

## Installation instructions

Motor cooling fan starter for ACS580-07, ACS580-07 and ACQ580-07 drives (options +M600 to +M605)

# List of related manuals

## Drive hardware manuals

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*ACS580-07 drives hardware manual*

**Code (English)**

[3AXD50000045815](#)

*ACH580-07 drives hardware manual*

[3AXD50000045816](#)

*ACQ580-07 drives hardware manual*

[3AXD50000045817](#)

## Firmware manuals and guides

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*ACS580 standard control program firmware manual*

[3AXD50000016097](#)

*ACH580 HVAC control program firmware manual*

[3AXD50000027537](#)

*ACQ580 pump control program firmware manual*

[3AXD50000035867](#)

## Option manuals and guides

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*Installation instructions of motor cooling fan starter for ACS580-07, ACS580-07 and ACQ580-07 drives (options +M600 to +M605)*

[3AXD50000244522](#)

For manuals, contact your local ABB representative.

# Installation instructions

Motor cooling fan starter for ACS580-07,  
ACS580-07 and ACQ580-07 drives (options  
+M600 to +M605)

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3. Electrical installation





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# 1

## About this manual

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### Contents of this chapter

This chapter describes the intended audience, purpose and contents of the manual.

### Safety instructions

For the safety instructions, see the drive hardware manual. If you ignore the safety instructions, physical injury or death may follow, or damage may occur to the drive or driven equipment.

### Target audience

This manual is intended for people who install and service 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.

### Contents of this manual

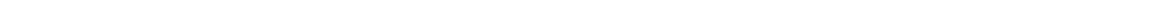
The chapters of this manual are briefly described below.

[About this manual](#) introduces this manual.

[Operation principle and hardware description](#) describes the cabinet layout and the option specifications.

[Electrical installation](#) describes the installation of the power supply and control cables for the options.

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# Operation principle and hardware description

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## Contents of this chapter

This chapter describes the operation principle and construction of the options.

## Overview

The option provides a power supply for 3-phase motor cooling fans. Each fan power supply is equipped with

- fuses
- a manual motor starter switch with an adjustable current limit
- a contactor controlled by the drive, and
- terminal block X601 for customer connections.

You can order only one starter option. For more information, refer to *ACS/H/Q580-07 Ordering information* (3AXD10000485076, available on request).

## Description

The power supply of the motor cooling fan is wired from the 3-phase supply voltage to terminal block X601 through a motor starter switch and a contactor. The contactor is operated by the drive. The 230 V AC control circuit is wired through a jumper on the terminal block; the jumper can be replaced by an external control circuit. The starter switch has an adjustable trip current limit. You can also use it as a manual on/off switch. One auxiliary contact of the contactor, and one of the starter switch are wired to a terminal block. User can read the contactor/switch status through the terminal block if necessary. For wiring, see the connection diagrams in section [Wiring the starter for motor cooling fan](#)

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(options +M600...+M605) or circuit diagrams delivered with the drive.

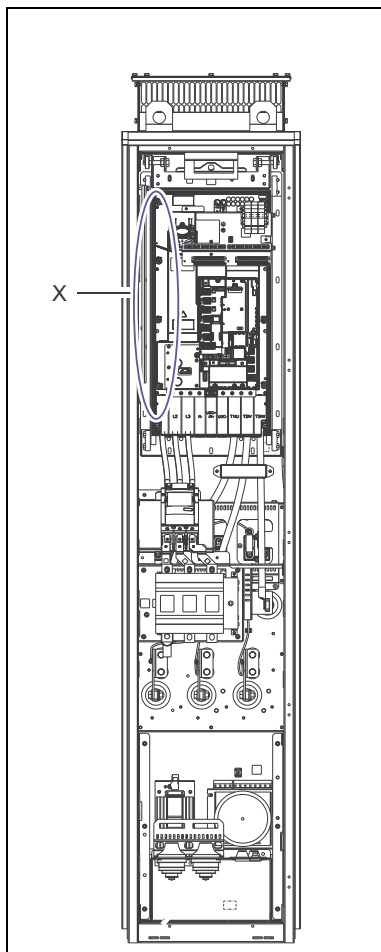
## Type designation key

The option selections are described below. For more information on the type designation, see the hardware manual of the drive or *ACS/H/Q580-07 Ordering information* (3AXD10000485076, available on request).

Starter for motor cooling fan	
+M600	Trip limit setting range: 1...1.6 A
+M601	Trip limit setting range: 1.6...2.5 A
+M602	Trip limit setting range: 2.5...4 A
+M603	Trip limit setting range: 4...6.3 A
+M604	Trip limit setting range: 6.3...10 A
+M605	Trip limit setting range: 10...16 A

## Cabinet layout – R6 and R7 (bottom entry and exit of cables)

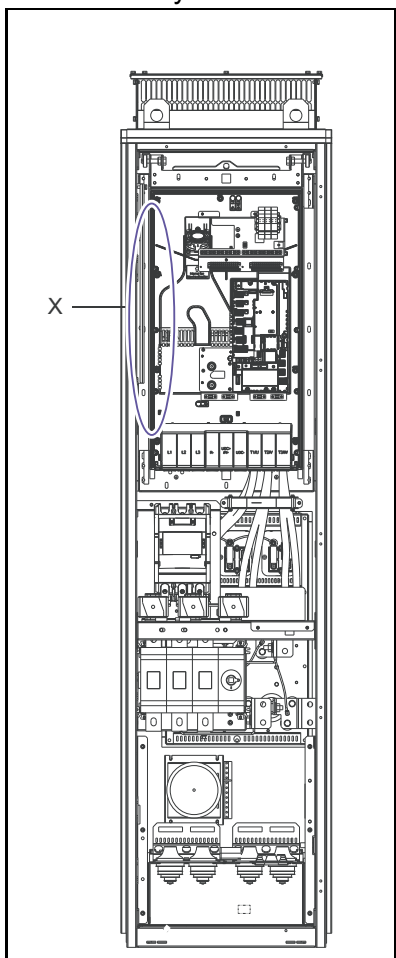
The cabinet layout of frame R7 is shown below. Frame R6 looks similar.



X: Mounting plate for options +M600...+M605

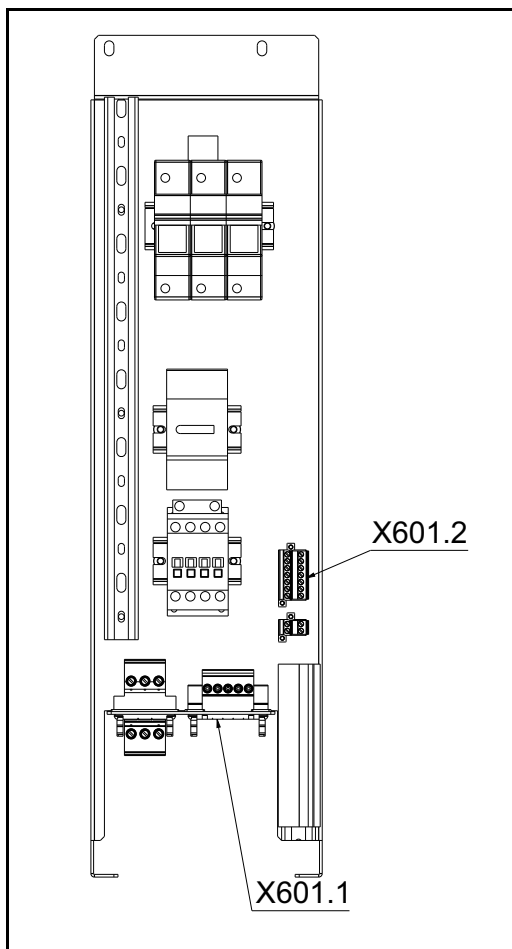
## Cabinet layout – R8 and R9 (bottom entry and exit of cables)

The cabinet layout of frame R9 is shown below. Frame R8 looks similar.



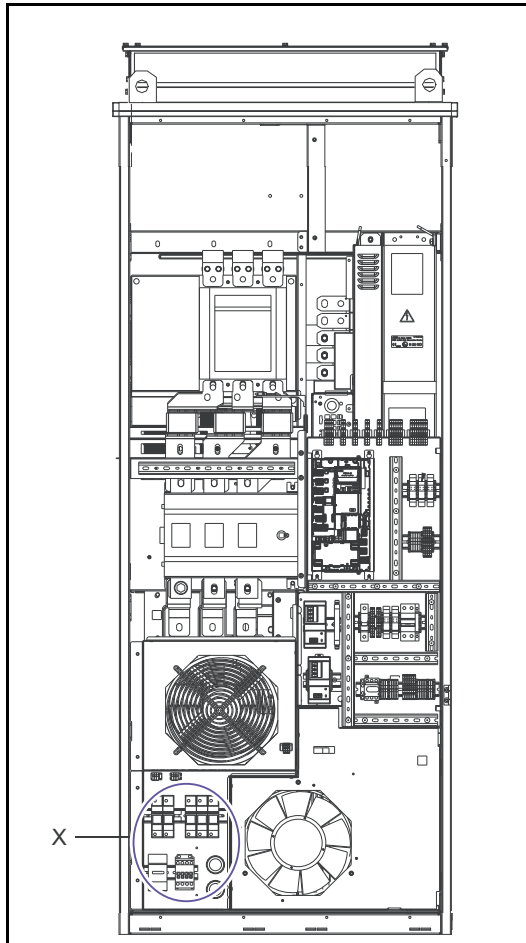
X: Mounting plate for options +M600...+M605

## Mounting plate for options +M600...+M605 - R6 to R9



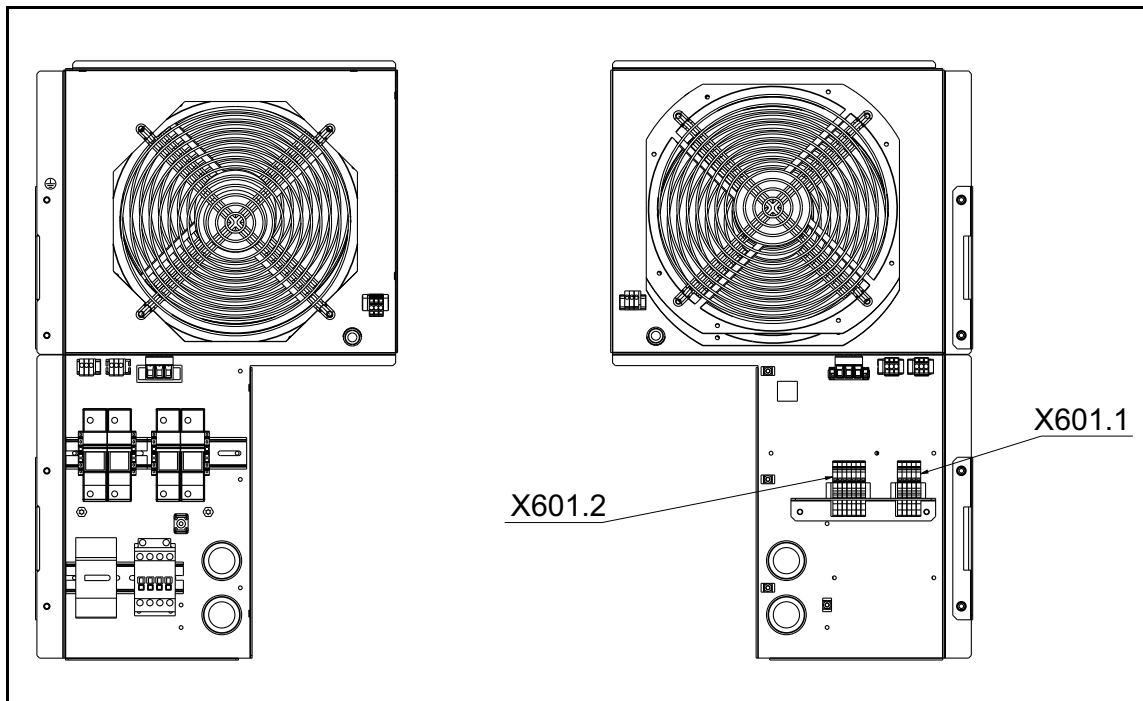
## Cabinet layout – R10 and R11 (bottom entry and exit of cables)

The cabinet layout of frame R10 is shown below. Frame R11 looks similar.



X: Mounting plate for options +M600...+M605

## Mounting plate for options +M600...+M605 - R10 to R11



## 3

# Electrical installation

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## Contents of this chapter

This chapter describes the electrical installation of the motor cooling fan.

## Safety instructions

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**WARNING!** Only qualified electrical professionals are allowed to carry out the work described in this document.

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**WARNING!** Before you start installing make sure by disconnecting that no voltage cannot be connected to the drive from any power source, ie:

- from the power line
- from an external auxiliary power supply.

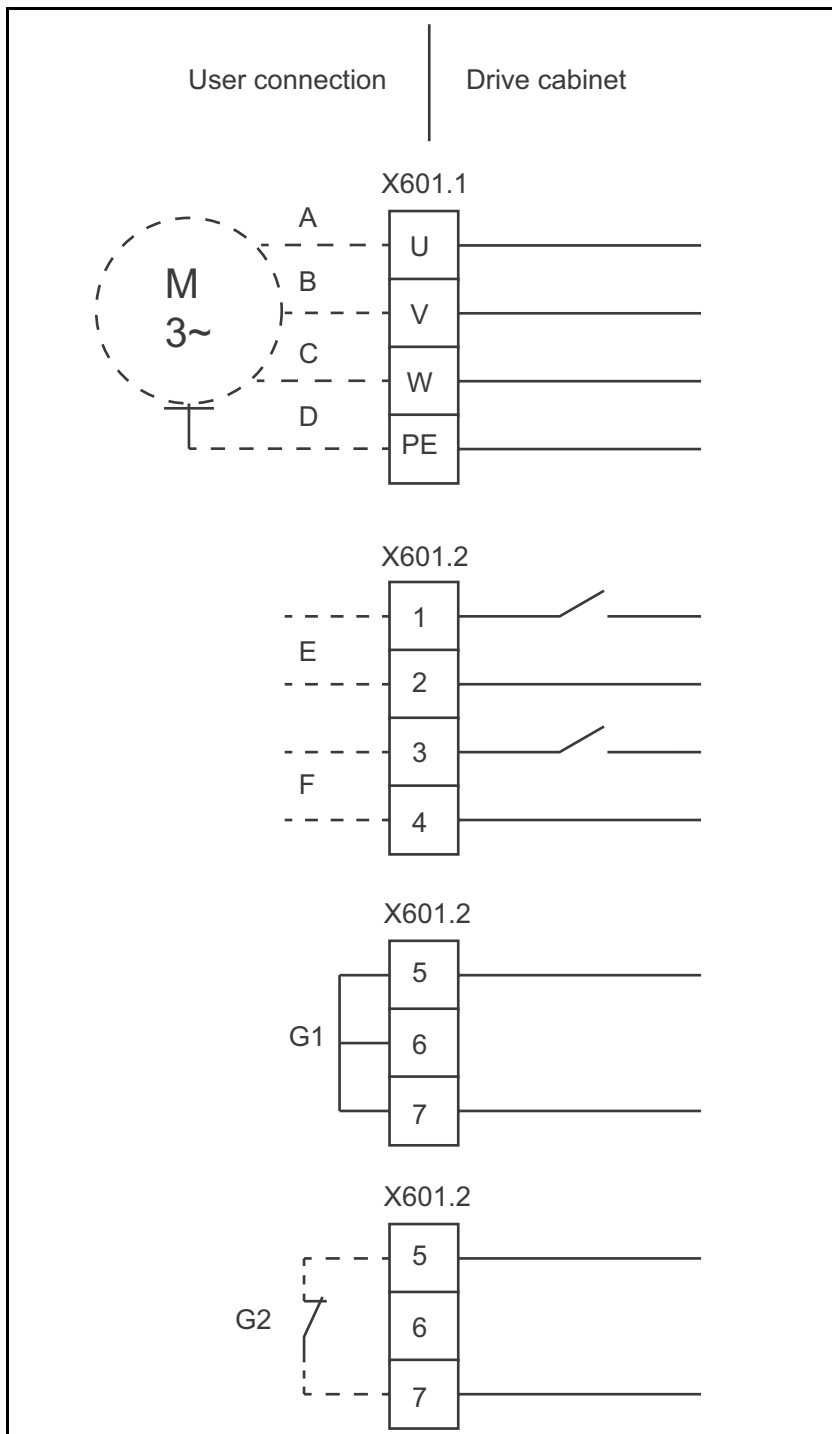
Lock and tack the disconnecting devices. If you use a permanent magnet motor with the drive, disconnect it from the drive and lock the motor shaft.

After switching off the power, wait for at least 5 minutes so that the voltage of the intermediate circuit capacitors gets lower than the safety level. Confirm that the DC-voltage is less than 5 V with a multimeter. Ignoring the safety instructions can cause injury or even death.

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## Wiring the starter for motor cooling fan (options +M600...+M605)

Connect the power supply wires for the motor cooling fan to terminal blocks X601.1 and X601.2 according to the connection diagrams below or circuit diagrams delivered with the drive.





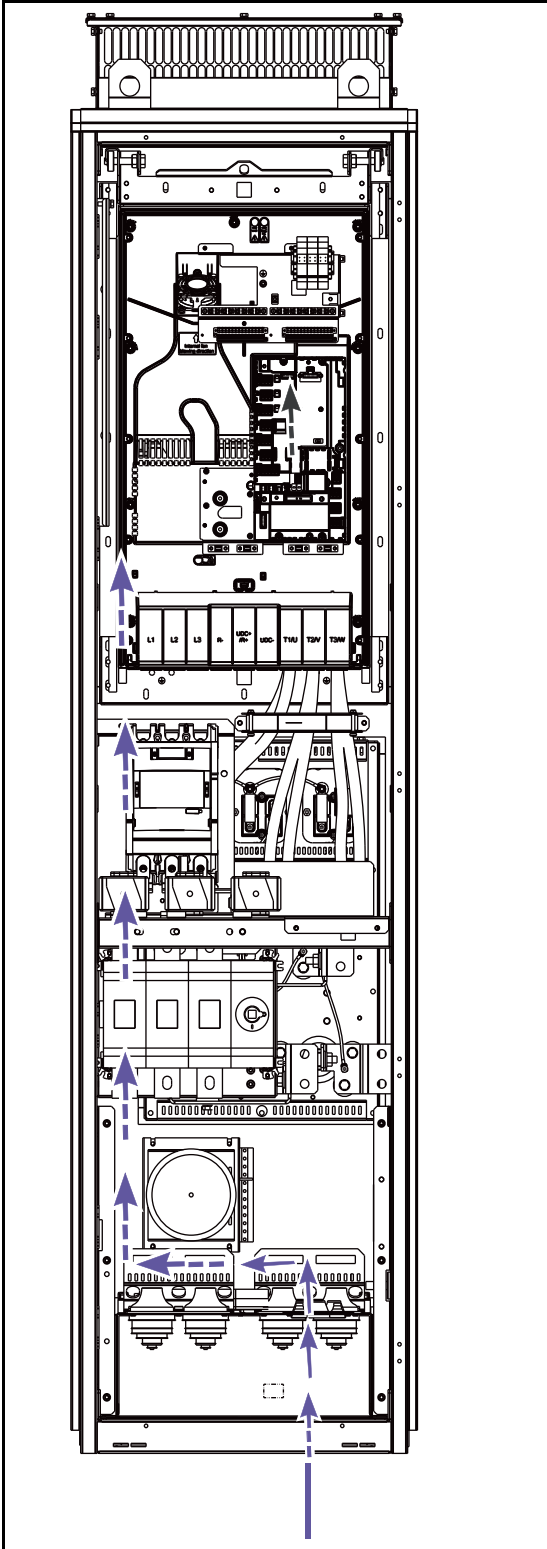
Terminal block	Description	Maximum acceptable voltage and current values and wire sizes
X601.1	Terminals for motor supply	480 V AC / Current according to option 0.2...6.0 mm <sup>2</sup> (24...10 AWG)
X601.2	Terminals for contactor and manual motor starter feedback. Terminals for external contactor control (potential free contact required).	230V AC 0.25...2.5mm <sup>2</sup> (24...12 AWG)

Legend	Description
A	U-phase
B	V-phase
C	W-phase
D	Grounding
E	Motor starter feedback
F	Contactor feedback
G1 G2	Default configuration: bridge connection In case of external contactor control: remove bridge and connect the terminals as desired (example shown)

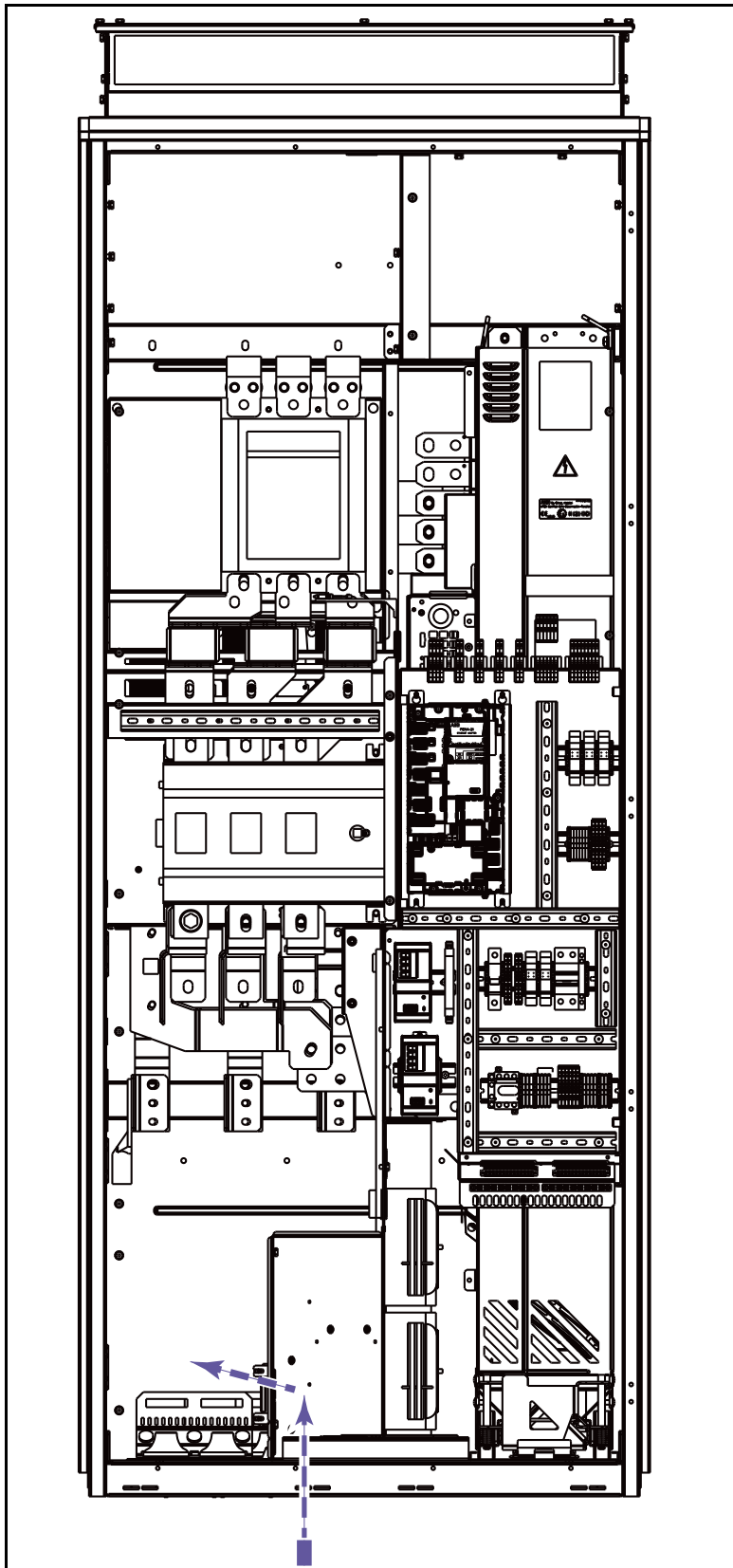


## Routing the control cables inside the cabinet

The route of the control cables is shown below in frame R9. The route is similar frames R6, R7 and R8.



The route of the control cables for frames R10 and R11 is shown below.





## 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 [www.abb.com/service/training](http://www.abb.com/service/training).

### Providing feedback on ABB Drives manuals

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

# Contact us

[www.abb.com/drives](http://www.abb.com/drives)

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