input type="checkbox"/>
No power factor compensation capacitors are connected to the motor cable.	<input type="checkbox"/>
The control cables are connected to the correct terminals, and the terminals are tightened to the correct torque.	<input type="checkbox"/>
<b>If a drive bypass connection will be used:</b> The Direct On Line contactor of the motor and the drive output contactor are either mechanically and/or electrically interlocked, that is, they cannot be closed at the same time. A thermal overload device must be used for protection when bypassing the drive. Refer to local codes and regulations.	<input type="checkbox"/>
There are no tools, foreign objects or dust from drilling inside the drive.	<input type="checkbox"/>
The area in front of the drive is clean: the drive cooling fan cannot draw any dust or dirt inside.	<input type="checkbox"/>
Cover(s) of the motor connection box are in place. Cabinet shrouds are in place and doors are closed.	<input type="checkbox"/>
The motor and the driven equipment are ready for power-up.	<input type="checkbox"/>

A large, bold, black number '5' is centered within a light grey square with rounded corners.

## Ordering information

---

### Contents of this chapter

This chapter gives ordering information of components for the drive module installation.

### Kit code key

The kit codes shown in this chapter break down as follows.

The format of the kit code is x-w-s-VXyyy, for example, A-4-67-VX101

where:

- x = cooling method
    - A = air-cooled
  - w = cabinet width
    - 4 = 400 mm
    - 8 = 800 mm
    - X = any, or not defined.
  - s = module frame size / sizes
    - 11 = R11
    - X = any, or not defined.
  - yyy = consecutive numbering
    - 001...199 = kits related to module installation
    - 200...299 = kits related to input
    - 300...399 = kits related to output
    - 400...499 = kits related to cabinets
-

## Cabinet configuration

Select the drive module (required).



1) Make sure to order the drive module with option +P906 (external control unit) and without the full size cable connection terminals for output power cables (option +0H371). ACH-AP-H assistant control panel is included in the delivery. For alternative control panels, see [Control panel \(page 49\)](#). For more information, see the hardware manual.

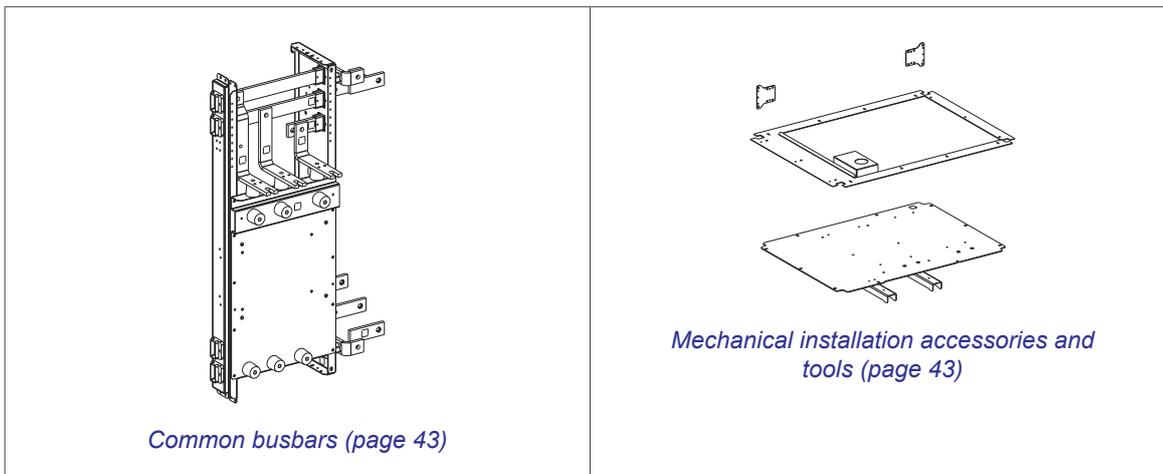
2) Make sure to order the drive module with option +E208 (common mode filter), and without full size cable connection terminals for output power cables (option +0H371) and IP20 shrouds (option +0B051). ACS-AP-W assistant control panel is included in the delivery. For alternative control panels, see [Control panel \(page 49\)](#). For more information, see the hardware manual.



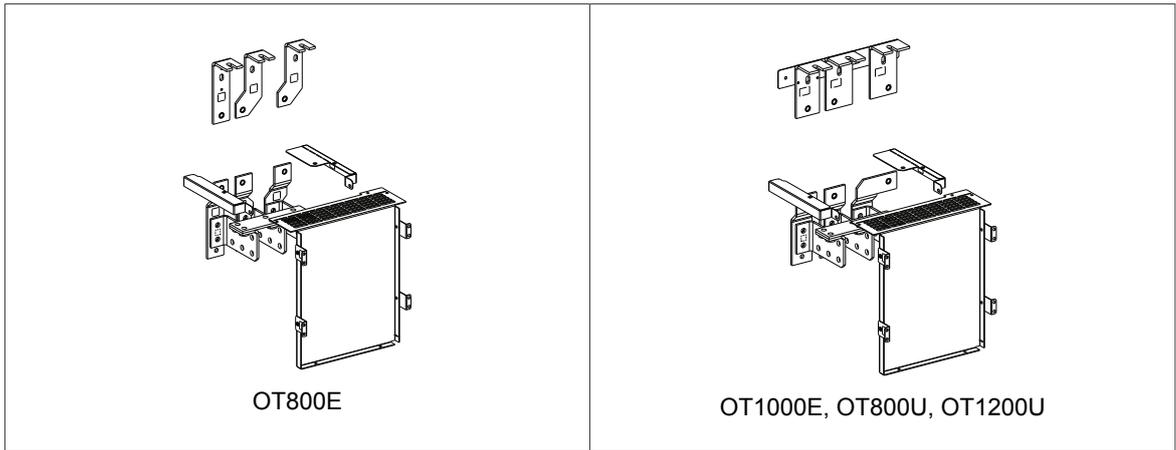
Order [Rittal VX25 enclosure \(page 40\)](#) and required Rittal parts.



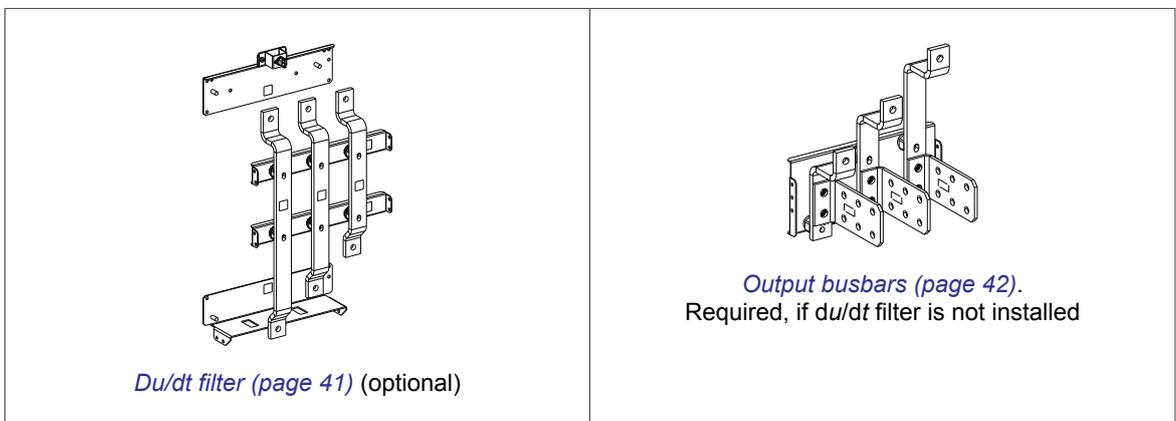
Order the required kits.



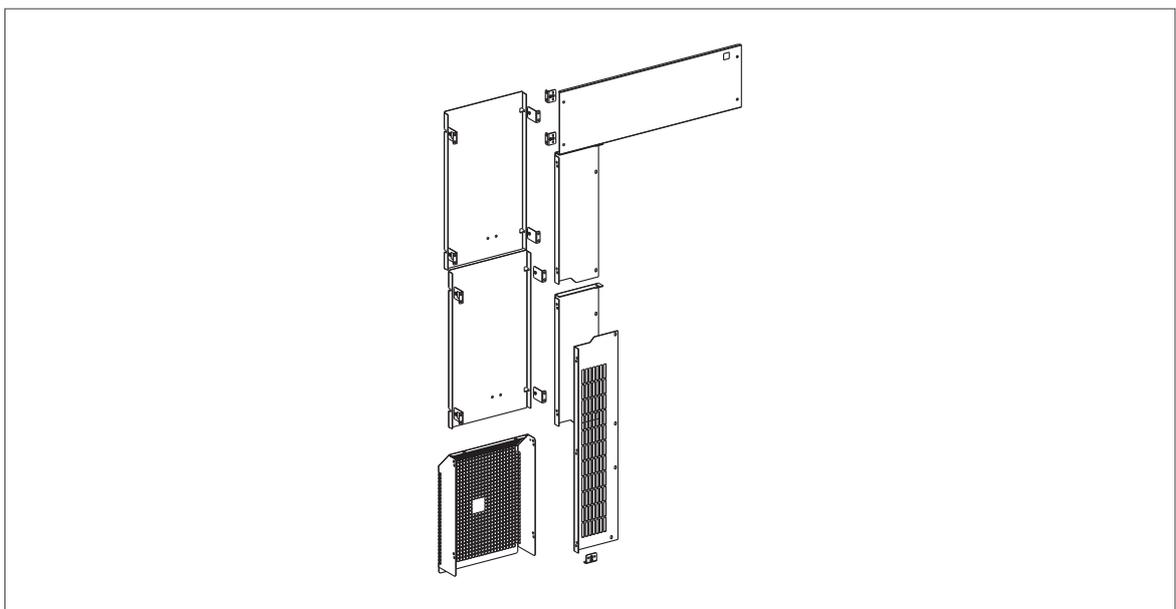
Select the [Main switch-disconnector \(page 44\)](#) (required).



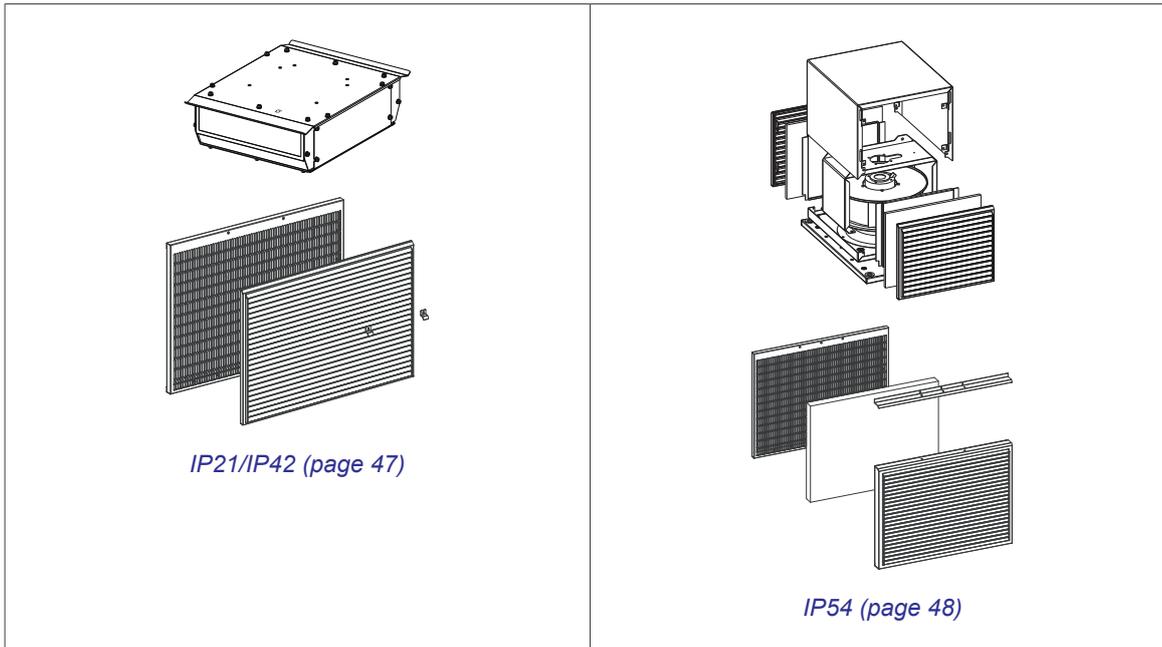
Select the output.



Order the *Shrouds (page 47)* (optional).



Select the protection class (required).



## Rittal VX25 enclosure

Order the parts listed below from Rittal. Bottom plates, doors and back panels are delivered with the enclosure.

Part	Qty	Rittal ordering code
VX25 enclosure 400 mm	1	8406.000
VX25 enclosure 800 mm	1	8806.000
Side panels	2	8106.245
PE busbar	1	9686.536
PE angle bracket (optional)	2	9686.350
Support beam 23×64×600 mm	4	8617.130
Support beam 23×64×800 mm	1	8617.140
Punched rail 18×39×800 mm	2	8617.730
Divider panel	1	8609.205
Baying connector	1	8617.502
Captive nut M6 (optional)	20	4164.500
Filter fan 550 m <sup>3</sup> /h	1	3243.100
Roof vent	1	3138.000

## du/dt filter

### ■ Selection tables

Select the du/dt filter (optional) according to your module type.

#### ACH580-34 and ACQ580-34

ACH580-34-... ACQ580-34-...	du/dt filter type	ACH580-34-... ACQ580-34-...	du/dt filter type
$U_n = 400 \text{ V}$		$U_n = 480 \text{ V}$	
246A-4	FOCH0320-50	246A-4	FOCH0320-50
293A-4		293A-4	
365A-4		365A-4	
442A-4		442A-4	
505A-4	FOCH0610-70	505A-4	FOCH0610-70
585A-4		585A-4	
650A-4		650A-4	

#### ACS880-14 and ACS880-34

ACS880-14-... ACS880-34-...	du/dt filter type	ACS880-14-... ACS880-34-...	du/dt filter type	ACS880-14-... ACS880-34-...	du/dt filter type
$U_n = 400 \text{ V}$		$U_n = 500 \text{ V}$		$U_n = 690 \text{ V}$	
246A-3	FOCH0320-50	240A-5	FOCH0320-50	142A-7	FOCH0610-70
293A-3		260A-5		174A-7	
363A-3		302A-5		210A-7	
442A-3		361A-5		271A-7	
505A-3	FOCH0610-70	414A-5	330A-7		
585A-3		460A-5	370A-7		
650A-3		503A-5	430A-7		

### ■ Ordering codes

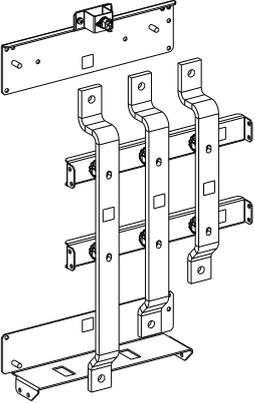
Order the du/dt filter from ABB:

Filter type	Degree of protection	ABB ordering code
FOCH0320-50	IP00	68612209
FOCH0610-70	IP00	68550505

### ■ Installation parts

Make sure that you also order the necessary installation parts from ABB and Rittal.

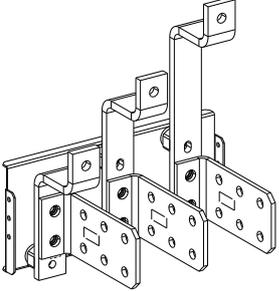
See the necessary ABB parts for the du/dt filter installation below:

Part	Qty	ABB ordering code	Kit code	Illustration
Du/dt filter installation parts	1	3AXD50000819010	A-4-11-VX311	 <p>Instruction code: 3AXD50000850136</p>

For more information on the *du/dt* filters and installation instructions, see *FOCH du/dt filters hardware manual* ([3AFE68577519](#) [English]).

## Output busbars

If the *du/dt* filter is not used, you must install output busbars. Order the output busbars from ABB.

Part	Qty	ABB ordering code	Kit code	Illustration
Output busbars	1	3AXD50000819027	A-4-11-VX312	 <p>Instruction code: 3AXD50000850365</p>

## Sine filter

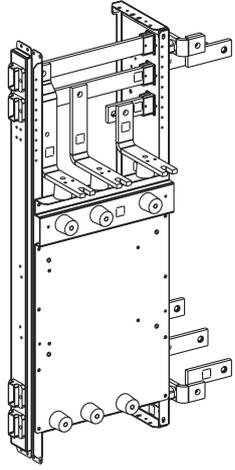
See the drive module hardware manuals for the sine filter selection:

Name	Code
<i>ACH580-34 drive modules hardware manual</i>	<a href="#">3AXD50000419708</a>
<i>ACQ580-34 drive modules hardware manual</i>	<a href="#">3AXD50000420025</a>
<i>ACS880-14 drive modules (132 to 400 kW) hardware manual</i>	<a href="#">3AXD50000035160</a>
<i>ACS880-34 drive modules (132 to 400 kW) hardware manual</i>	<a href="#">3AXD50000035191</a>

For more information, contact ABB.

## Common busbars

Order the common busbars from ABB.

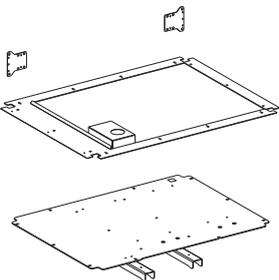
Part	Qty	ABB ordering code	Kit code	Illustration
Common busbars	1	3AXD50000818884	A-4-11-VX211	 <p>Instruction code: 3AXD50000850587</p>

See the necessary Rittal parts for the common busbar installation below:

Part	Qty	Rittal ordering code
Punched section 23×64×600 mm	4	8617.130
Multi-tooth screw 5.5×13 mm	16	2486.600

## Mechanical installation accessories and tools

Order the module installation parts from ABB:

Part	Qty	ABB ordering code	Kit code	Illustration
Module installation parts	2	3AXD50000818877	A-8-11-VX111	 <p>Instruction code: 3AXD50000851782</p>

**Note:** A ramp for installing the module into the enclosure is delivered with the module.

See the necessary Rittal parts for the module installation below:

Part	Qty	Rittal ordering code
Punched rail 18×39×800 mm	2	8617.730
Punched section 23×64×800 mm	1	8617.140

Part	Qty	Rittal ordering code
Multi-tooth screw 5.5×13 mm	54	2486.600

## Main switch-disconnector

Select the main switch-disconnector according to your module type.

### ■ Selection tables

#### ACH580-34 and ACQ580-34

ACH580-34-... ACQ580-34-...	Main switch-disconnect- or type	ACH580-34-... ACQ580-34-...	Main switch-disconnect- or type
$U_n = 400\text{ V}$		$U_n = 480\text{ V}$	
246A-4	OT800	246A-4	OT800
293A-4		293A-4	
365A-4		365A-4	
442A-4		442A-4	
505A-4		505A-4	
585A-4	OT1000/OT1200	585A-4	OT1000/OT1200
650A-4		650A-4	

#### ACS880-14 and ACS880-34

ACS880-14-... ACS880-34-...	Main switch-dis- connector type	ACS880-14-... ACS880-34-...	Main switch-dis- connector type	ACS880-14-... ACS880-34-...	Main switch-dis- connector type
$U_n = 400\text{ V}$		$U_n = 500\text{ V}$		$U_n = 690\text{ V}$	
246A-3	OT800	240A-5	OT800	142A-7	OT800
293A-3		260A-5		174A-7	
363A-3		302A-5		210A-7	
442A-3		361A-5		271A-7	
505A-3		414A-5		330A-7	
585A-3	OT1000/OT1200	460A-5	OT800	370A-7	OT800
650A-3		503A-5		430A-7	

### ■ Ordering codes

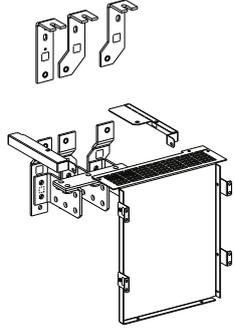
#### OT800

Order the main switch-disconnector from ABB:

Main switch-disconnector type	ABB ordering code
OT800E12P (IEC)	3AUA0000144788
OT800U12P (UL)	3AUA0000060170

Make sure that you also order the necessary accessories and installation parts from ABB. See below.

Main switch-disconnector accessories	ABB ordering code
OHB150J12P handle (in UL installations only)	3AXD5000000126
OXP12X280 shaft	3AUA0000093373
OHZX10 alignment ring	68674841

Installation parts	Qty	ABB ordering code	Kit code	Illustration
OT800 busbars	1	3AXD50000818907	A-4-11-VX213	 <p>Instruction code: 3AXD50000850600</p>

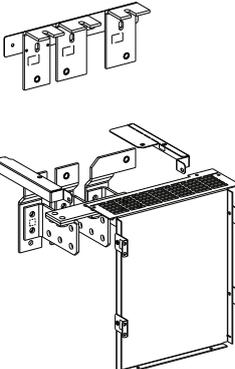
### OT1000/OT1200

Order the main switch-disconnector from ABB:

Main switch-disconnector type	ABB ordering code
OT1000E12 (IEC)	3AXD50000000952
OT1200U12 (UL)	3AUA0000089053

Make sure that you also order the necessary accessories and installation parts from ABB. See below.

Main switch-disconnector accessories	ABB ordering code
OHB150J12P handle	3AXD5000000126
OXP12X280 shaft	3AUA0000093373
OHZX10 alignment ring	68674841

Part	Qty	ABb ordering code	Kit code	Illustration
OT1000/OT1200 busbars	1	3AXD50000818891	A-4-11-VX212	 <p>Instruction code: 3AXD50000850594</p>

## ■ Fuses

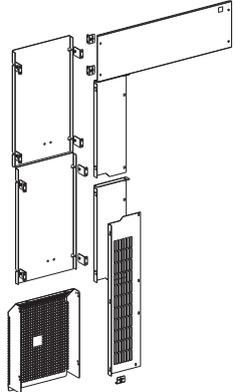
Make sure to install fuses with the main switch-disconnector. Select the fuses according to the module type.

ACH580-34-... or ACQ580-34-...	Fuse			Qty	ABB ordering code
	Type	Data	Size		
$U_n = 400\text{ V}$ and $U_n = 480\text{ V}$					
246A-4	170M5408	400 A, 690 V	2	3	3AXD50000003785
293A-4	170M5410	500 A, 690 V	2	3	3AXD50000003787
365A-4	170M6410	630 A, 690 V	3	3	68335418
442A-4	170M6411	700 A, 690 V	3	3	3AXD50000000175
505A-4	170M6412	800 A, 690 V	3	3	68731640
585A-4	170M6414	1000 A, 690 V	3	3	68333296
650A-4	170M6414	1000 A, 690 V	3	3	68333296

ACS880-14-... or ACS880-34-...	Fuse			Qty	Ordering code
	Type	Data	Size		
$U_n = 400\text{ V}$					
246A-3	170M5408	400 A, 690 V	2	3	3AXD50000003785
293A-3	170M5410	500 A, 690 V	2	3	3AXD50000003787
363A-3	170M6410	630 A, 690 V	3	3	68335418
442A-3	170M6411	700 A, 690 V	3	3	3AXD50000000175
505A-3	170M6412	800 A, 690 V	3	3	68731640
585A-3	170M6414	1000 A, 690 V	3	3	68333296
650A-3	170M6414	1000 A, 690 V	3	3	68333296
$U_n = 500\text{ V}$					
240A-5	170M4410	315 A, 690 V	1	3	3AXD50000000234
260A-5	170M5408	400 A, 690 V	2	3	3AXD50000003785
302A-5	170M5410	500 A, 690 V	2	3	3AXD50000003787
361A-5	170M6410	630 A, 690 V	3	3	68335418
414A-5	170M6411	700 A, 690 V	3	3	3AXD50000000175
460A-5	170M6411	700 A, 690 V	3	3	3AXD50000000175
503A-5	170M6412	800 A, 690 V	3	3	68731640
$U_n = 690\text{ V}$					
142A-7	170M4409	250 A, 690 V	1	3	3AUA0000066038
174A-7	170M4410	315 A, 690 V	1	3	3AXD50000000234
210A-7	170M5408	400 A, 690 V	2	3	3AXD50000003785
271A-7	170M5410	500 A, 690 V	2	3	3AXD50000003787
330A-7	170M6410	630 A, 690 V	3	3	68335418
370A-7	170M6411	700 A, 690 V	3	3	3AXD50000000175
430A-7	170M6411	700 A, 690 V	3	3	3AXD50000000175

## Shrouds

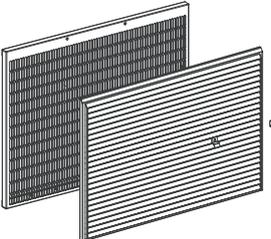
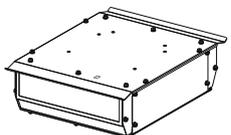
Order the shrouds (optional) from ABB:

Part	Qty	ABB ordering code	Kit code	Illustration
Shrouds	1	3AXD50000819041	A-48-11-VX411	 <p>Instruction code: 3AXD50000851805</p>

## Cabinet ventilation

Select the cabinet ventilation components according to the required protection class.

### ■ IP21/IP42

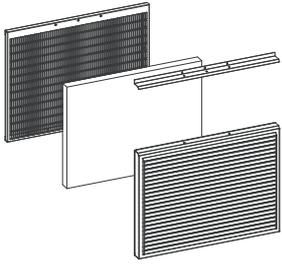
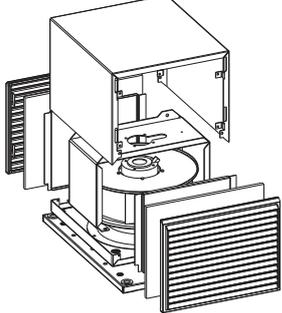
Type	Qty	ABB ordering code	Kit code	Illustration
Air inlet	1	3AUA0000117009	A-8-X-026	 <p>Instruction code: 3AUA0000116875</p>
Air outlet	2	3AUA0000114967	A-4-X-060	 <p>Instruction code: 3AUA0000115290</p>

### Cooling fan

Install a cooling fan inside each air outlet compartment to make sure that the cabinet cools sufficiently.

Type	Component		Qty	ABB ordering code
	Name	Data		
Cooling fan (230 V)	Fan	R2E225-RA92-17	2	3AXD50000000514
	Capacitor	MSB MKP 3,5/603/E1679	2	3AXD50000000882
	Connector	SPB2,5/7 (2.5 mm <sup>2</sup> , 12AWG)	2	3AXD50000000723
	Connector	SC 2,5-RZ/7 (2.5 mm <sup>2</sup> , 12AWG)	2	3AXD50000000724

## ■ IP54

Type	Qty	ABB ordering code	Kit code	Illustration
Air inlet	1	3AXD50000009186	A-8-X-029	 <p>Instruction code: 3AXD50000010001</p>
Air outlet	2	3AXD50000009187	A-4-X-064	 <p>Instruction code: 3AXD50000010284</p>

## Cooling fan

Install a cooling fan inside each air outlet compartment to make sure that the cabinet cools sufficiently.

Type	Component		Qty	ABB ordering code
	Name	Data		
Cooling fan (230 V)	Fan	RB4C-355/170	2	3AXD50000006934
	Capacitor	MSB MKP 6/603/E1679	2	3AXD50000006959
	Connector	SPB2,5/7 (2.5 mm <sup>2</sup> , 12AWG)	2	3AXD50000000723
	Connector	SC 2,5-RZ/7 (2.5 mm <sup>2</sup> , 12AWG)	2	3AXD50000000724

## Control panel

A control panel can be mounted on the cabinet door with the help of a door mounting kit.

For more information on the control panel, see *ACx-AP-x assistant control panels user's manual* ([3AUA0000085685](#) [English]).

### ■ ACH580-34 and ACQ580-34

The standard control panel ACH-AP-H (option +J400) and door mounting kit DPMP-03 (option +J410) are delivered with the drive module.

Type	Description	ABB ordering code	Image
ACH-AP-W	Control panel with Bluetooth (option +J429)	3AXD50000030360	
ACS-AP-I	Control panel (option +J425)	3AUA0000088311	

### ■ ACS880-14 and ACS880-34

Make sure that you order the drive module without the control panel (option +0J400) if you order one of the following control panels.

Type	Description	ABB ordering code	Image
ACS-AP-W	Control panel with Bluetooth (option +J429)	3AXD50000030360	
ACS-AP-I	Control panel (option +J425)	3AUA0000088311	
DPMP-01	Door mounting kit (option +J410)	3AUA0000108878	

Type	Description	ABB ordering code	Image
DPMP-02	Door mounting kit (option +J413)	3AXD5000009374	

**The DPMP-01 door mounting kit contains:**

- front cover
- flat cable (between DDPI-01 board and the panel)
- DDPI-01 board, cover and M4×8 combi screw for the cover
- EMC shield
- control panel mounting platform
- grounding wire
- Ethernet cable (3 m).
- *DPMP-01 mounting platform for ACS-AP control panel installation guide* [[3AUA0000100140](#) (English)].

**The DPMP-02 door mounting kit contains:**

- control panel mounting platform
  - locking nut
  - panel cable
  - *DPMP-02/03 mounting platform for ACS-AP-X control panels installation guide* [[3AUA0000136205](#) (English)].
-



## **Dimension drawings**

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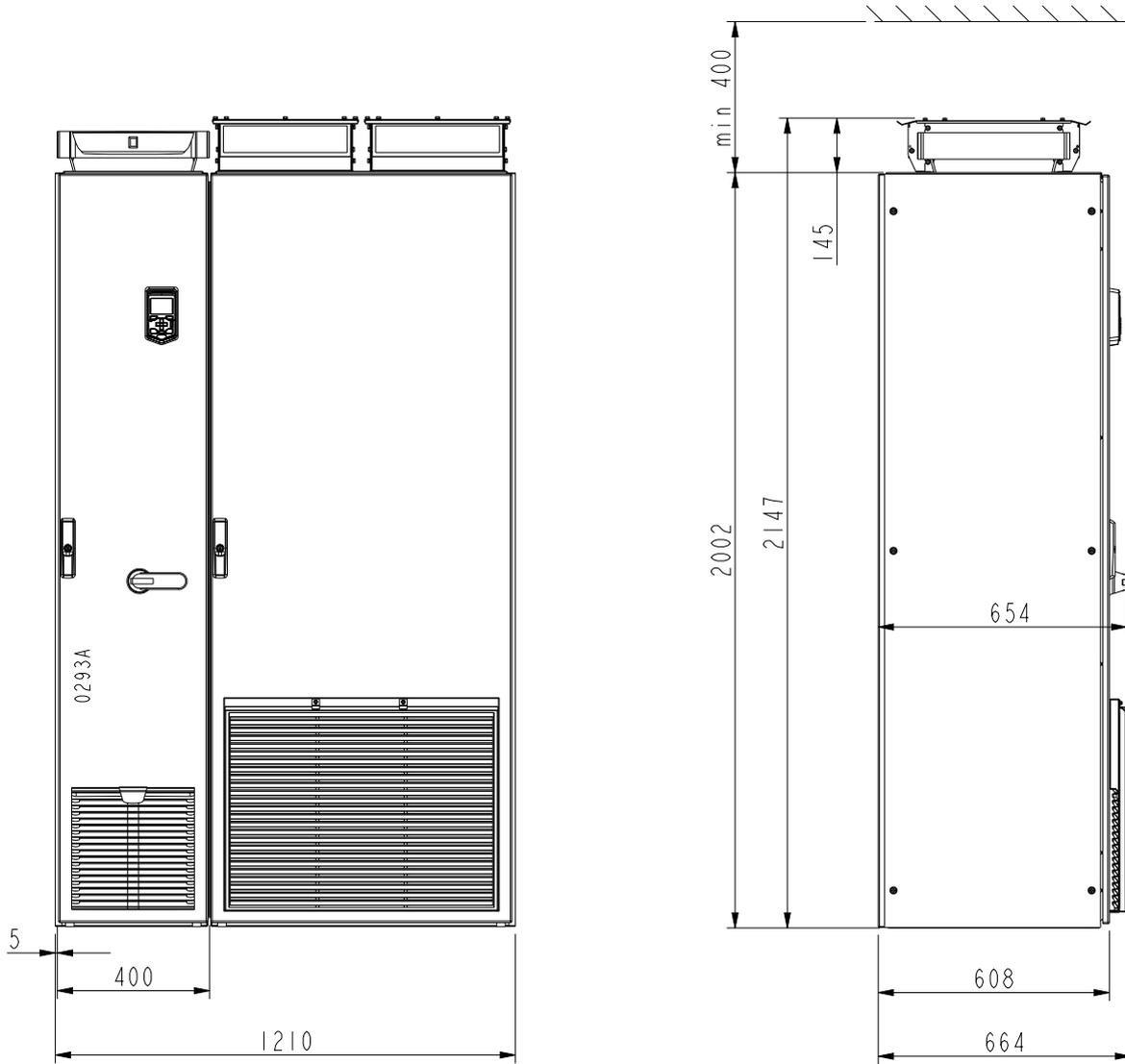
### **Contents of this chapter**

This chapter contains the dimension drawings of the related equipment. For the drive module dimensions, see the applicable hardware manual.

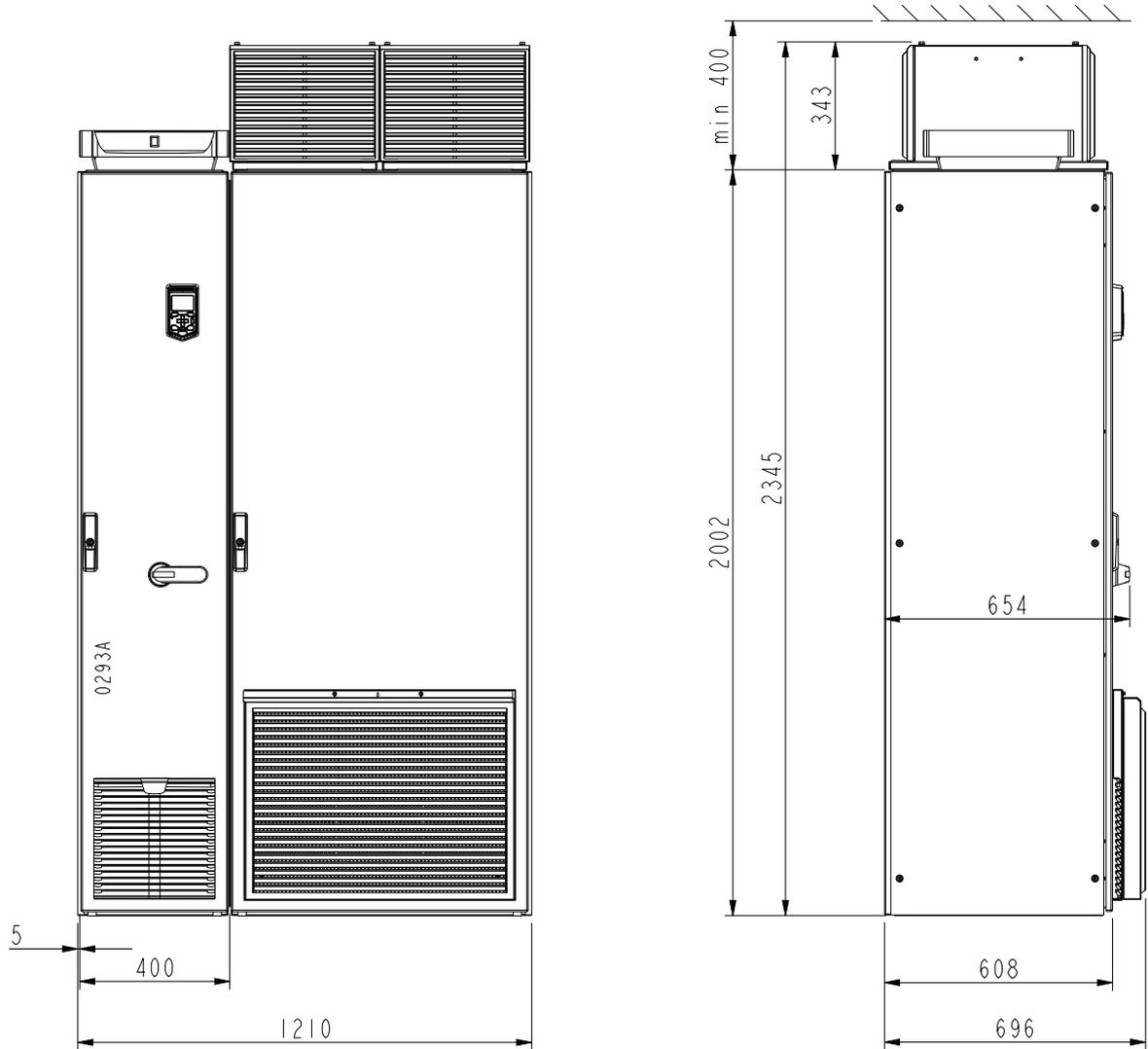
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# Enclosure

- IP21/IP42



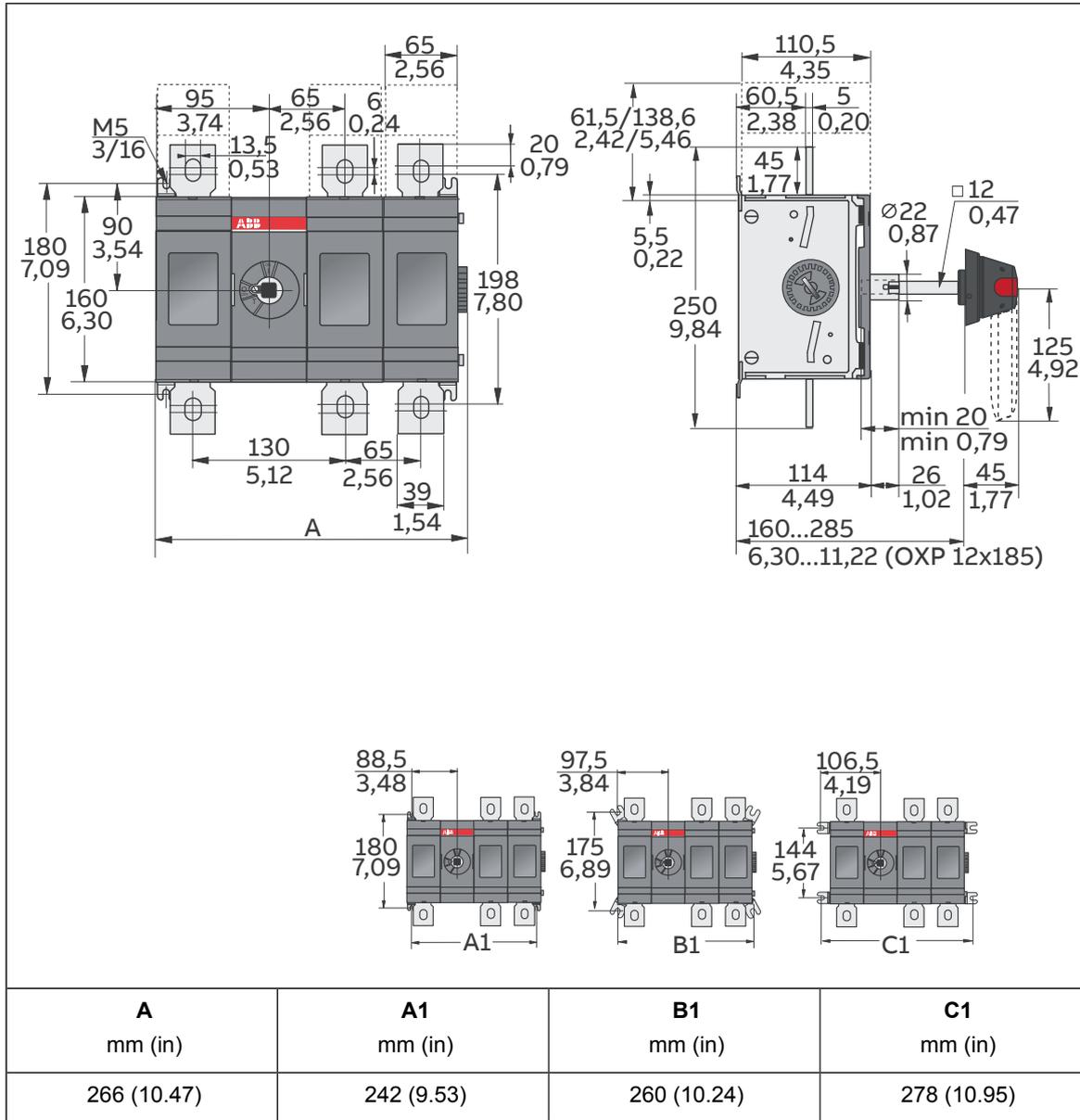
■ IP54



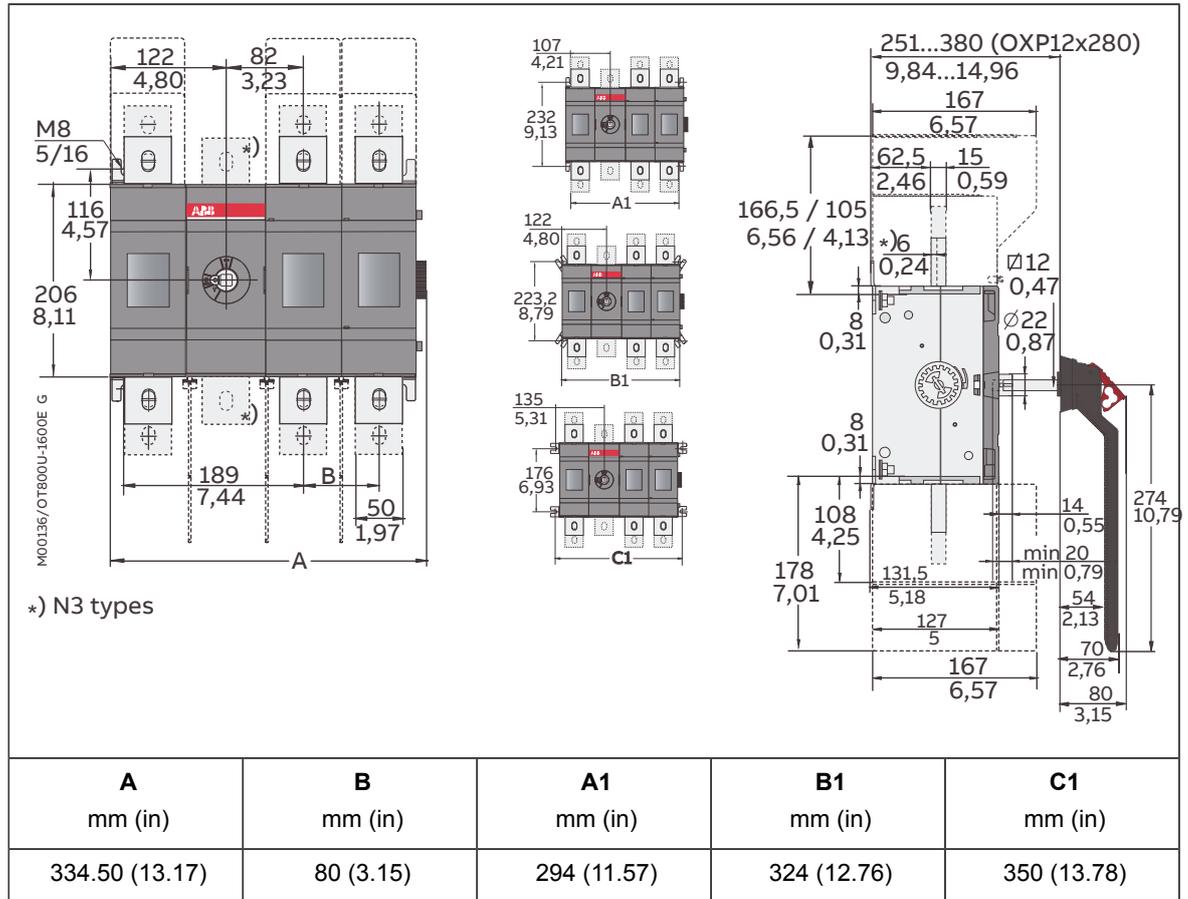
# Switchgear

## ■ OT\_switch-disconnectors

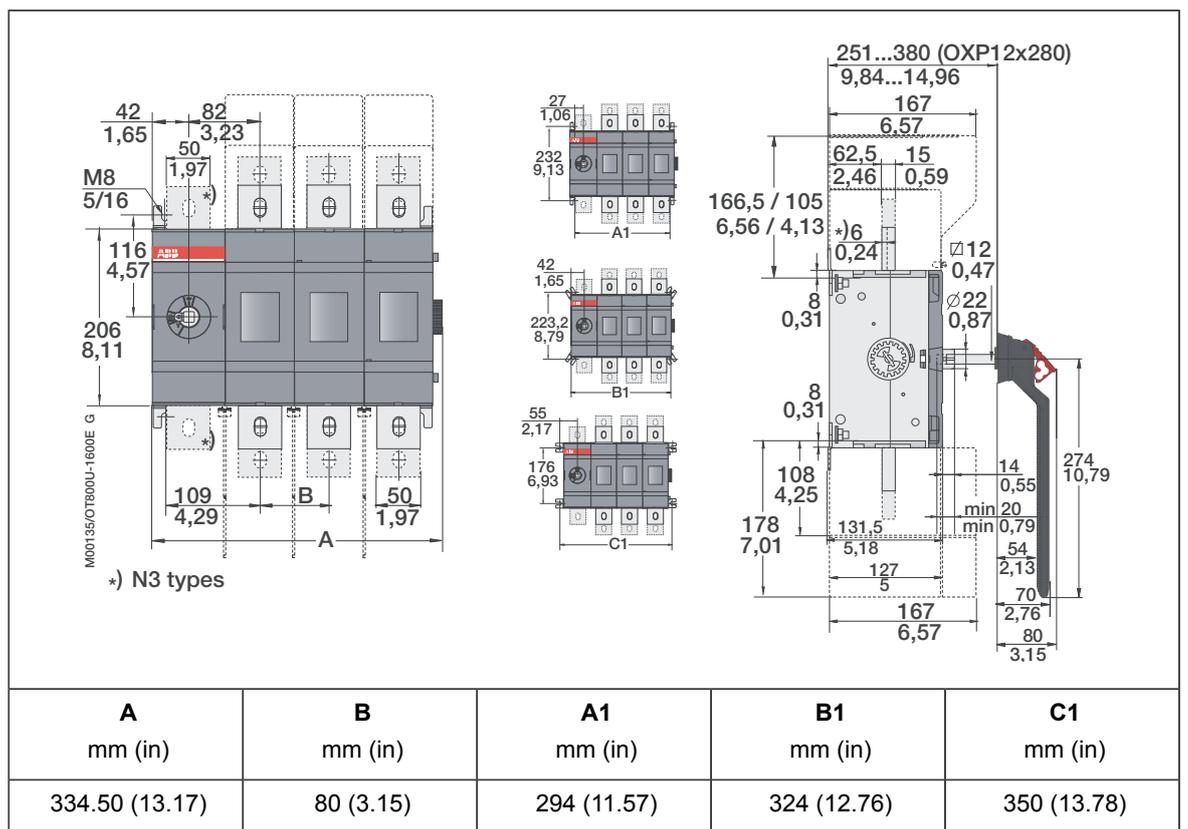
### OT800E12P (IEC)



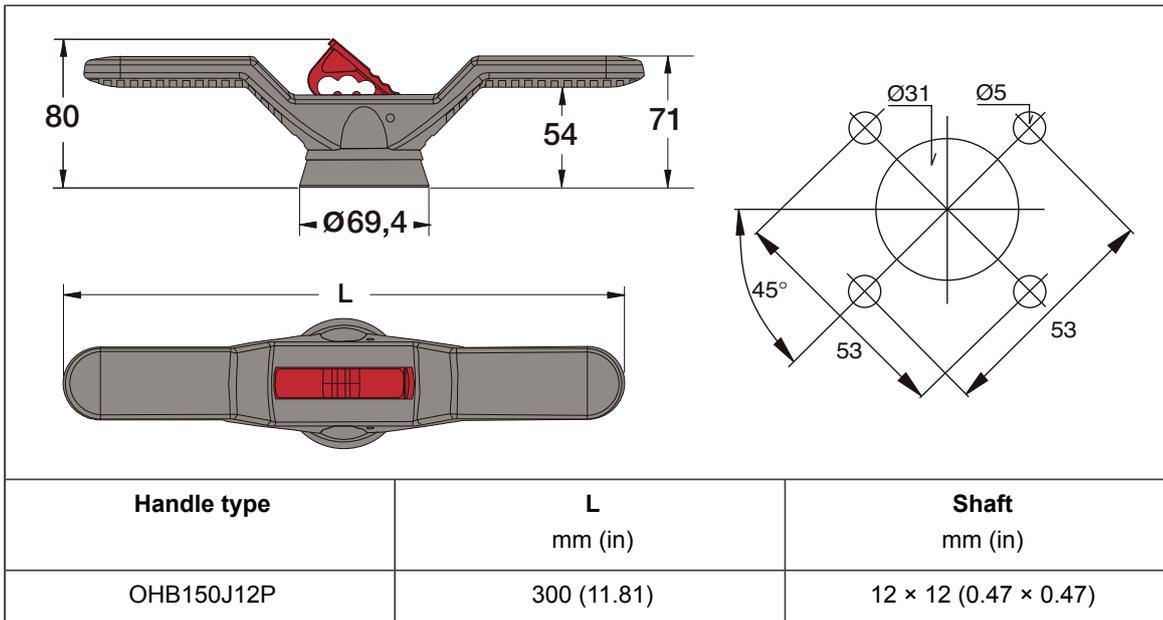
**OT800U12P (UL)**



**OT1000E12 (IEC)/OT1200U12 (UL)**

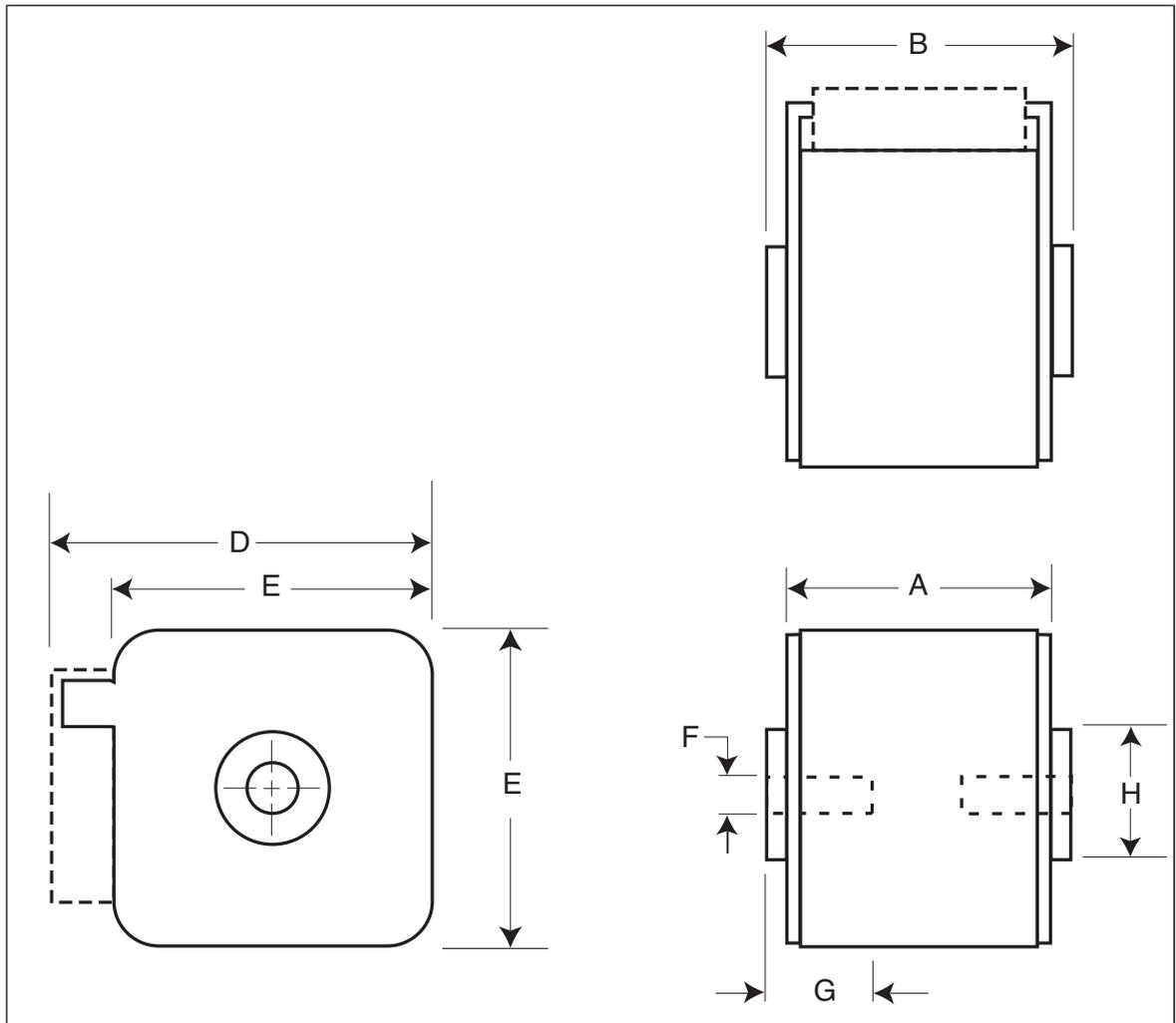


■ OHB150J12P handle



Dimensions in mm  
(1 mm = 0.0394 in)

■ Fuses



Size	A mm (in)	B mm (in)	D mm (in)	E mm (in)	F	G mm (in)	H Ø mm (in)
1	50 (1.97)	51 (2.01)	69 (2.72)	53 (2.09)	M8	8 (0.31)	20 (0.79)
2	50 (1.97)	51 (2.01)	77 (3.03)	61 (2.4)	M10	10 (0.39)	24 (0.94)
3	51 (2.01)	53 (2.09)	92 (3.62)	76 (2.99)	M12	10 (0.39)	30 (1.18)







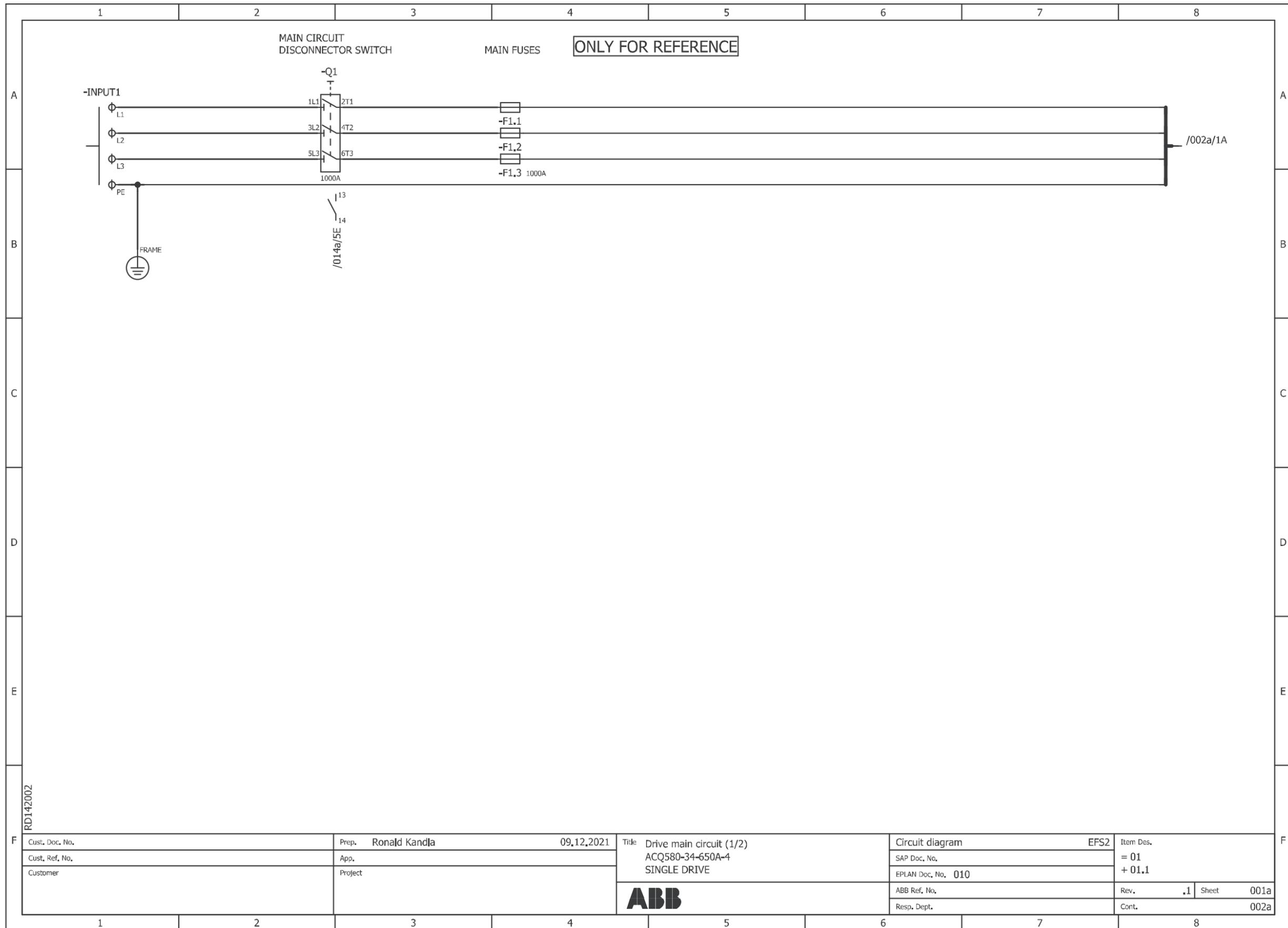
# 7. Circuit diagrams

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## Contents of this chapter

This chapter contains the connection diagram examples for the cabinet-installed drive modules.

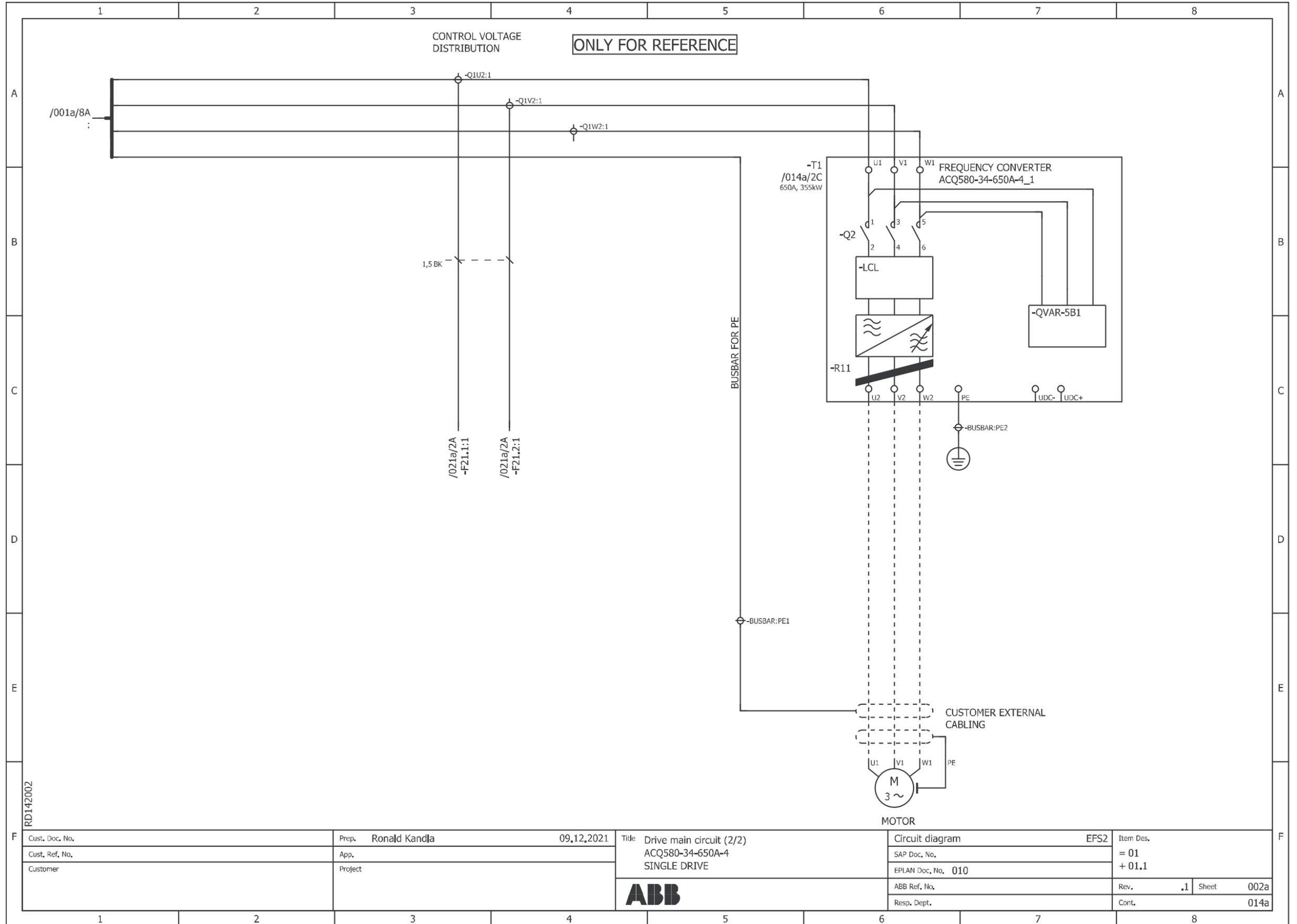
**ACQ580-34 main circuit (1/2)**



RD142002

F	Cust. Doc. No.	Prep. <b>Ronald Kandla</b>	09.12.2021	Title Drive main circuit (1/2)	Circuit diagram	EFS2	Item Des.	F
	Cust. Ref. No.	App.		ACQ580-34-650A-4	SAP Doc. No.		= 01	
	Customer	Project		SINGLE DRIVE	EPLAN Doc. No. <b>010</b>		+ 01.1	
				<b>ABB</b>	ABB Ref. No.		Rev. <b>.1</b> Sheet <b>001a</b>	
				Resp. Dept.		Cont. <b>002a</b>		

ACQ580-34 main circuit (2/2)

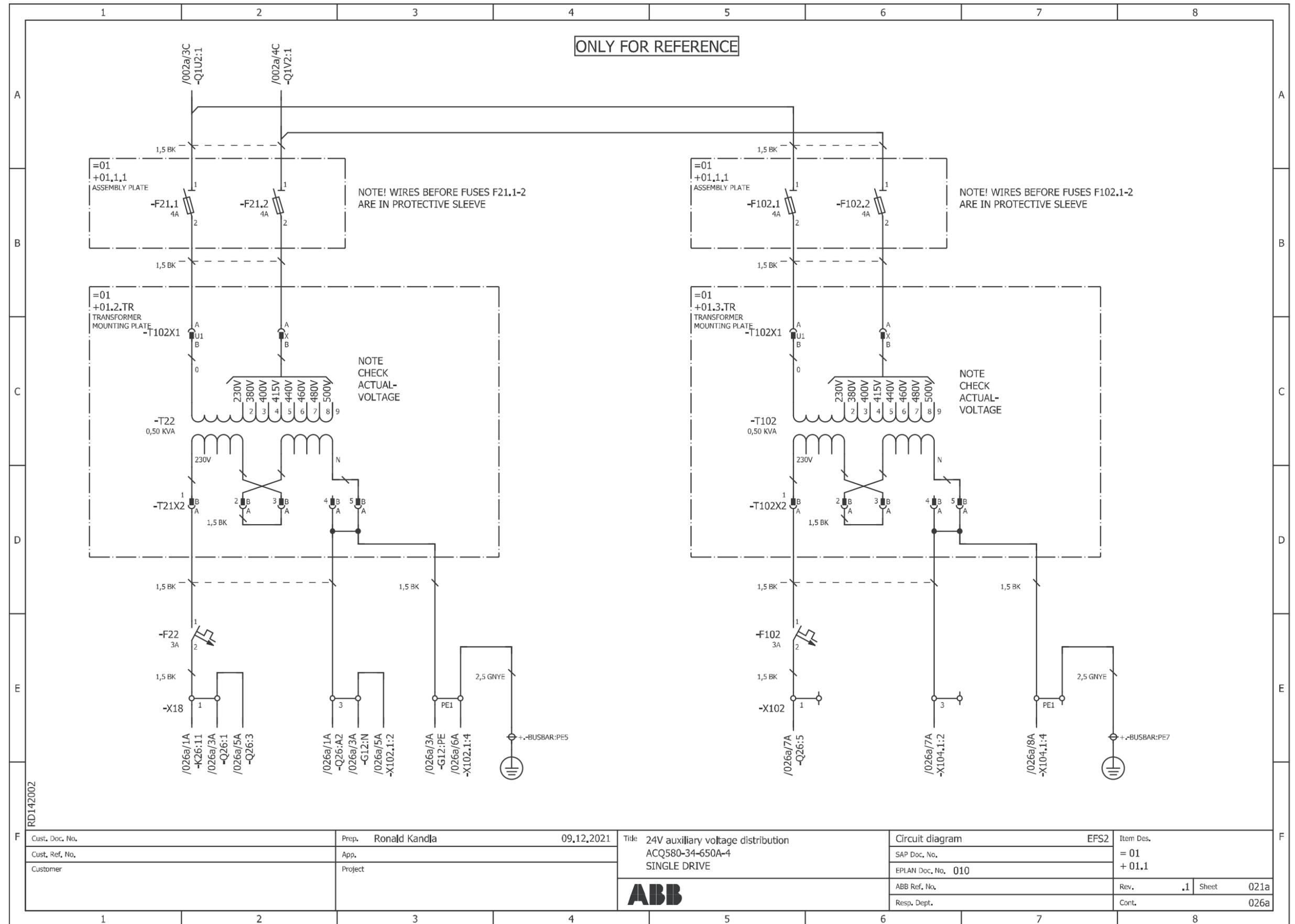


RD142002

Cust. Doc. No.	Prep. Ronald Kandla	09.12.2021	Title Drive main circuit (2/2)	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		ACQ580-34-650A-4	SAP Doc. No.		= 01
Customer	Project		SINGLE DRIVE	EPLAN Doc. No. 010		+ 01.1
			<b>ABB</b>	ABB Ref. No.		Rev. .1 Sheet 002a
				Resp. Dept.		Cont. 014a

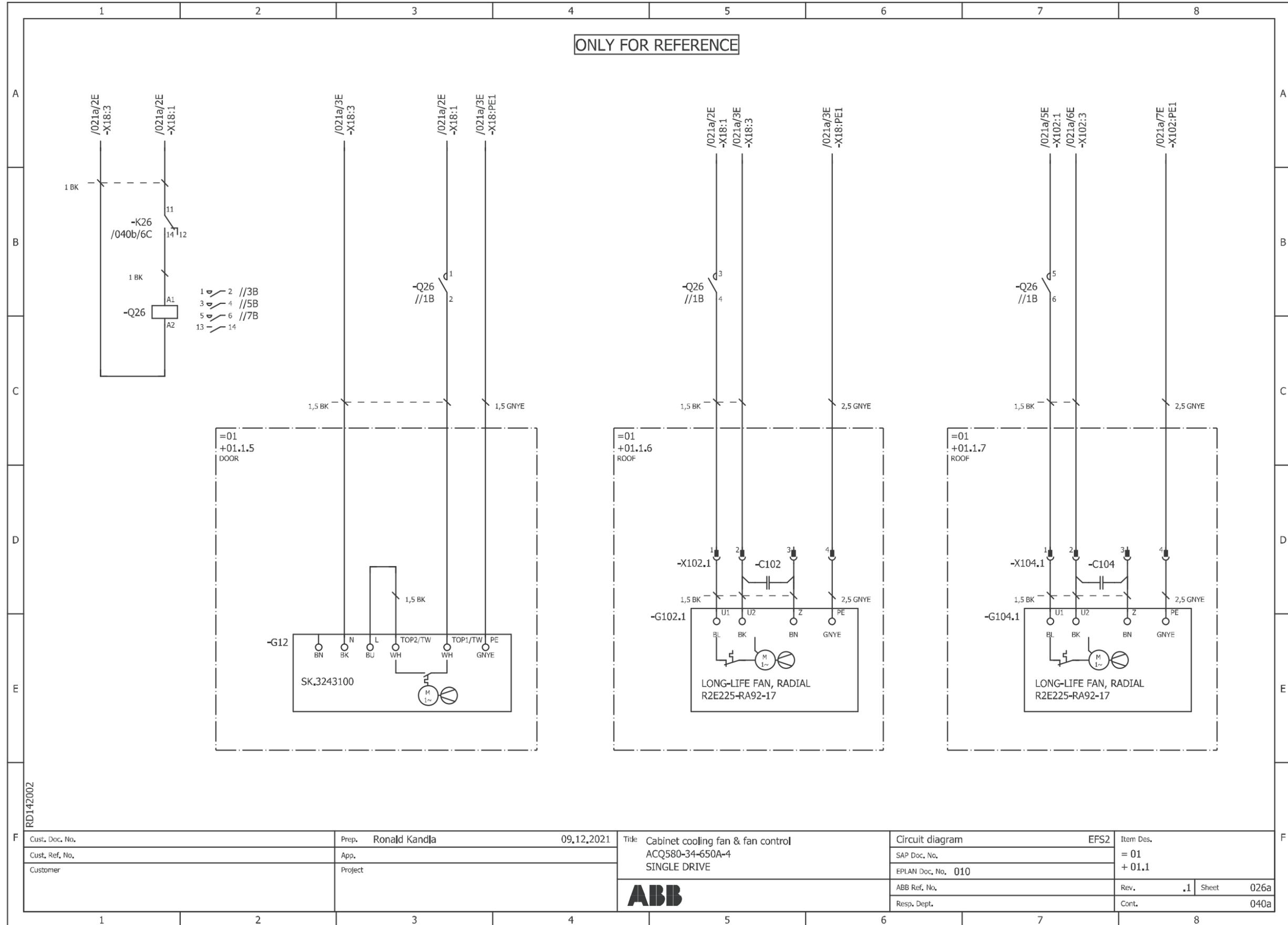


# ACQ580-34 24 V auxiliary voltage distribution



**ACQ580-34 cabinet cooling and fan control**

ONLY FOR REFERENCE



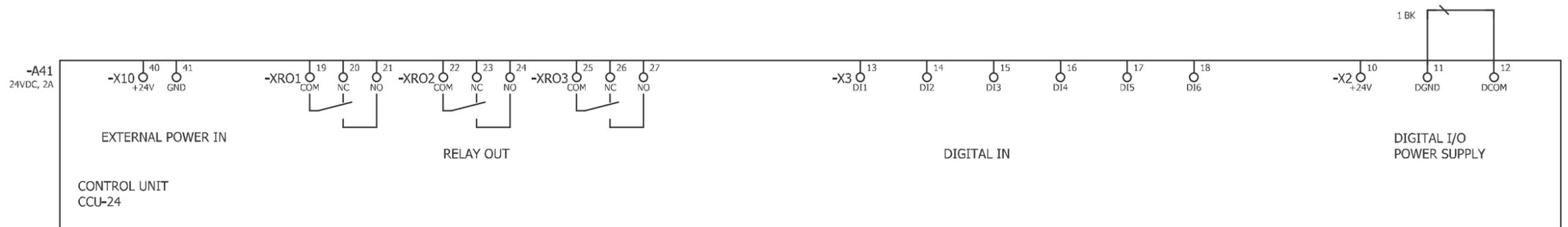
RD142002

Cust. Doc. No.	Prep. <b>Ronald Kandla</b>	09.12.2021	Title: Cabinet cooling fan & fan control	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		ACQ580-34-650A-4	SAP Doc. No.		= 01
Customer	Project		SINGLE DRIVE	EPLAN Doc. No. <b>010</b>		+ 01.1
			<b>ABB</b>	ABB Ref. No.		Rev. <b>.1</b> Sheet <b>026a</b>
				Resp. Dept.		Cont. <b>040a</b>

# ACQ580-34 control unit (1/3)

ONLY FOR REFERENCE

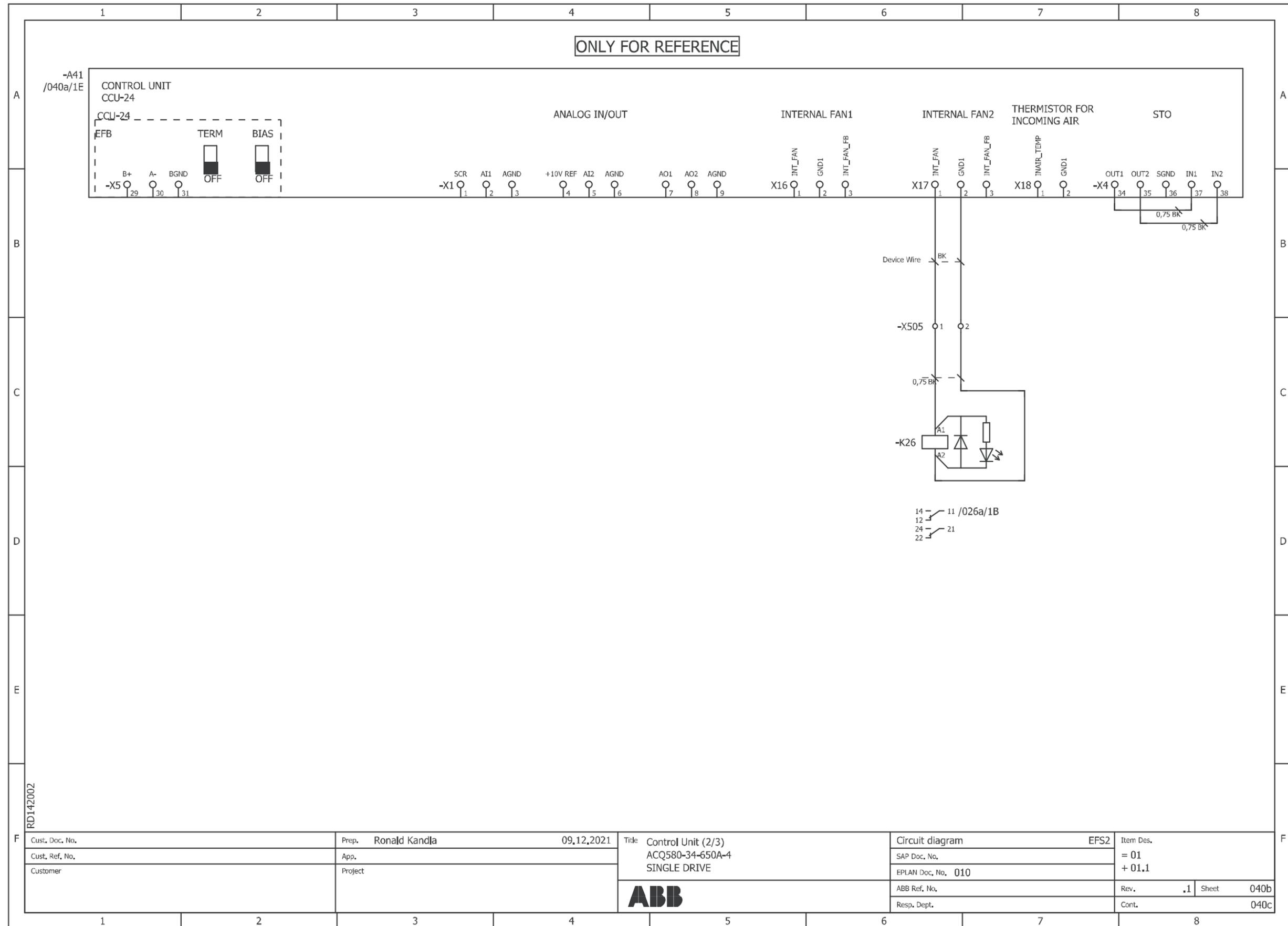
Parameter name/value	Terminal	Pin
RUNNING 1 – RUNNING	-XRO2	22
SPEED REFERENCE 0 (2)...10V	-X1	2
NOT SPECIFIED	-X1	5
MOTOR_SPEED_RPM 0...20mA	-X1	7
CURRENT 0(4)-20mA <-> 0(4)_MOTOR CURR.	-X1	8
X2 AUX VOLTAGE OUTPUT	-X2	10
START / STOP 1 – START	-X3	13
FORWARD / REVERSE 1 – REVERSE	-X3	14
DI3 CONSTANT FREQUENCY	-X3	15
DI4 CONSTANT FREQUENCY	-X3	16
RAMP SET1 / RAMP SET2 1 – RAMP SET2	-X3	17
TEMP FAULT	-X3	18
DRIVE-TO-DRIVE LINK	-X5	29
X10 24V POWER INPUT	-X10	40
READY 1 – READY	-XRO1	19
FAULT 1 – NO FAULT	-XRO3	25



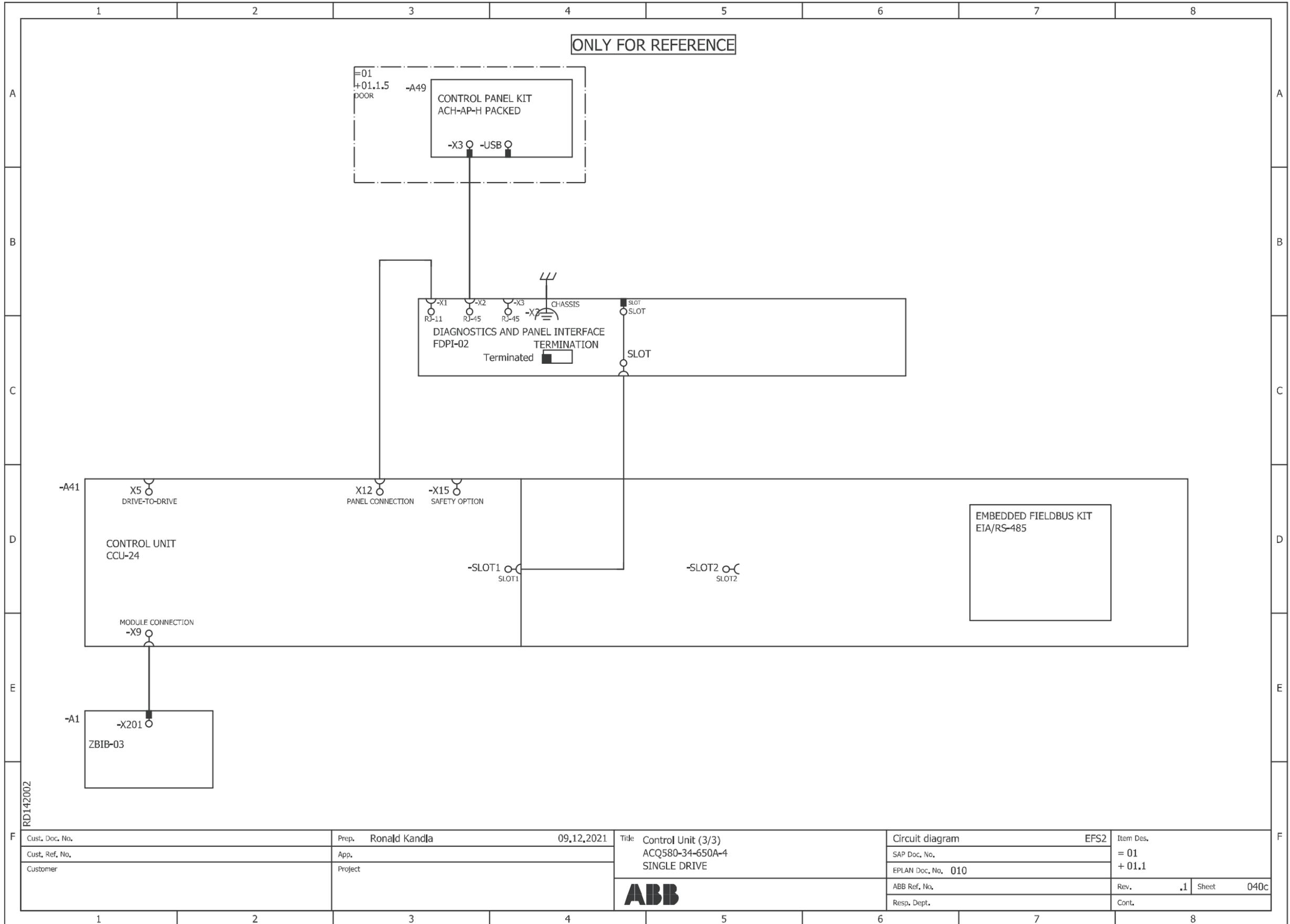
RD142002

Cust. Doc. No.	Prep. Ronald Kandla	09.12.2021	Title Control Unit (1/3) ACQ580-34-650A-4 SINGLE DRIVE	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		<b>ABB</b>	SAP Doc. No.		= 01
Customer	Project			EPLAN Doc. No. 010		+ 01.1
				ABB Ref. No.		Rev. .1
				Resp. Dept.		Cont. 040b

**ACQ580-34 control unit (2/3)**



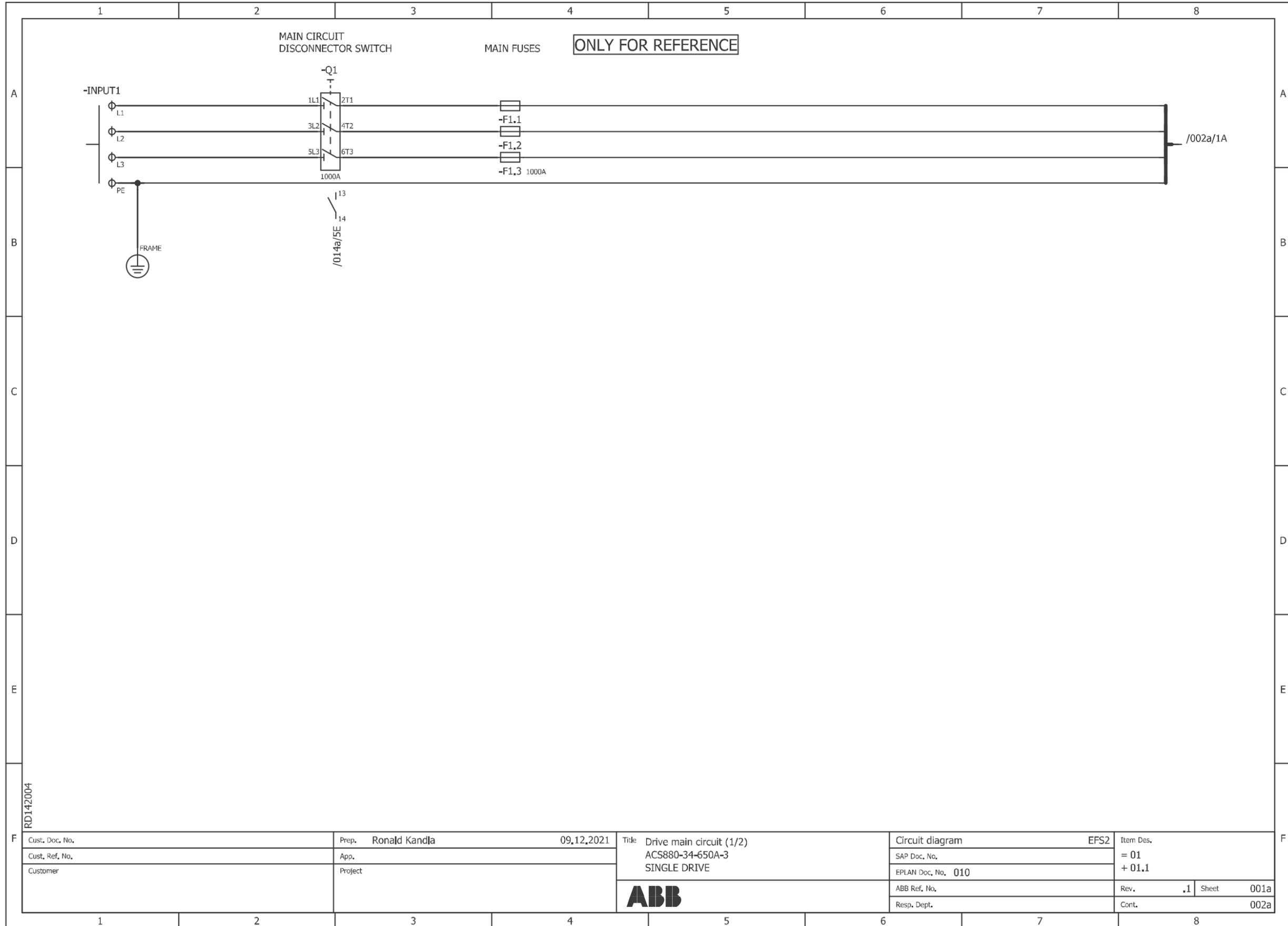
ACQ580-34 control unit (3/3)



RD142002

Cust. Doc. No.	Prep. Ronald Kandla	09.12.2021	Title Control Unit (3/3) ACQ580-34-650A-4 SINGLE DRIVE	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		<b>ABB</b>	SAP Doc. No.		= 01
Customer	Project			EPLAN Doc. No. 010		+ 01.1
				ABB Ref. No.		Rev. .1
				Resp. Dept.		Cont.

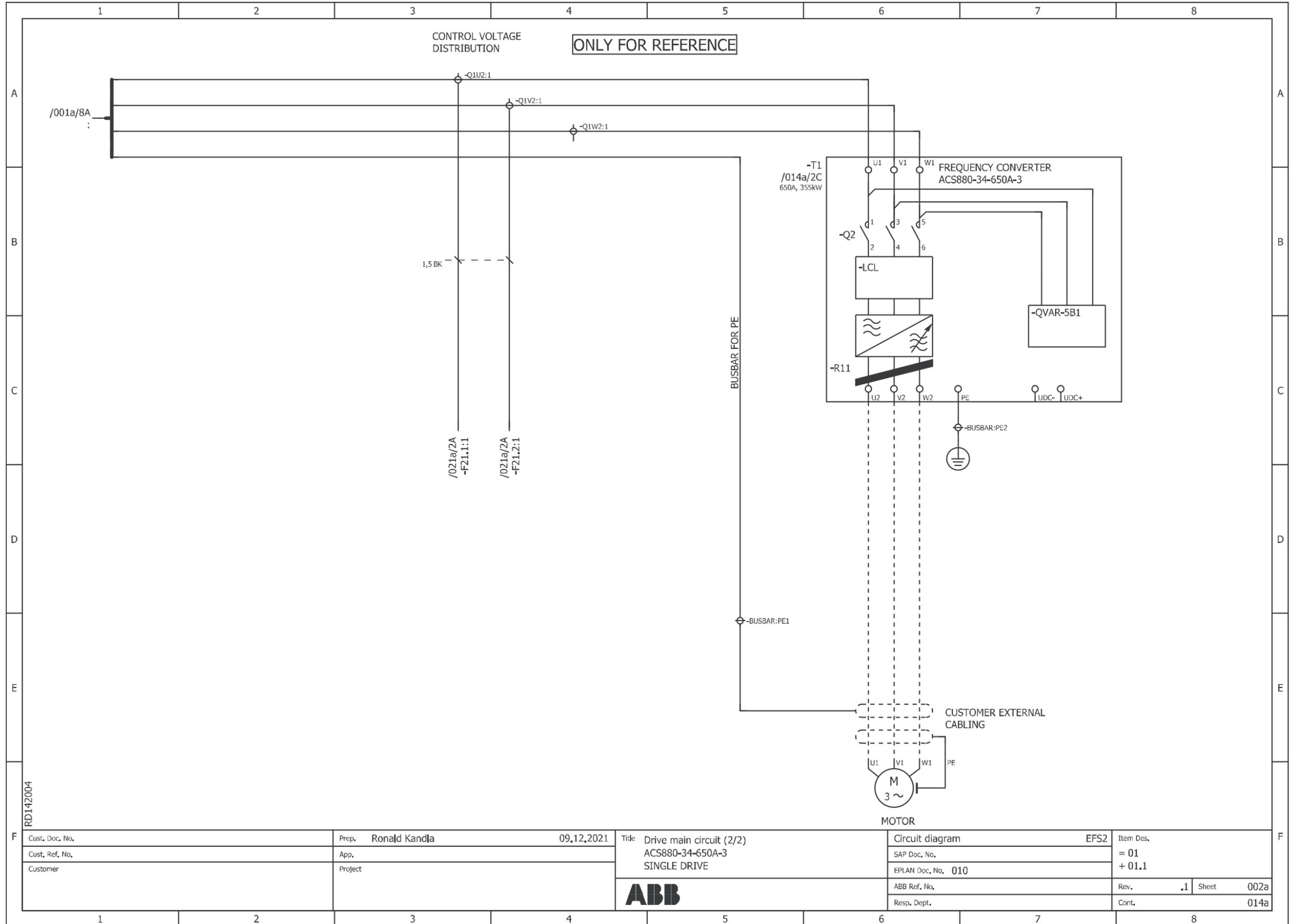
**ACS880-34 main circuit (1/2)**



RD142004

Cust. Doc. No.	Prep. <b>Ronald Kandla</b>	09.12.2021	Title Drive main circuit (1/2) ACS880-34-650A-3 SINGLE DRIVE	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		<b>ABB</b>	SAP Doc. No.		= 01
Customer	Project			EPLAN Doc. No. <b>010</b>		
				ABB Ref. No.		Rev. <b>.1</b> Sheet <b>001a</b>
				Resp. Dept.		Cont. <b>002a</b>

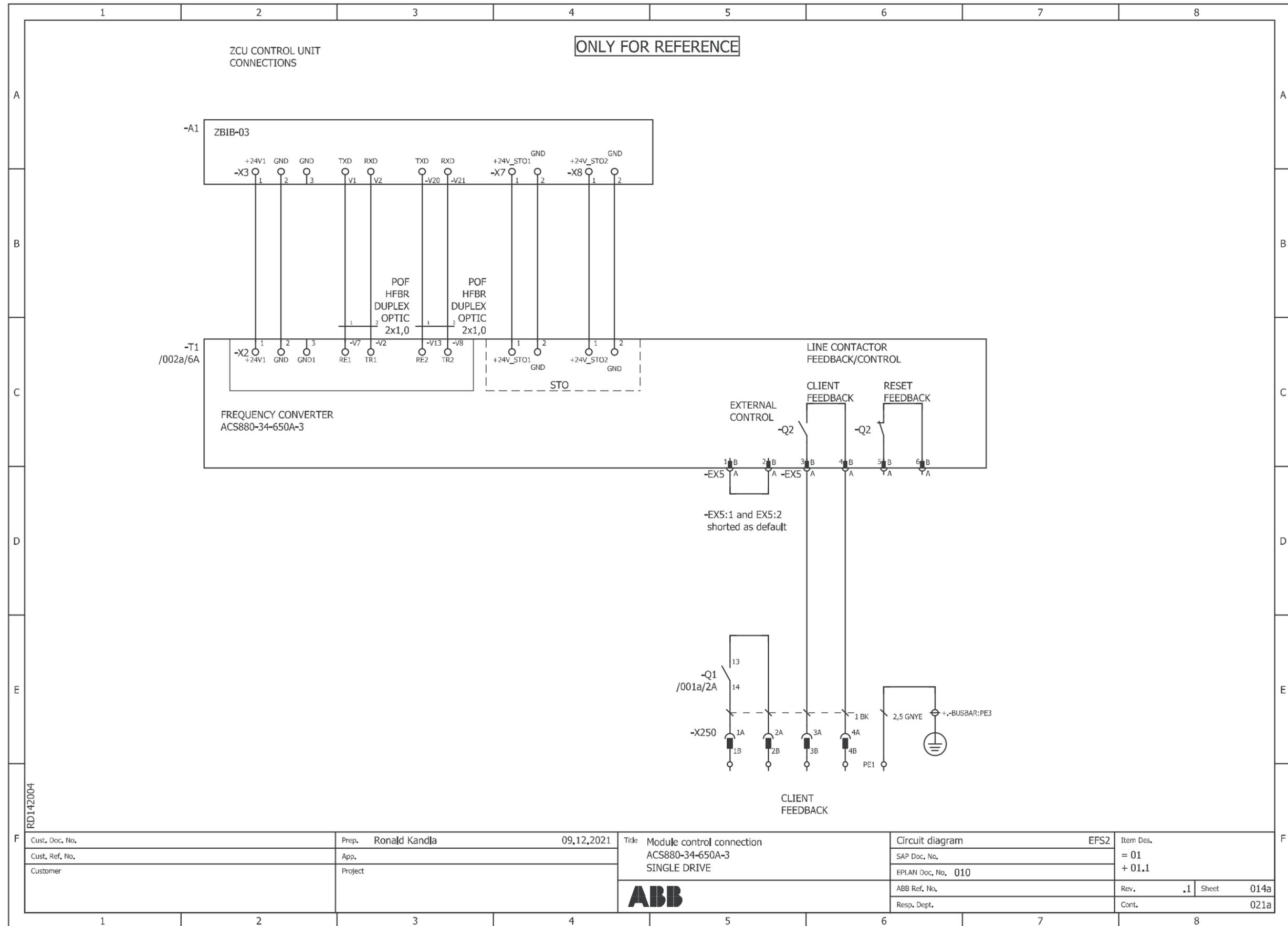
ACS880-34 main circuit 2/2



RD142004

Cust. Doc. No.	Prep. Ronald Kandla	09.12.2021	Title Drive main circuit (2/2)	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		ACS880-34-650A-3	SAP Doc. No.		= 01
Customer	Project		SINGLE DRIVE	EPLAN Doc. No. 010		+ 01.1
			<b>ABB</b>	ABB Ref. No.		Rev. .1 Sheet 002a
				Resp. Dept.		Cont. 014a

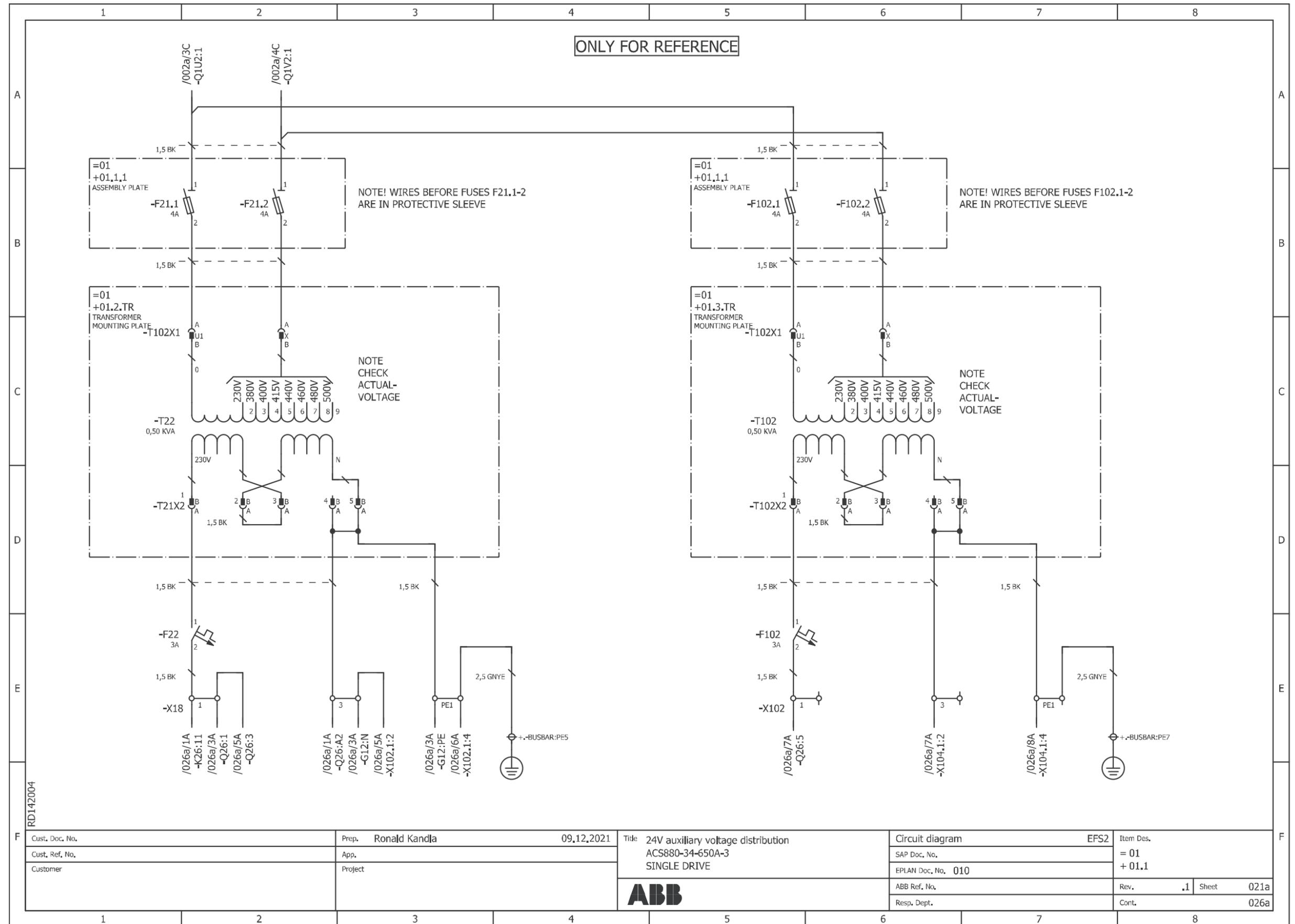
# ACS880-34 module control connection



RD142004

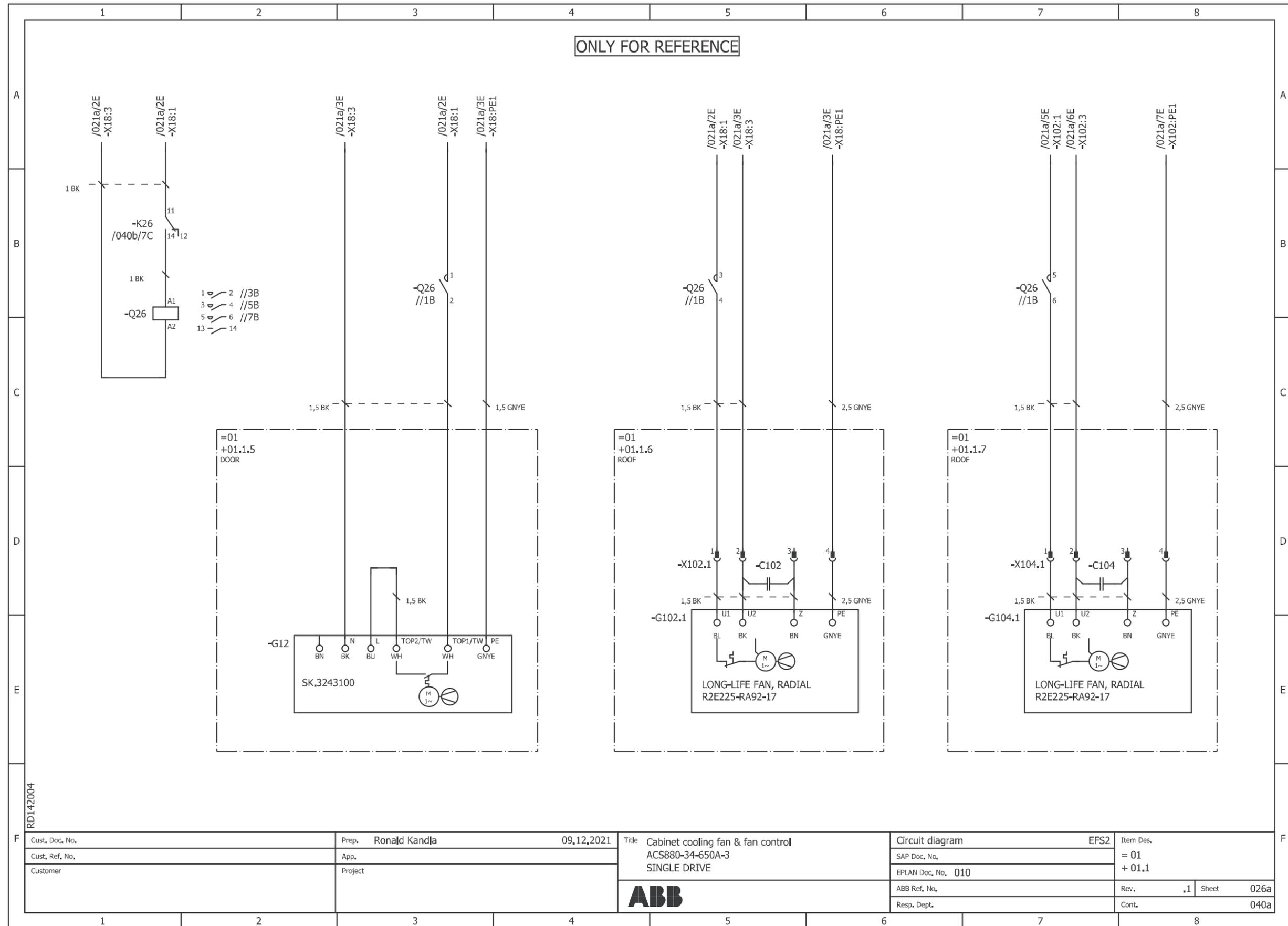
Cust. Doc. No.	Prep. <b>Ronald Kandla</b>	09.12.2021	Title <b>Module control connection</b>	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		<b>ACS880-34-650A-3</b>	SAP Doc. No.		<b>= 01</b>
Customer	Project		<b>SINGLE DRIVE</b>	EPLAN Doc. No. <b>010</b>		<b>+ 01.1</b>
			<b>ABB</b>	ABB Ref. No.		Rev. <b>.1</b> Sheet <b>014a</b>
				Resp. Dept.		Cont. <b>021a</b>

# ACS880-34 24 V auxiliary voltage distribution



# ACS880-34 cabinet cooling and fan control

ONLY FOR REFERENCE



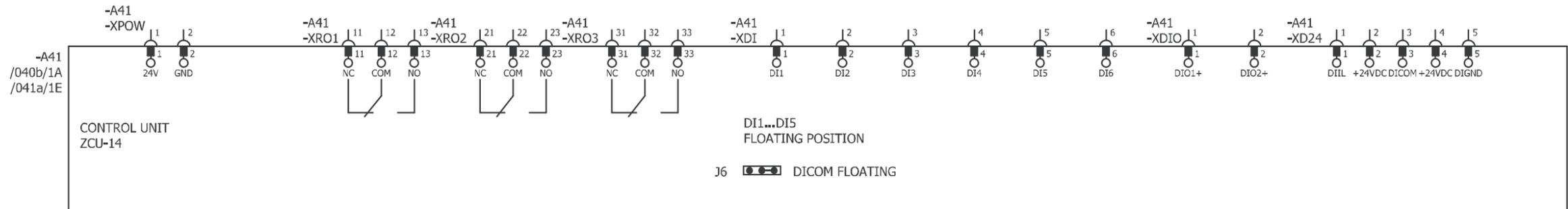
RD142004

Cust. Doc. No.	Prep. <b>Ronald Kandla</b>	09.12.2021	Title: Cabinet cooling fan & fan control	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		ACS880-34-650A-3	SAP Doc. No.		= 01
Customer	Project		SINGLE DRIVE	EPLAN Doc. No. <b>010</b>		+ 01.1
			<b>ABB</b>	ABB Ref. No.		Rev. <b>.1</b> Sheet <b>026a</b>
				Resp. Dept.		Cont. <b>040a</b>

# ACS880-34 control unit (1/3)

ONLY FOR REFERENCE

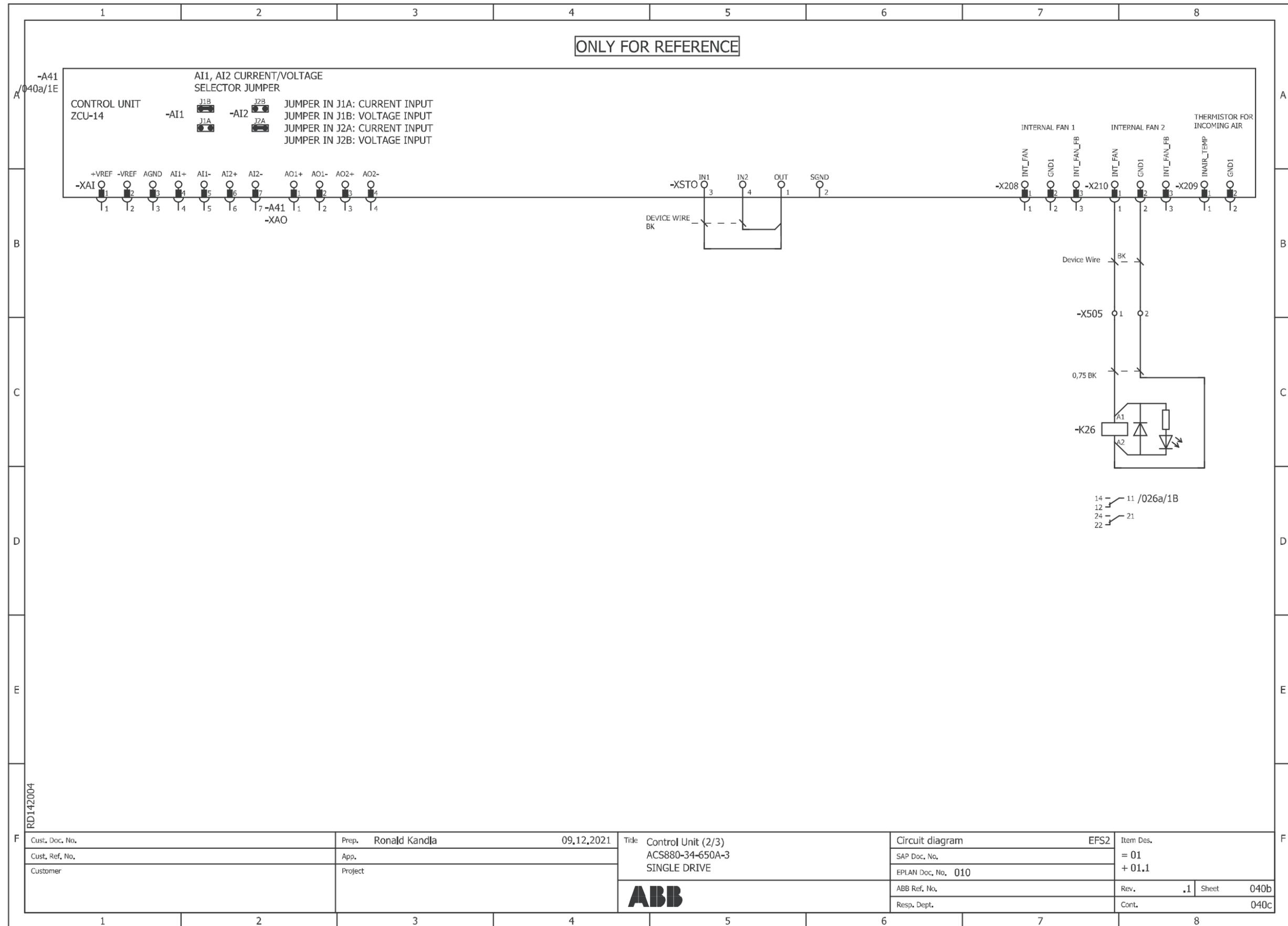
Control and status signals	Terminal	Pin
DIGITAL INTERLOCK	-XD24	1
START/STOP 1 - START	-XDI	1
FORWARD/REVERSE 1 - REVERSE	-XDI	2
RESET	-XDI	3
ACC/DEC TIME SET 1 (0) /SET 2 (1)	-XDI	4
CONSTANT SPEED 1 1 - On	-XDI	5
BY DEFAULT, NOT IN USE IF +LS05/+LS06: MOTOR OVERTEMP. STATUS	-XDI	6
OUTPUT: READY	-XDIO	1
OUTPUT: RUNNING	-XDIO	2
READY 1 - READY	-XRO1	12
RUNNING 1 - RUNNING	-XRO2	22
FAULT (-1) 1 - NO FAULT	-XRO3	32



RD142004

Cust. Doc. No.	Prep. Ronald Kandla	09.12.2021	Title Control Unit (1/3) ACS880-34-650A-3 SINGLE DRIVE	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.		<b>ABB</b>	SAP Doc. No.		= 01
Customer	Project			EPLAN Doc. No. 010		+ 01.1
				ABB Ref. No.		Rev. .1 Sheet 040a
				Resp. Dept.		Cont. 040b

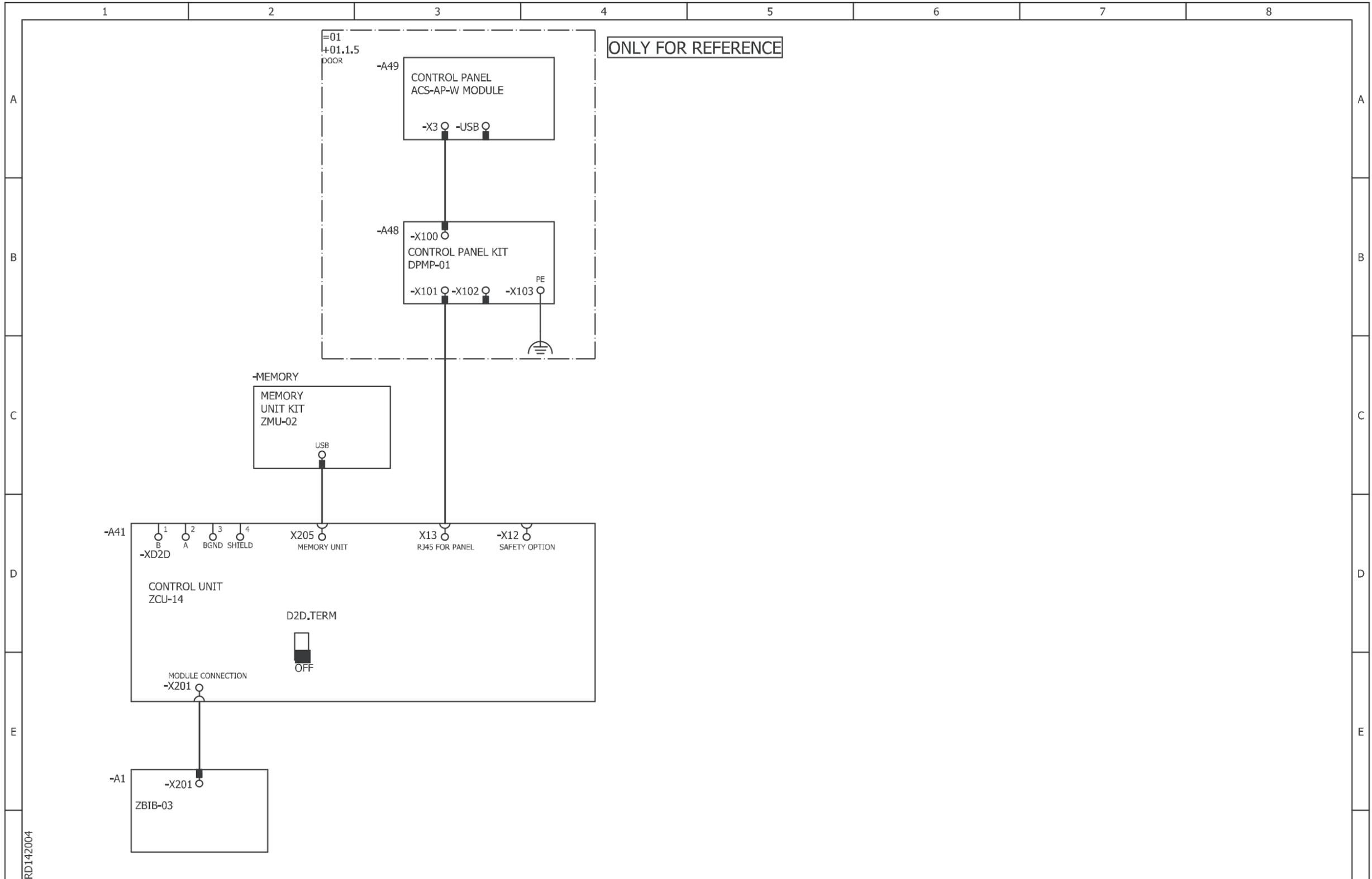
**ACS880-34 control unit (2/3)**



RD142004

Cust. Doc. No.	Prep. <b>Ronald Kandja</b>	09.12.2021	Title <b>Control Unit (2/3) ACS880-34-650A-3 SINGLE DRIVE</b>	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.	App.			SAP Doc. No.		= 01
Customer	Project			EPLAN Doc. No. <b>010</b>		+ 01.1
<b>ABB</b>				ABB Ref. No.		Rev. <b>.1</b> Sheet <b>040b</b>
				Resp. Dept.		Cont. <b>040c</b>

# ACS880-34 control unit (3/3)



RD142004

Cust. Doc. No.		Prep. Ronald Kandla	09.12.2021	Title Control Unit (3/3)	Circuit diagram	EFS2	Item Des.
Cust. Ref. No.		App.		ACS880-34-650A-3	SAP Doc. No.		= 01
Customer		Project		SINGLE DRIVE	EPLAN Doc. No.	010	+ 01.1
				<b>ABB</b>	ABB Ref. No.		Rev. .1 Sheet 040c
					Resp. Dept.		Cont. 041a



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# Further information

## **Product and service inquiries**

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to [www.abb.com/searchchannels](http://www.abb.com/searchchannels).

## **Product training**

For information on ABB product training, navigate to [new.abb.com/service/training](http://new.abb.com/service/training).

## **Providing feedback on ABB manuals**

Your comments on our manuals are welcome. Navigate to [new.abb.com/drives/manuals-feedback-form](http://new.abb.com/drives/manuals-feedback-form).

## **Document library on the Internet**

You can find manuals and other product documents in PDF format on the Internet at [www.abb.com/drives/documents](http://www.abb.com/drives/documents).



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