Installation Guide

iC7 Series Air-cooled System Modules

Non-Regenerative Frond-End, Active Front-End, Inverter, and Grid Converter Modules



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1 Overview

1.1 Safety and Installation Awareness

Before starting installation, read all safety guidelines and precautions related to installing the products. For more information, see the product-specific design guide. Supplemental information and other guides can be downloaded from www.danfoss.com/en/service-and-support/documentation/.

1.2 Checking the Delivery and the Contents

Make sure that the items supplied and the information on the product label correspond to the order confirmation.

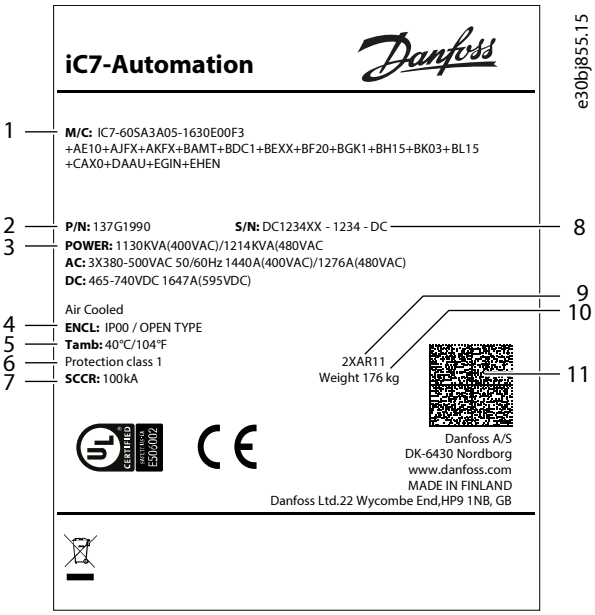


Figure 1: Product Label for iC7 Series Air-cooled System Modules

1	Model code of the product	2	Code number
3	Power, input, and output ratings	4	Protection rating
5	Temperature rating for ambient air	6	Protective class
7	Short-circuit current rating	8	Serial number
9	Frame designation	10	Weight
11	2D code accessible with a Datamatrix ECC 200 compatible barcode reader		

If the optional sea container package (+TASE) was ordered, remove the yellow VCI capsule from the product.

1.3 Lifting the Product

The weights of system modules and different frames are different. It can be necessary to use a lifting device to move the drive from its package. For lifting the product, follow these instructions.

1. Remove the system module from the pallet where it was bolted to.
2. Use a lifting device that is sufficiently strong for the weight of the system module or filter.
3. Put the lifting hooks in the lifting loop or lifting hole on top of the product.

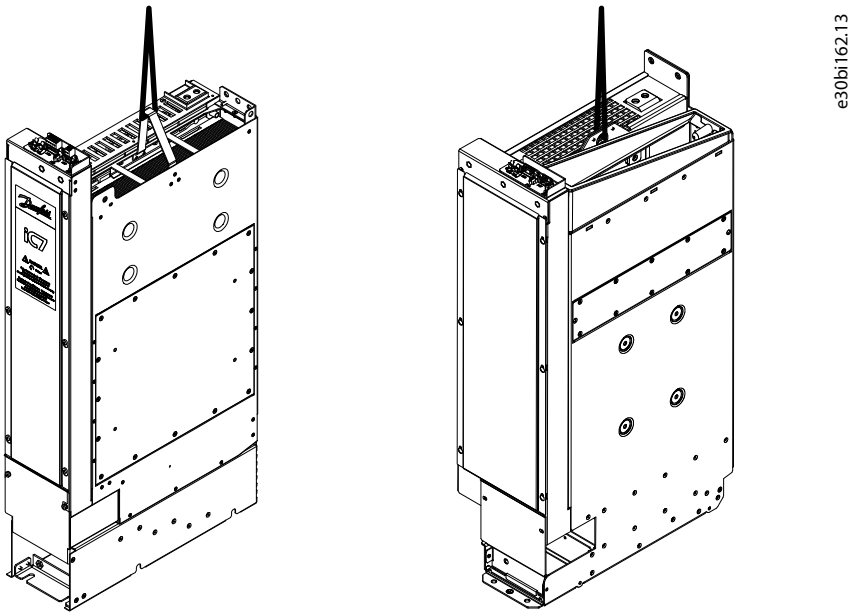


Figure 2: Lifting the System Module, IM10 and NR11

4. Lift the upper part of the LCL Filter for the AFE module vertically or horizontally.

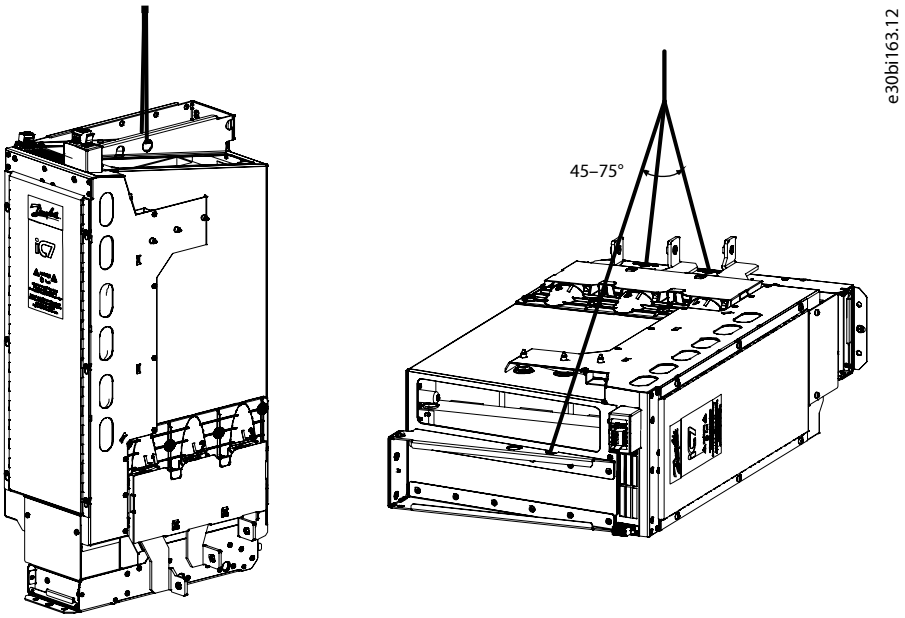


Figure 3: Lifting the Upper Part of the LCL Filter

5. When lifting the integration unit, make sure that the maximum lifting angle is correct (60° ±15°). Use the 4 lifting holes.

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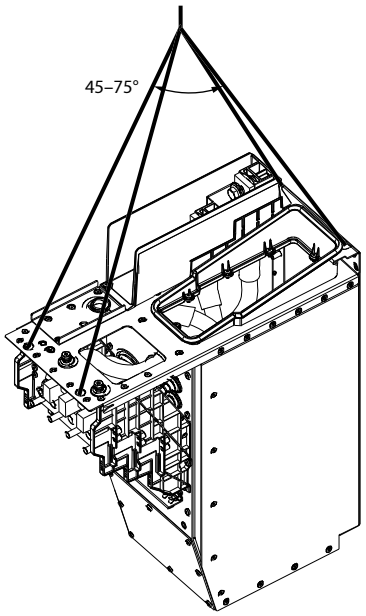


Figure 4: Lifting the Integration Unit

2 Mechanical Installation

2.1 Installation Direction

The system modules can be installed in different directions.

NOTICE

INSTALLATION DIRECTION OF SIZE 11 SYSTEM MODULES

The size 11 system modules (IM11, IR11, AM11, AR11) use a heat pipe technology that limits the installation direction. The heat pipes rely on gravitation, thus do not operate fully in certain orientations.

- Do not install the system module on its right side.

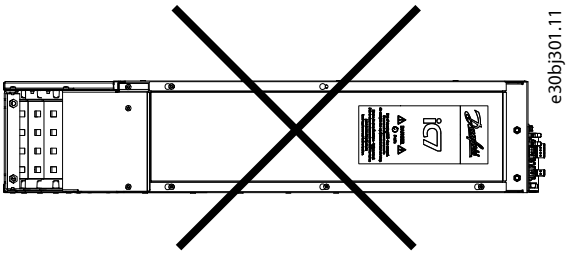


Figure 5: Forbidden Installation Direction of the System Module, Size 11

The system modules with integration units must be installed in a vertical position.

2.2 Installation Requirements

The system modules that are described in this guide have the protection rating IP00/Open Type. Install them in a cabinet or other enclosure that has a correct level of protection against the ambient conditions in the installation area.

The installation procedure varies between product categories and mechanical variants depending on selected options.

Reserve enough space around the system module to ensure sufficient cooling. The mounting plane must be relatively even.

2.3 Installing System Modules into Cabinet

When there are 2 or more system modules, they can be installed side by side.

1. To install the system module, use the mounting holes.

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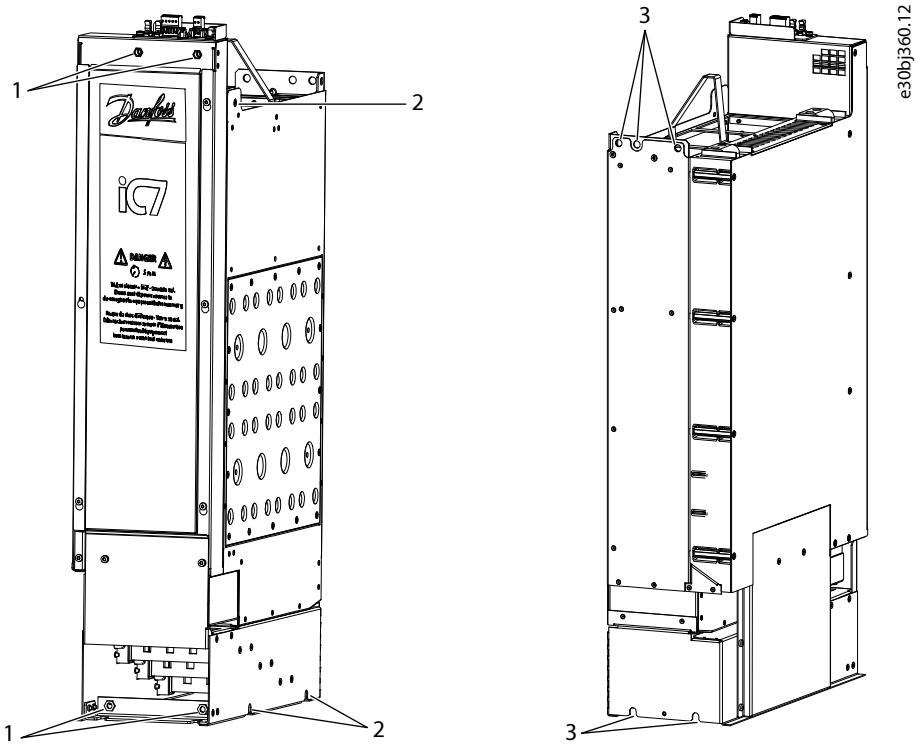


Figure 6: Mounting Holes for IM10, IM11, AM10, AM11

1	Mounting holes at the front (in the front fixing beam)	2	Mounting holes at the side
3	Mounting holes at the back		

2. Attach the system module to the back wall of the cabinet and to the front mounting brackets.

   The front fixing beam can be rotated so that the screws can be attached from the front or from the top.

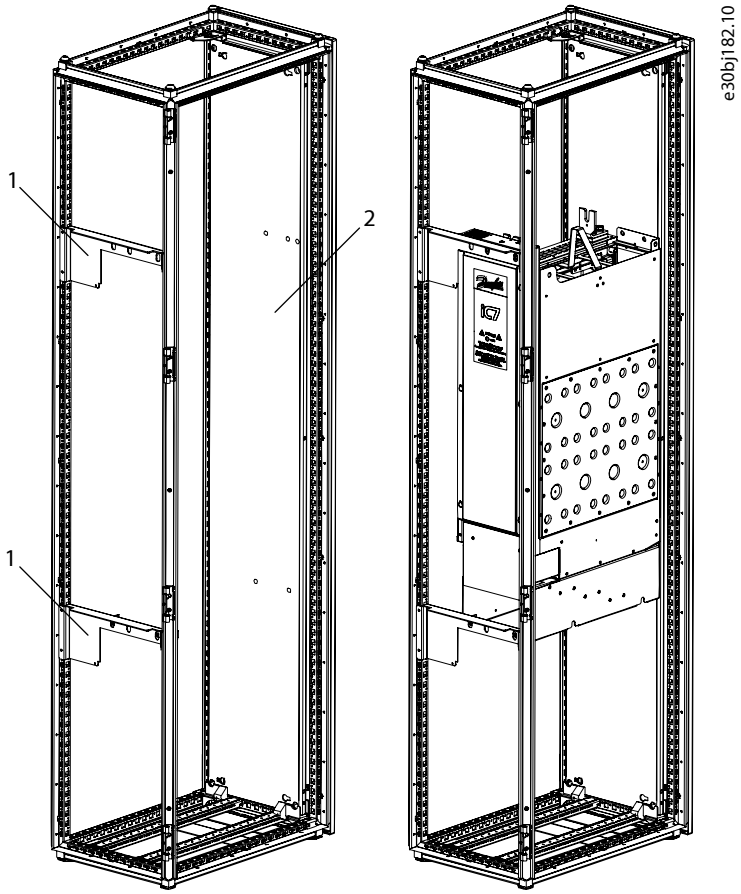


Figure 7: Mounting on the Back Wall, IM10, IM11, AM10, AM11

1	Front mounting brackets	2	Back wall of the cabinet

3. If the cabinet does not have a back wall, attach the system module to the front and side mounting brackets.

   The front fixing beam can be rotated so that the screws can be attached from the front or from the top.

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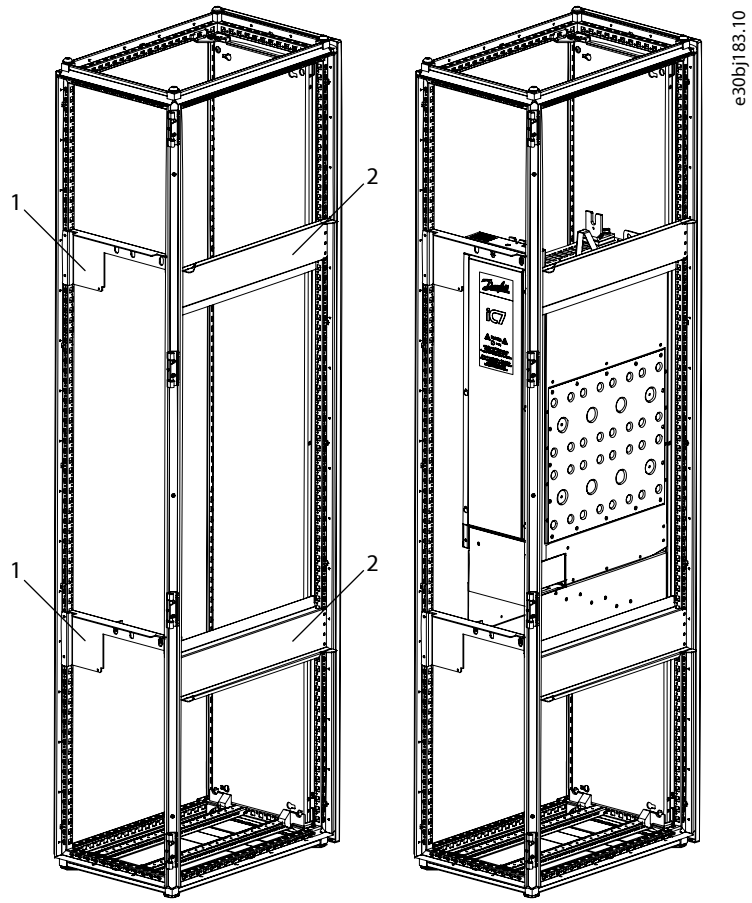


Figure 8: Mounting on the Mounting Brackets, IM10, IM11, AM10, AM11

1	Front mounting brackets	2	Side mounting brackets

2.4 Installing NFE Modules with Integration Units into Cabinet

⚠ DANGER

RISK OF ELECTRIC SHOCK

Using power units that have AR or IR in their frame designation without integration units will cause death or severe injury.

- Do not use AR10, AR11, IR10, or IR11 power units without integration units.

1. Install mounting brackets to the cabinet.

   Mounting brackets are not included in the delivery, but are available as accessories.

2. Attach the table and the standard integration unit to the front and rear brackets, and to the cabinet floor.

   In the front, use countersunk screws.

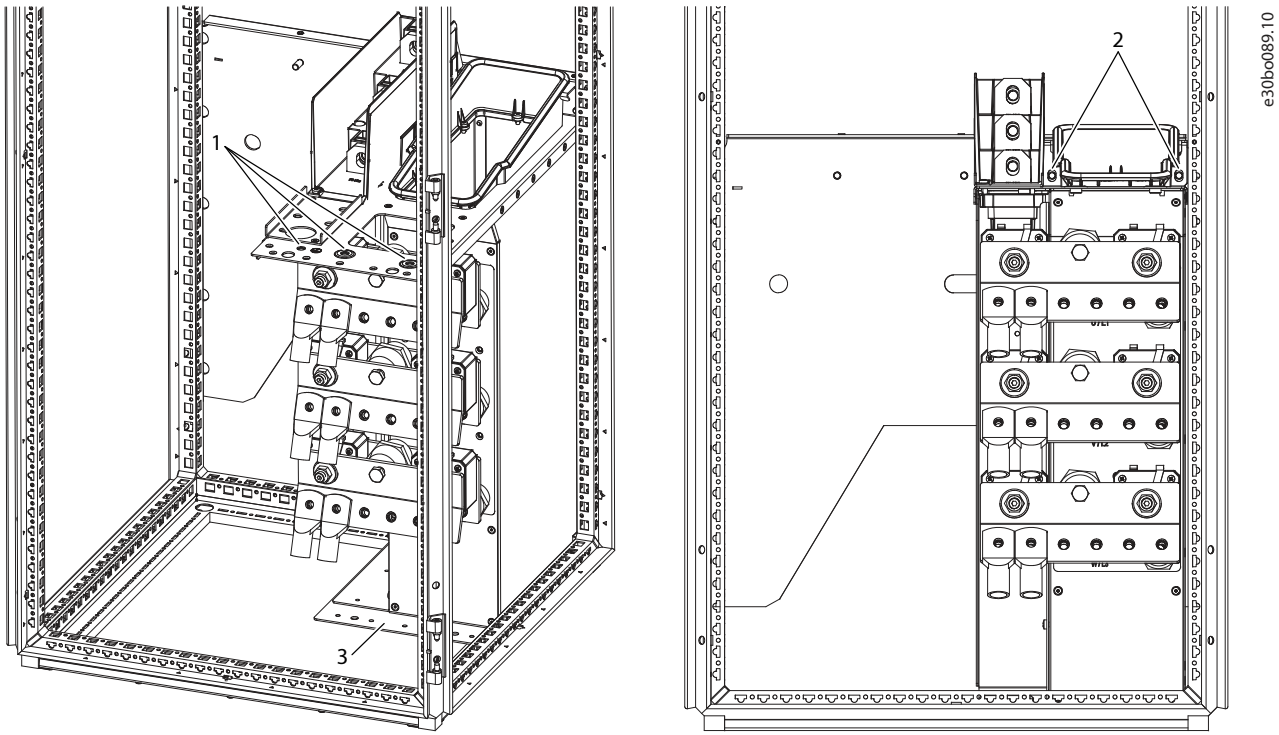


Figure 9: Installing the Standard Integration Unit into the Cabinet, NR11

1	Mounting holes at the front	2	Mounting holes at the back
3	Mounting holes at the bottom		

3. Attach the short integration unit to the brackets. Attach it from the rear bottom to the rear bracket.

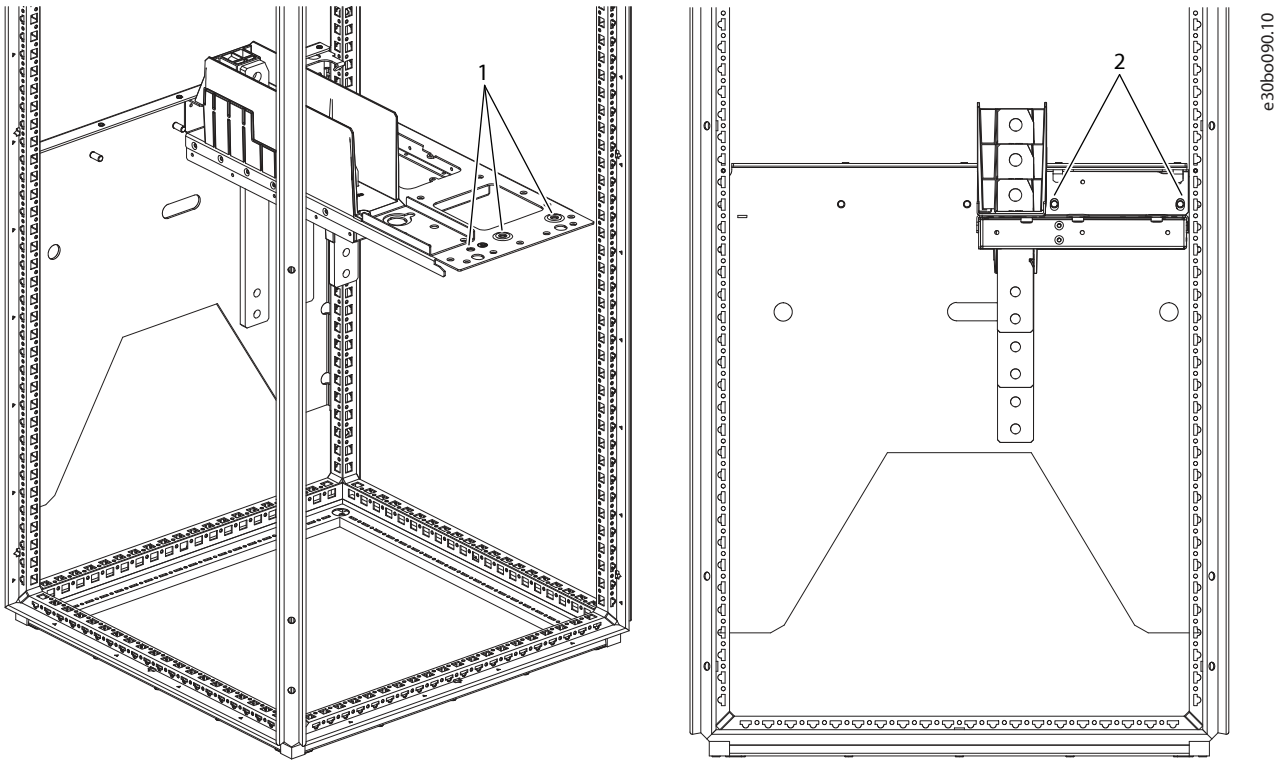


Figure 10: Front and Back Screws of the Short Integration Unit, NR11

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1	Mounting holes at the front	2	Mounting holes at the back

4. Push and slide the NFE module into the cabinet.
   a. Add the top front bracket.
   b. Attach the system module to the table and to the top front bracket (screw M8x20).

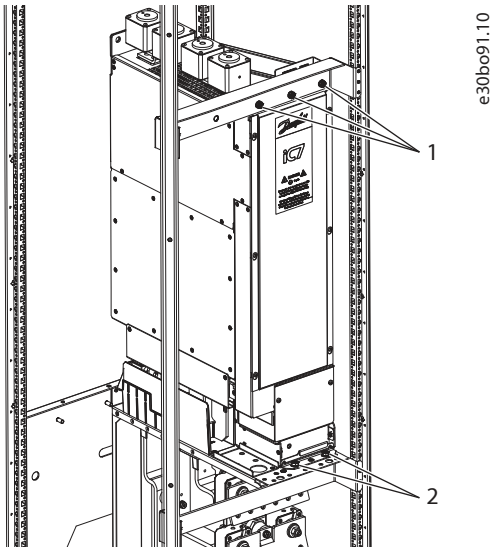


Figure 11: Installing the NFE Module into the Cabinet, NR11

1	Upper mounting holes in the front	2	Lower mounting holes in the front

2.5 Installing LCL Filters and AFE Modules with Integration Units into Cabinet

⚠ DANGER

RISK OF ELECTRIC SHOCK

Using power units that have AR or IR in their frame designation without integration units will cause death or severe injury.

- Do not use AR10, AR11, IR10, or IR11 power units without integration units.

NOTE: These instructions also apply to the LC Filter LC11W.

1. Install mounting brackets to the cabinet.

   Mounting brackets are not included in the delivery.

2. Install the lower part of the LCL Filter into the cabinet.

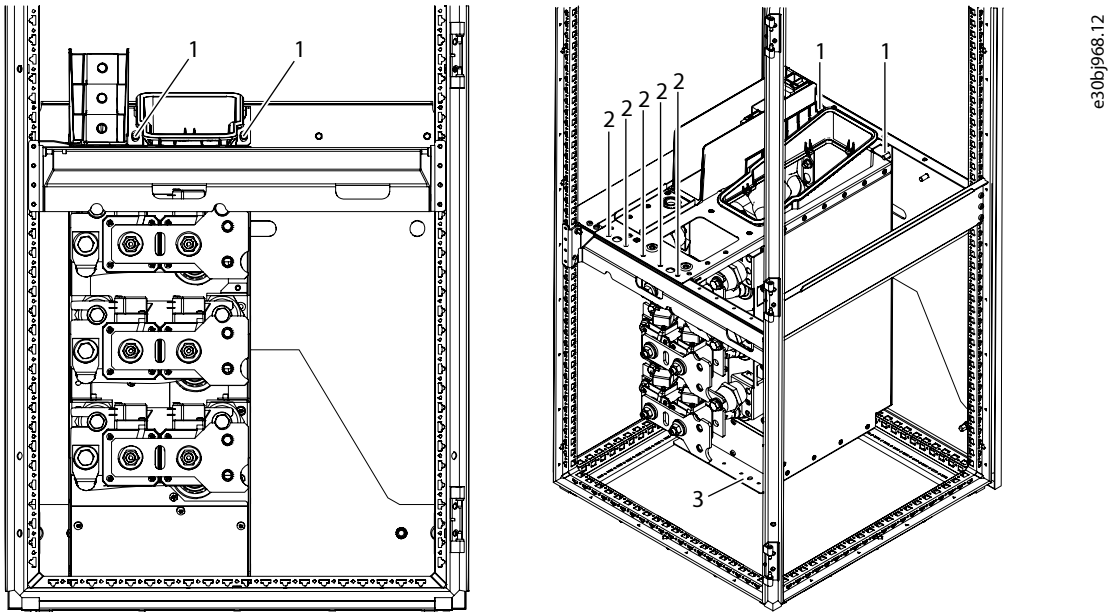


Figure 12: Installing the Lower Part of the LCL Filter

1	Mounting holes at the back	2	Mounting holes at the front
3	Bottom mounting bracket		

3. Install the integration unit of the AFE module into the cabinet.

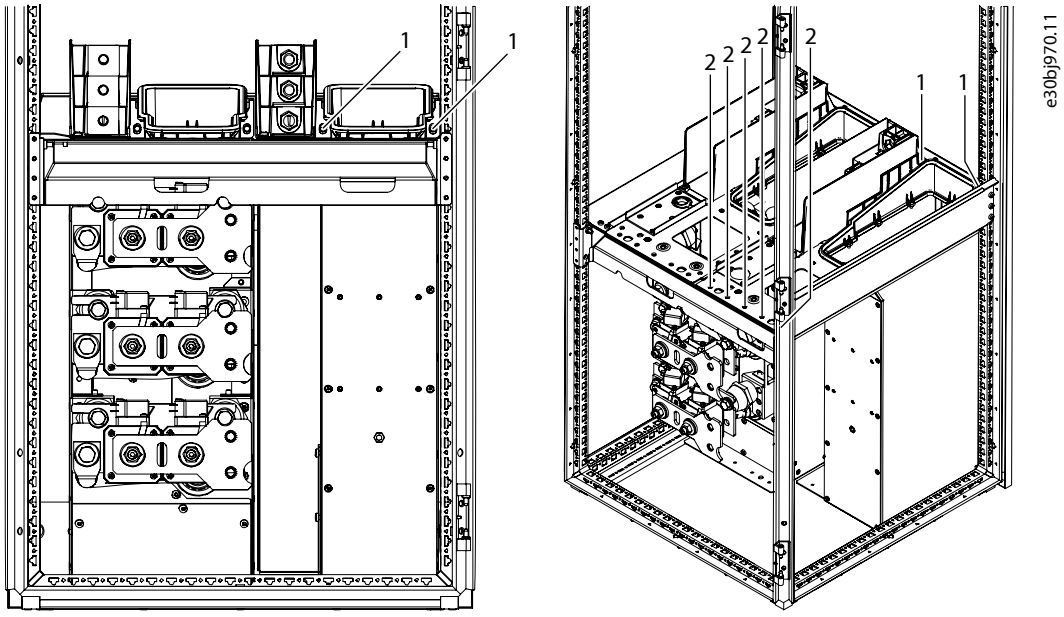


Figure 13: Installing the Integration Unit of the AFE Module, AR10, AR11

1	Mounting holes at the back	2	Mounting holes at the front

4. Push and slide the upper part of the LCL Filter into the cabinet.

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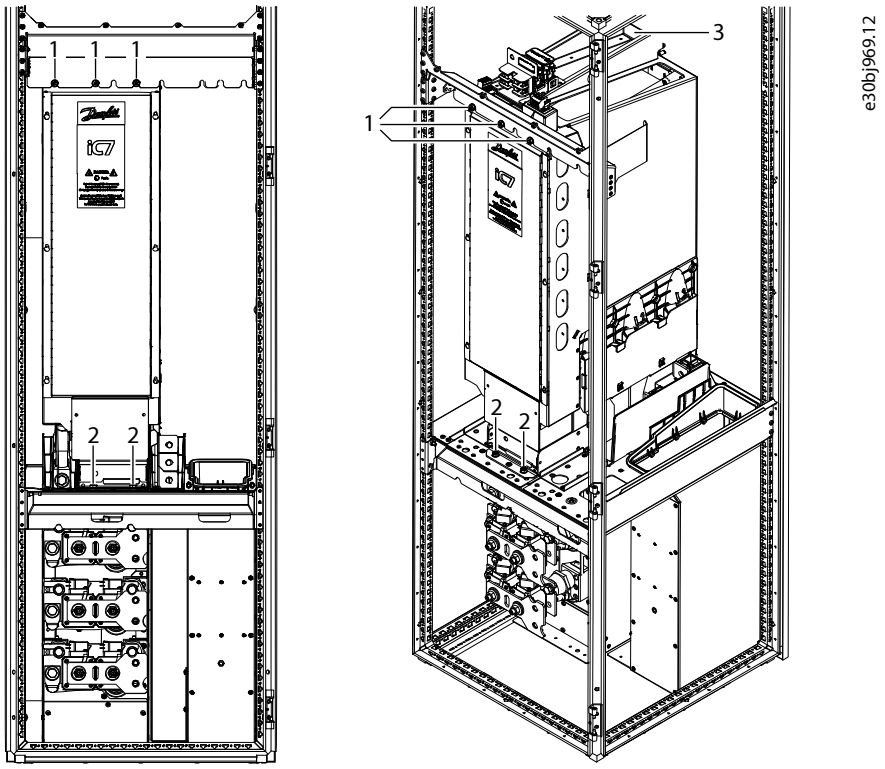


Figure 14: Installing the Upper Part of the LCL Filter

1	Upper mounting holes at the front	2	Lower mounting holes at the front
3	The upper mounting holes at the back		

5. Push and slide the AFE module into the cabinet.

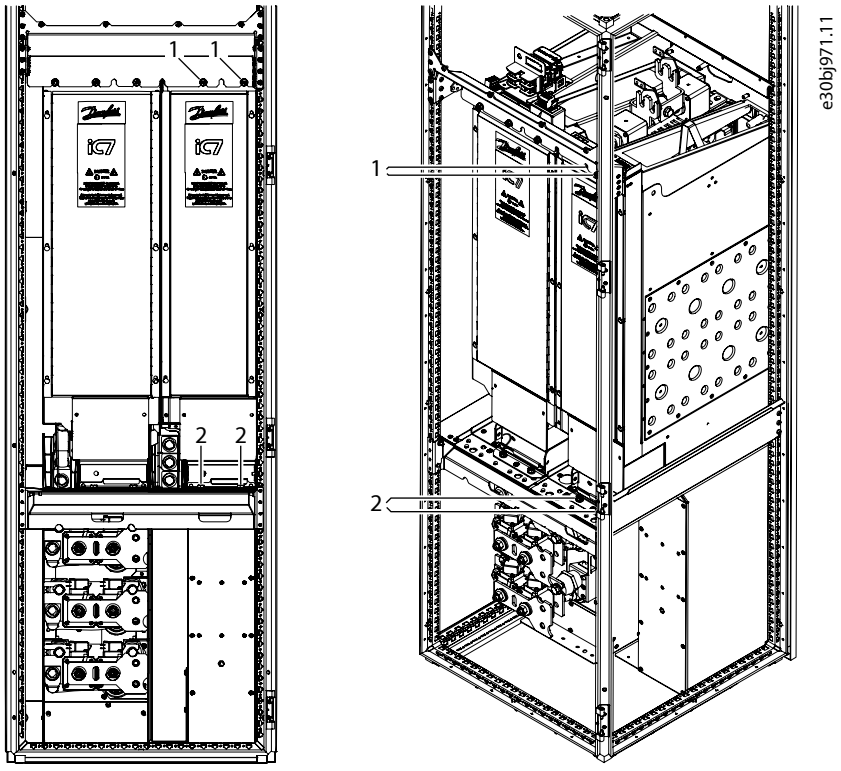


Figure 15: Installing the AFE Module, AR10, AR11

1	Upper mounting holes at the front	2	Lower mounting holes at the front

6. Add the top front bracket.
   a. Attach the upper part of the LCL Filter and the AFE module to the table and to the top front bracket (screw M8x20).
7. In the LCL filter, connect the thermocouple wire from the lower part of the filter to terminal X205 on the AuxBus temperature measurement board.

   The thermocouple wire of the upper part of the LCL Filter is connected to terminal X206.

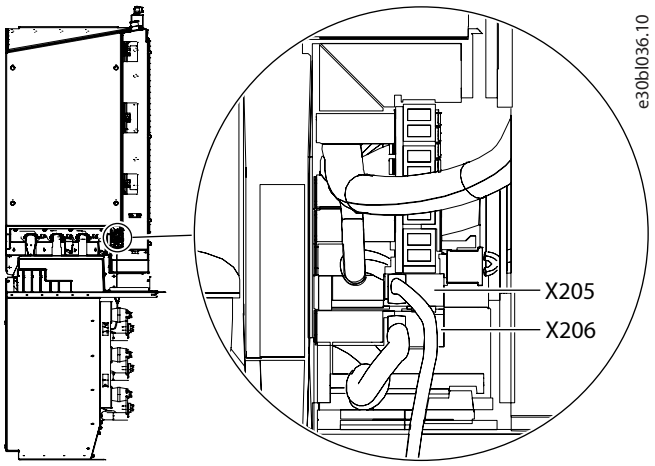


Figure 16: Thermocouple Wiring in the LCL Filter

2.6 Installing Inverter Modules with Integration Units into Cabinet

⚠ DANGER

RISK OF ELECTRIC SHOCK

Using power units that have AR or IR in their frame designation without integration units will cause death or severe injury.

- Do not use AR10, AR11, IR10, or IR11 power units without integration units.

1. Install mounting brackets to the cabinet.

   Mounting brackets are not included in the delivery, but are available as accessories.
2. Attach the table and the standard integration unit to the front and rear brackets, and to the cabinet floor.

   In the front, use countersunk screws.

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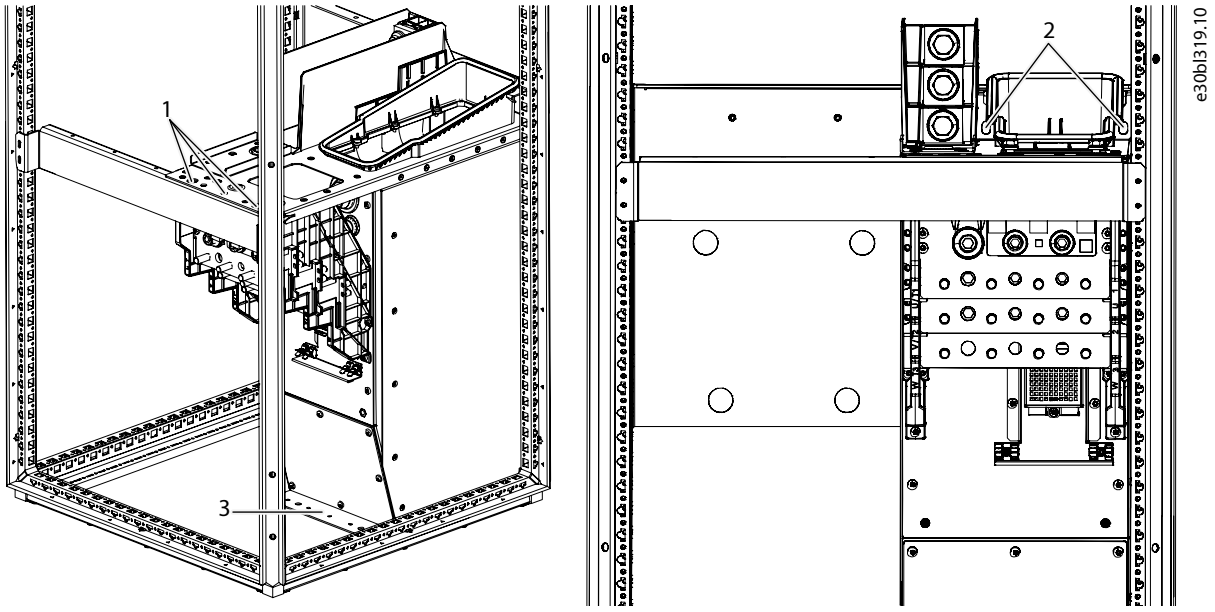


Figure 17: Installing the Standard Integration Unit into the Cabinet, IR10, IR11

1	Mounting holes at the front	2	Mounting holes at the back
3	Mounting holes at the bottom		

3. Attach the short integration unit to the brackets. Attach it from the rear bottom to the rear bracket.

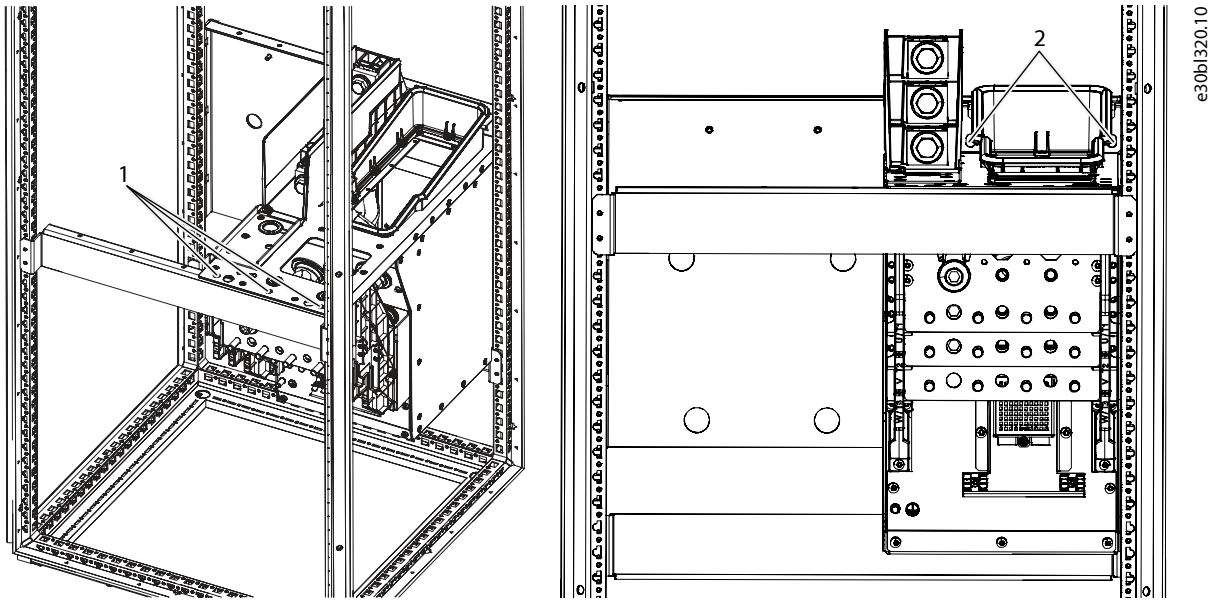


Figure 18: Front and Back Screws of the Short Integration Unit, IR10, IR11

1	Mounting holes at the front	2	Mounting holes at the back

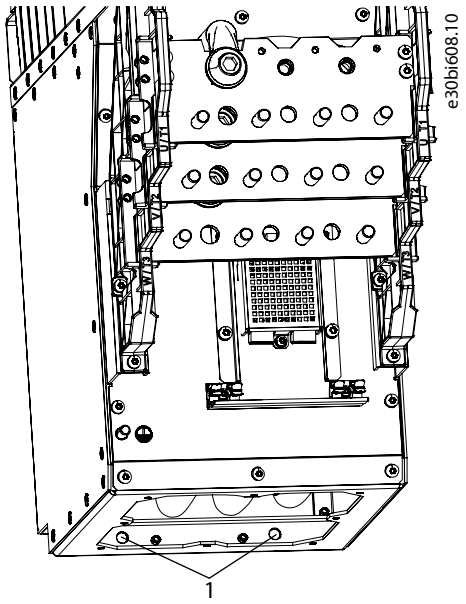


Figure 19: Bottom Screws of the Short Integration Unit, IR10, IR11

1	Mounting holes at the bottom

4. Push and slide the inverter module into the cabinet.
   a. Add the top front bracket.
   b. Attach the system module to the table and to the top front bracket (screw M8x20).

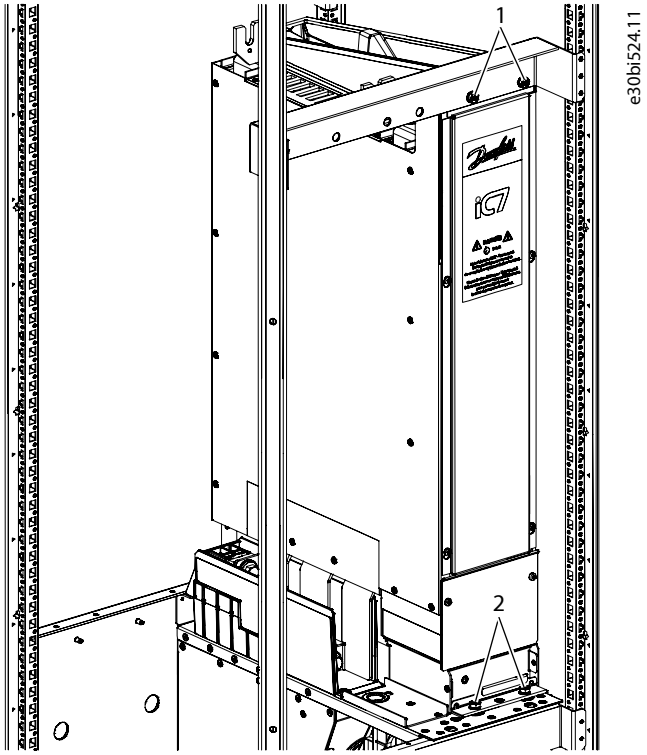


Figure 20: Installing the Inverter Module into the Cabinet, IR10, IR11

1	Upper mounting holes in the front	2	Lower mounting holes in the front

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2.7 Arranging Cooling

2.7.1 Removing the Air Inlet Cover of Integration Unit

In the system modules with integration units, there are 2 methods to arrange inlet airflow. The inlet airflow can enter from the front or from below of the product. The integration unit is delivered with the air inlet cover preinstalled.

1. To allow cooling air to enter from the front, remove the air inlet cover of the integration unit.

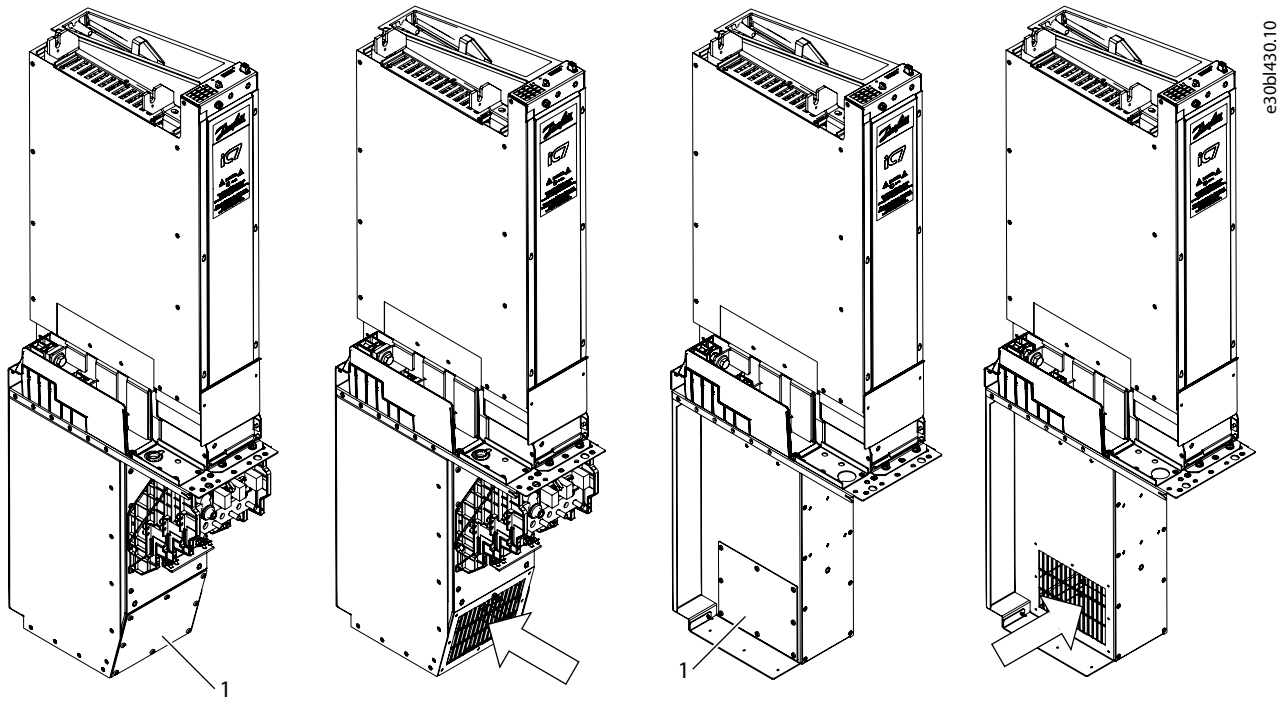


Figure 21: Removing the Air Inlet Cover for Cooling, Inverter (left) and NFE/AFE (right)

1	Air inlet cover

2.7.2 Installing the Top Duct

In the system modules with integration units, there are 2 methods to arrange outlet airflow. The outlet airflow can exit the system module directly from the top or through a top duct.

1. Attach the top duct to the cabinet roof and back wall.

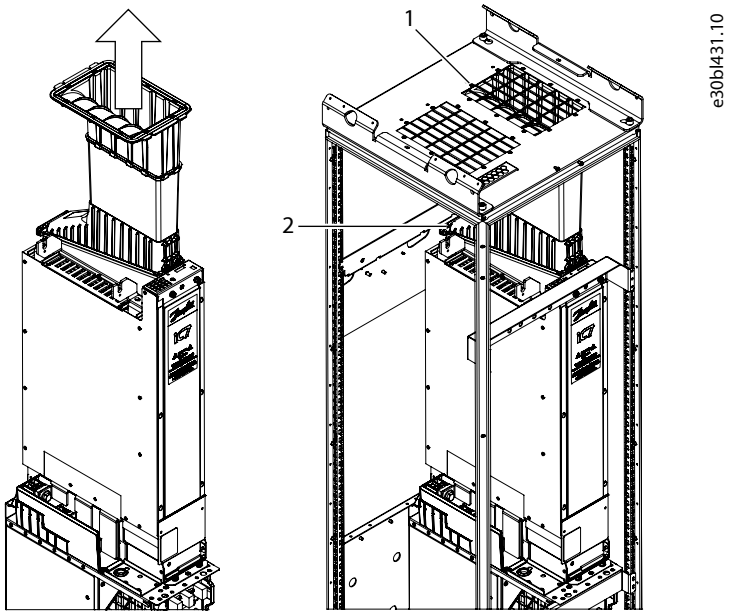


Figure 22: Outlet Airflow with or without a Top Duct

1	Top duct mounted to roof of cabinet	2	Top duct mounted to back wall of cabinet

2.7.3 Preventing the Recirculation of the Cooling Air

Cooling air must be taken in through the ventilation gaps on the door and blown out at the top of the enclosure. To steer the hot air from the power unit to the outlet at the top of the enclosure and prevent it from circulating back, follow these instructions.

1. Install air guides in the gaps between the power unit and the cabinet walls. Place the air guides below the air outlet gaps at the sides of the module.

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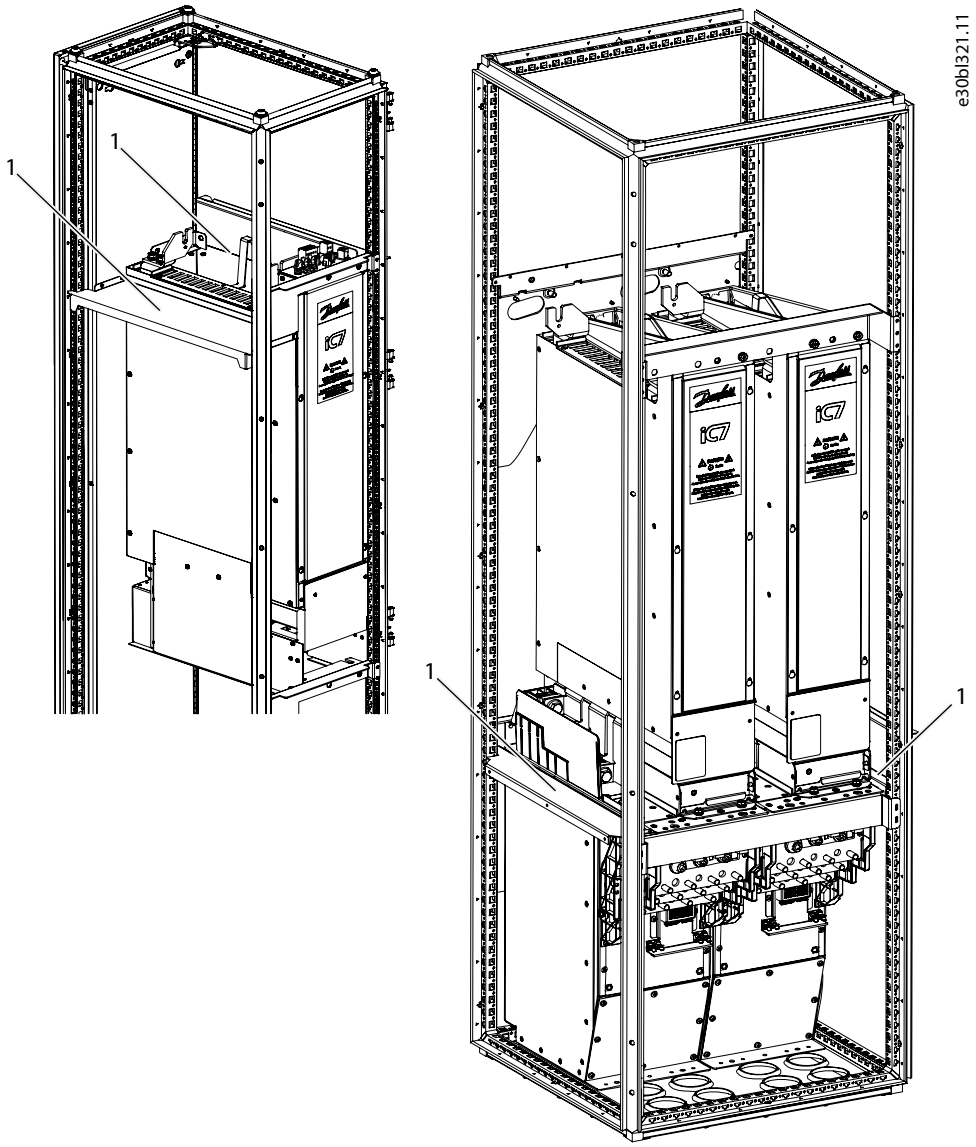


Figure 23: Air Guides of the Modules without Integration Unit (Left) or with Integration Unit (Right) in the Cabinet

1	Air guide

3 Electrical Installation

3.1 Control System of the System Modules

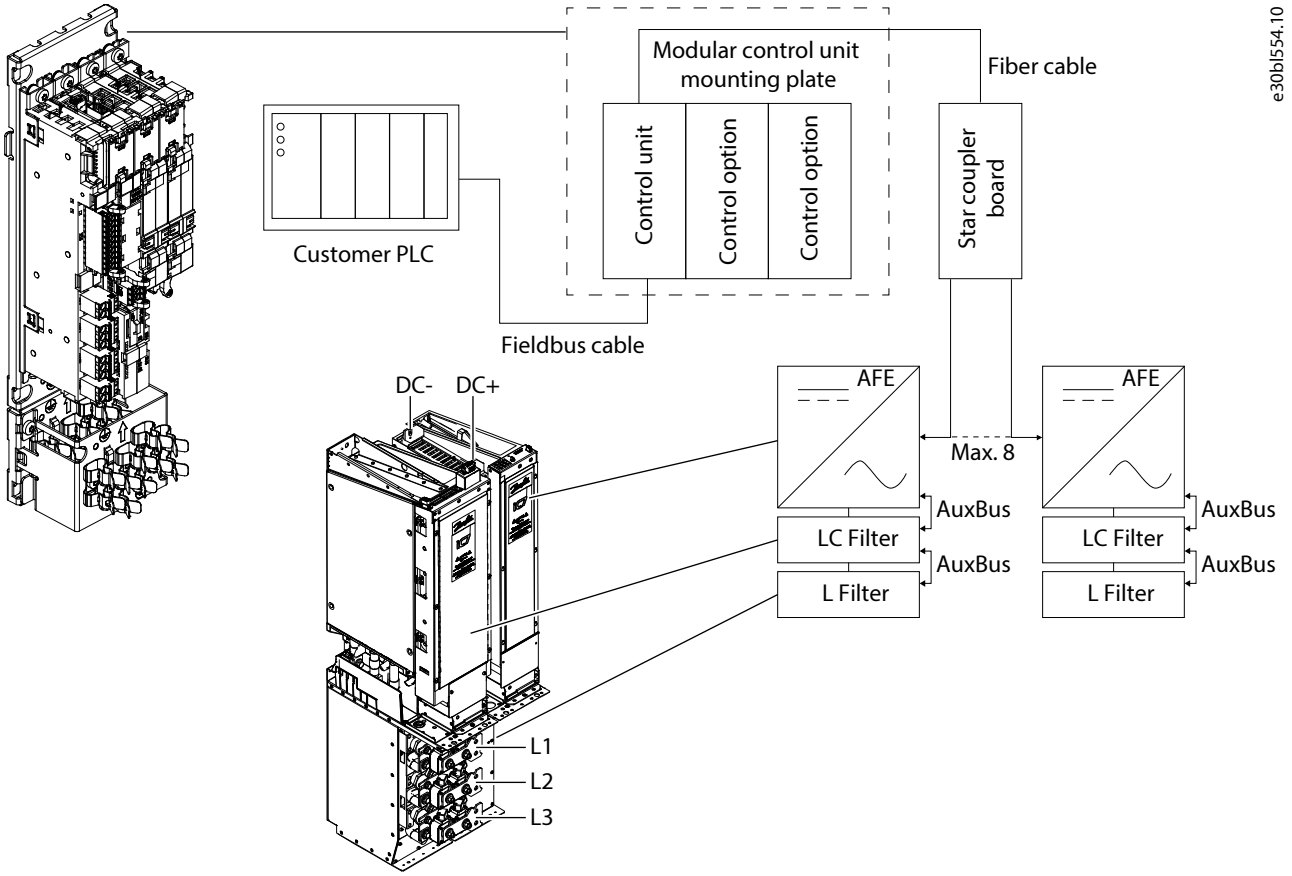


Figure 24: Example of a Control System of an AFE Module and LCL Filter

3.2 Grounding Principles

Ground the product in accordance with applicable standards and directives.

According to IEC 60364-5-54; 543.1, unless local wiring regulations state otherwise, the cross-sectional area of the protective grounding conductor must be at least ½ times of the phase conductor and made of the same material when the phase conductor cross-section is above 35 mm^2 (AWG 2).

The connection must be fixed.

3.3 Grounding the Products

1. Ground the products at the grounding spots.

See 6.1 Tightening Torques.

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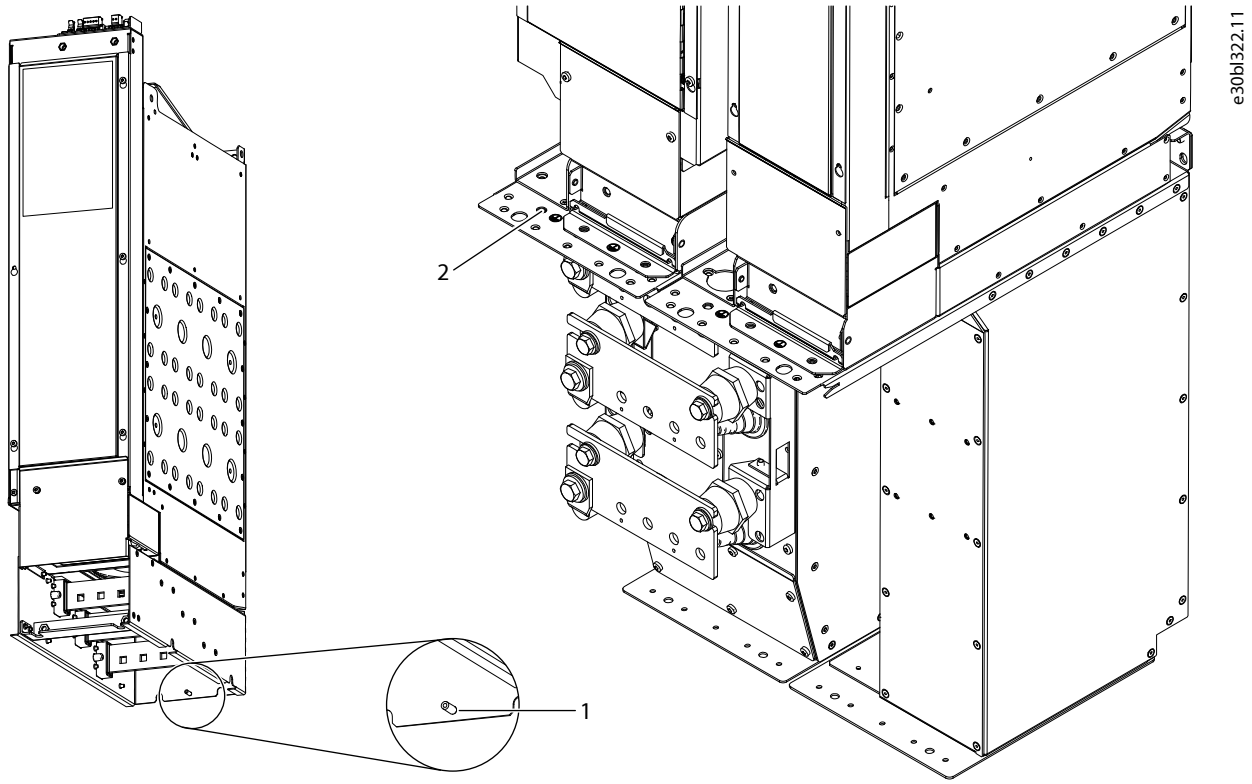


Figure 25: Grounding Stud of the System Module without Integration Unit and Grounding Terminal of the Filters and System Modules with Integration Unit

1	Grounding stud	2	Grounding terminal

3.4 Prerequisites for Cable Installation

Table 1: Minimum Distances from Motor Cables to Other Cables

Distance to other cables [m (ft)]	Length of the shielded motor cable [m (ft)]
0.3 (1.0)	≤ 50 (164)
1.0 (3.3)	≤ 150 (492)

1. Before starting, make sure that none of the components of the drive is live. Read all safety precautions in this guide and other documents available for this product.
2. Make sure that the motor cables are sufficiently far from other cables.
3. The motor cables must cross other cables at an angle of 90°.
4. If it is possible, do not put the motor cables in long parallel lines with other cables.
5. If the motor cables are in parallel with other cables, obey the minimum distances (see Table 1).
6. The distances are also valid between the motor cables and the signal cables of other systems.
7. The maximum length of shielded motor cables is 150 m (492 ft). If the used motor cables are longer, contact the vendor to get more information. The motor cable length is based on the maximum number of cables for each frame. For example, the 590 A inverter module is based on 3 parallel cables, and the 880 A inverter module on 4 parallel cables. The default motor cable

operating capacitance is 0.75 nF/m. If some other cable type is used, or the number of cables connected in parallel does not match with recommendations, the maximum motor cable length must be derated so that the maximum total motor cable capacitance is not exceeded.

a. Default maximum motor cable setup for IM11: 4x(3x120+70) mm^2, 150 m, 0.75 nF/m → CTOT = 4 x 150 m x 0.75 nF/m = 450 nF = CMAX

b. Example where the number of motor cables connected in parallel is higher than the default: 6x(3x120+70) mm^2, 100 m, 0.75 nF/m → CTOT = 6 x 100 m x 0.75 nF/m = 450 nF = CMAX

c. Example where the motor cable capacitance is higher than the default: 4x(3x120+70) mm^2, 130 m, 0.85 nF/m → CTOT = 4 x 130 m x 0.85 nF/m = 442 nF < CMAX

8. The maximum cable length of the filters is also 150 m (492 ft).
9. Only use symmetrical and shielded motor cables.
10. Use symmetrical power cabling with power units connected in parallel. Each power unit must have the same number of cables with an equal cross-section and equal length.
11. Perform the cable insulation checks if necessary.

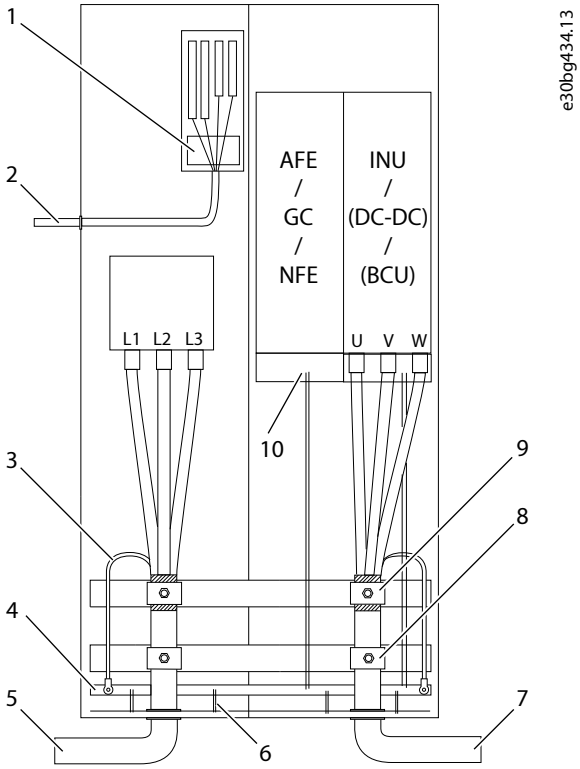


Figure 26: Cabling Principle

1	Grounding of the control cable	2	Control cable
3	Grounding conductor	4	PE busbar
5	Mains cables	6	Grounding of the enclosure
7	Motor cables	8	Strain relief
9	The grounding clamp, 360° grounding	10	Grounding of the system module to the PE busbar

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3.5 Recommended Installation of Motor Cables

If the power units are connected in parallel without output filters or only with a common-mode filter, the recommended common coupling point of motor cables is at the motor terminals. It is also possible to use an alternative installation method where the common coupling point of the motor cables is near the drives. In this case, to avoid current imbalance, the installation must be symmetrical and the tolerance of cable length (impedance) to common coupling point is maximum 5%. If the cable connections are not symmetrical, use a dU/dt filter or a sine-wave filter.

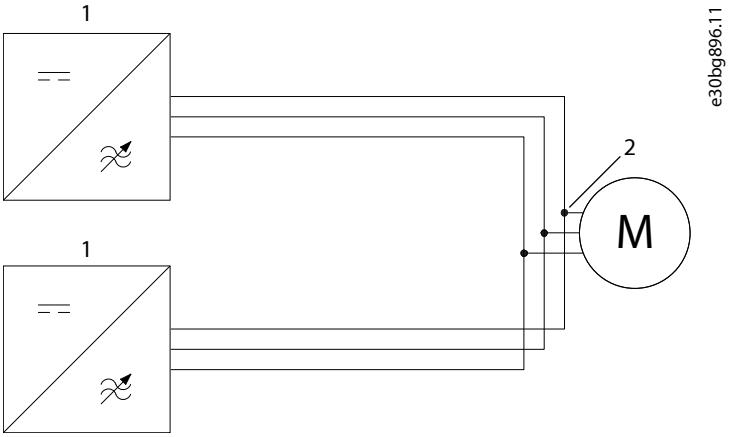


Figure 27: Recommended Installation

1	Inverter module	2	Common coupling point at the motor terminals

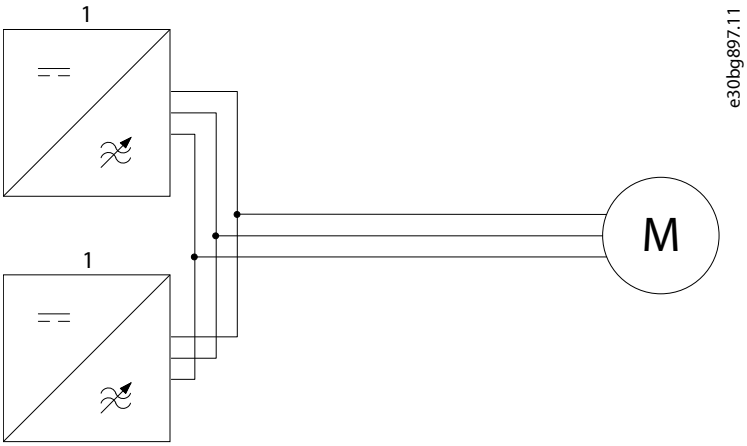


Figure 28: Alternative Installation Method

1	Inverter module

3.6 Installing the AC Fuses

The AC fuses of the NFE/AFE module are delivered separately.

1. Screw the stud on the fuse. Make sure that the stud is inserted as far as it goes. The maximum tightening torque is 15 Nm (133 in-lb).
2. Mount the fuses on the base plate and busbar with M12 nuts. Use a 19 mm (0.75 in) bit and tighten the nuts to torque 45 Nm (398 in-lb).

Use a hex wrench to hold the stud on the fuse in place when tightening the nut.
If there is only 1 fuse, install an insulator in place of the other fuse. Mount the insulator with M10x20 screws. Use a 17 mm

(0.67 in) bit and tighten the screws to torque 33 Nm (292 in-lb).

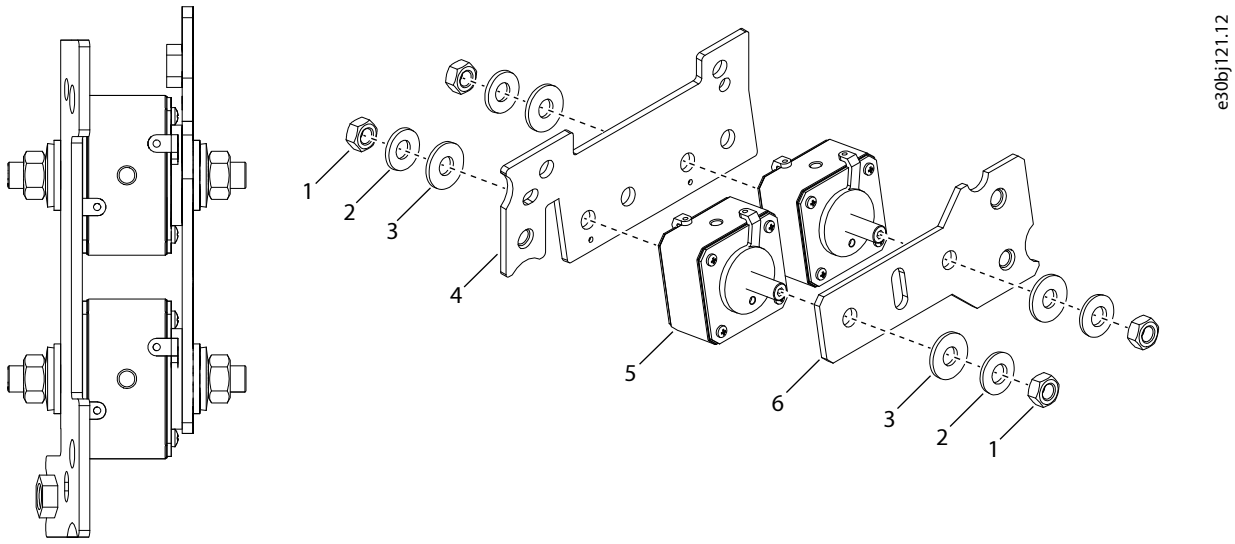


Figure 29: Installing the Fuses to the Busbars, 2 Fuses

1	M12 nut	2	M12 spring washer
3	M12 washer	4	Base plate
5	AC fuse	6	Busbar

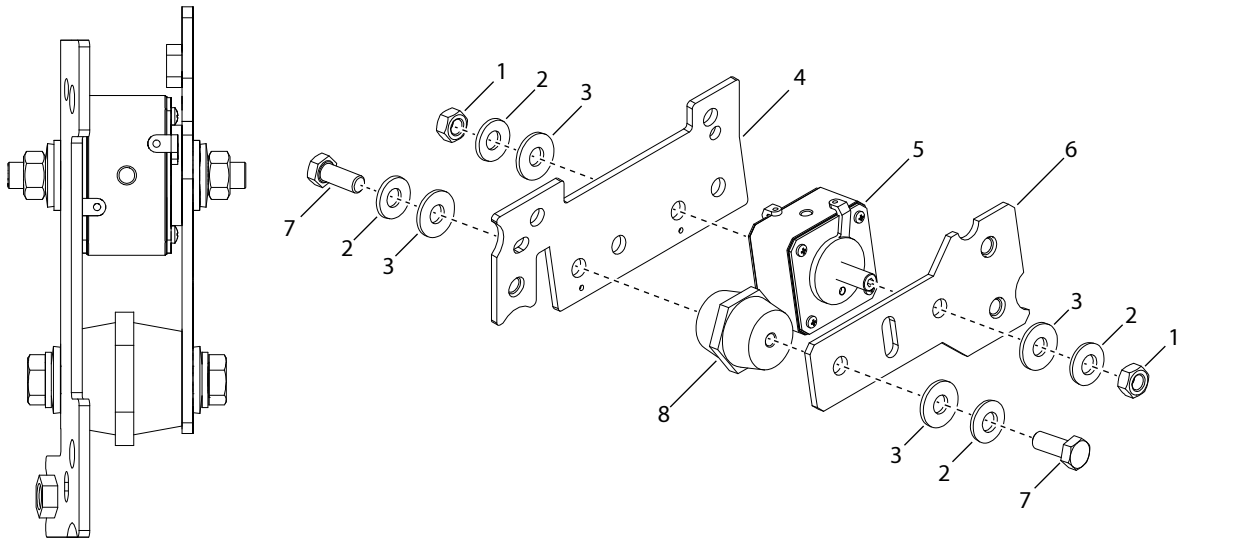


Figure 30: Installing the Fuse to the Busbars, 1 Fuse

1	M12 nut	2	M12 spring washer
3	M12 washer	4	Base plate
5	AC fuse	6	Busbar
7	M10x20 screw	8	Insulator

3. Mount the AC fuse assembly with two M10x20 screws. Use a 17 mm (0.67 in) bit and tighten the screws to torque 33 Nm (292 in-lb).

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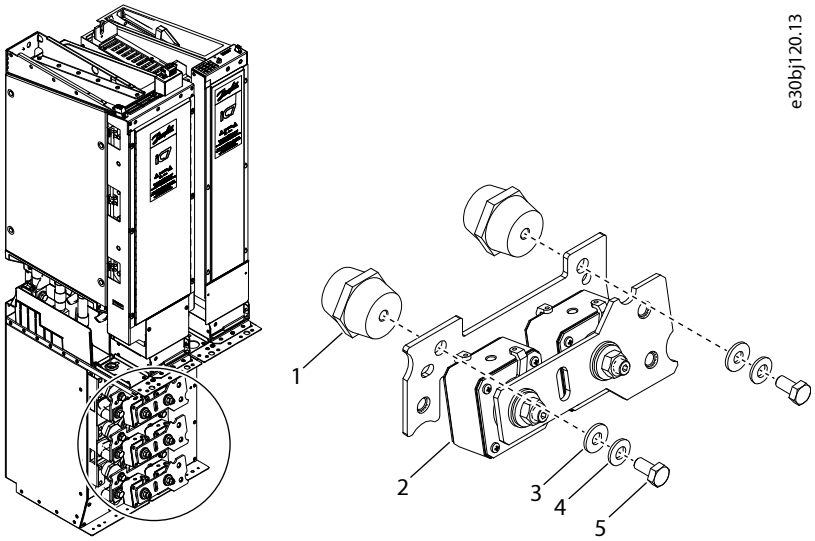


Figure 31: Installing the AC Fuse Assembly

1	Insulator	2	AC fuse assembly
3	M10 washer	4	M10 spring washer
5	M10x20 screw		

4. Mount the filter cable on the AC fuse assembly with an M12x30 screw. Use a 19 mm (0.75 in) bit and tighten the screw to torque 70 Nm (620 in-lb).

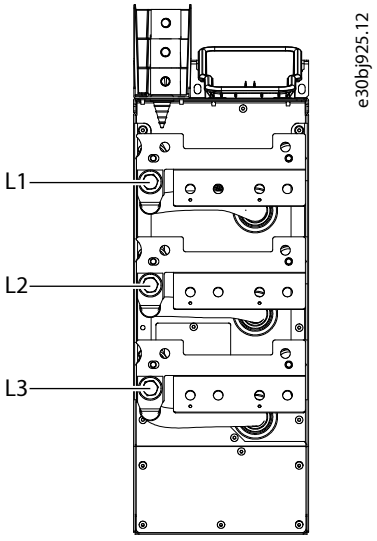


Figure 32: Filter Cable Mounting Locations

5. Connect the power cables to the AC fuse assemblies.

3.7 Installing the Cables for NFE Modules

See the correct tightening torques in 6.1 Tightening Torques.

1. Install the mains cables to the mains terminals L1, L2, and L3 of the NFE module.
2. Find the mains terminals on the front of the NFE module.

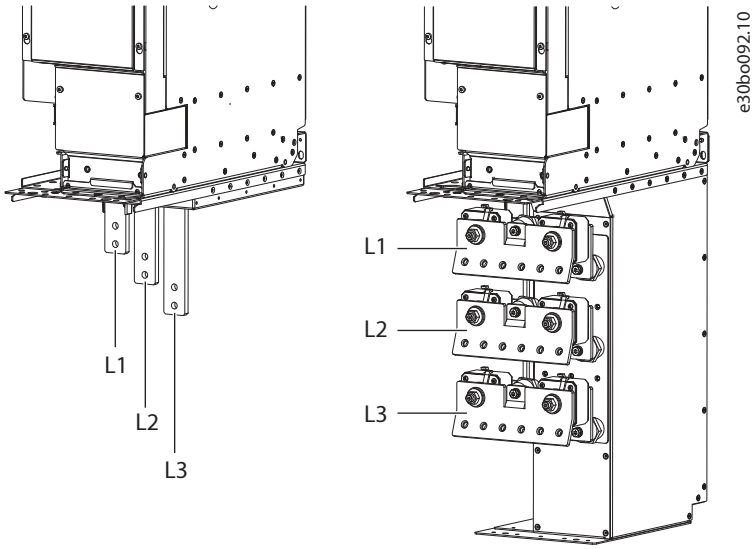


Figure 33: Mains Terminals of the NFE Module with the Short Integration Unit (left) and with the Standard Integration Unit (right)

3.8 Installing the Cables for AFE Modules and LCL Filters

Select the size of the internal cables or busbars according to the nominal current of the drive. See 6.2.1 General Cable Size Information. See the correct tightening torques in 6.1 Tightening Torques.

1. Install the mains cables to the mains terminals L1, L2, and L3 of the input device.
2. Find the mains terminals on the front of the LCL Filter.

   The 1st illustration shows the terminals on the right side. The terminals can also be rotated to the left side.

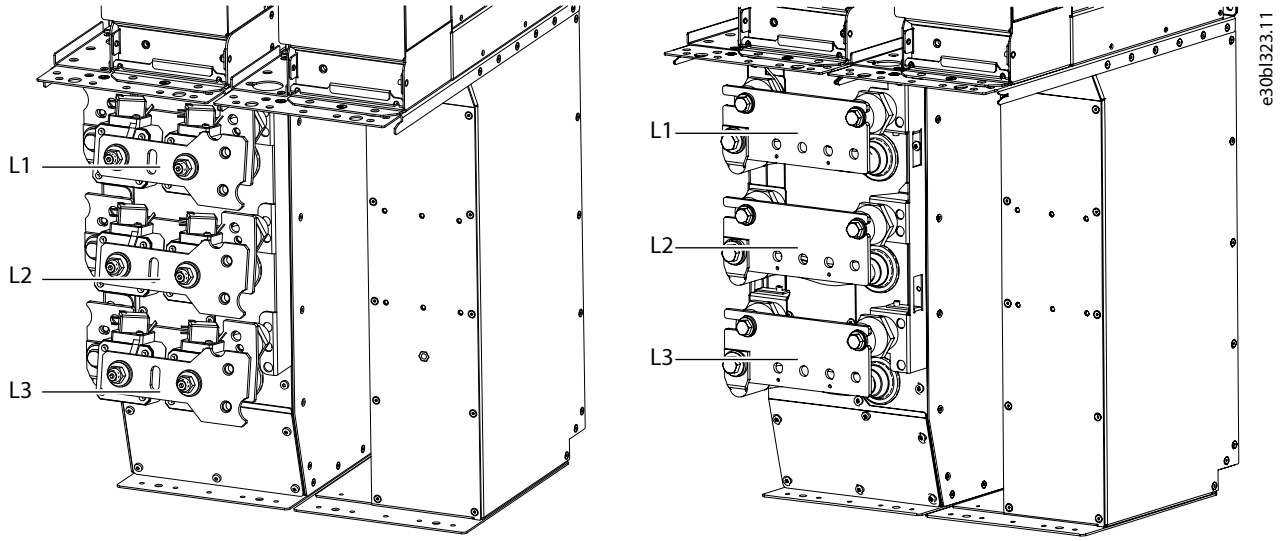


Figure 34: Mains Terminals of the LCL Filter with Fuses (left) and without Fuses (right)

3. Connect the mains terminals of the input device to the mains terminals of the LCL Filter with internal cables or busbars.
4. Find the output terminals to the AFE module on the side of the LCL Filter.

   The output terminals are connected to the AFE module during installation.

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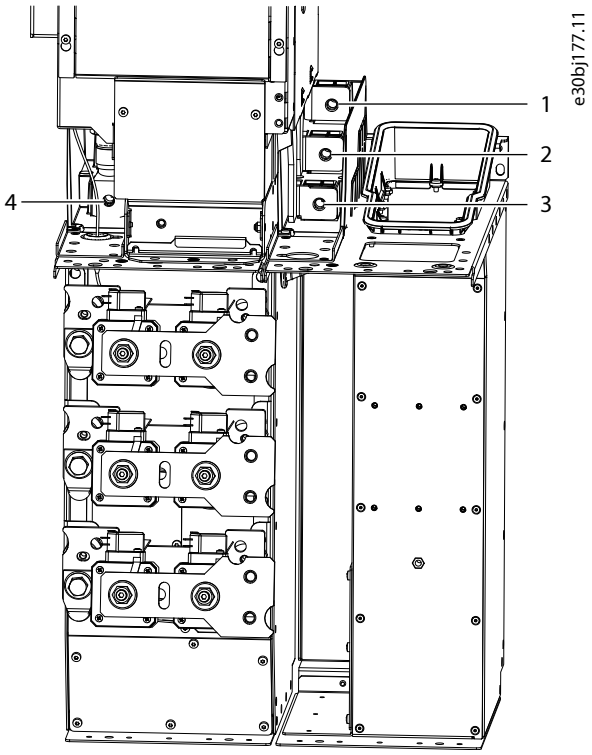


Figure 35: LCL Filter Terminals to the AFE Module

1	Output terminal L3	2	Output terminal L2
3	Output terminal L1	4	Screw for attaching the lower and upper parts of the LCL Filter to each other

3.9 Installing the Cables for Inverter Modules

Select the size of the motor cables according to the nominal current of the drive. See 6.2.1 General Cable Size Information.

1. Find the motor terminals in the lower part of the system module.
2. Connect the motor cables to the corresponding motor terminals.

See the correct tightening torques in 6.1 Tightening Torques.

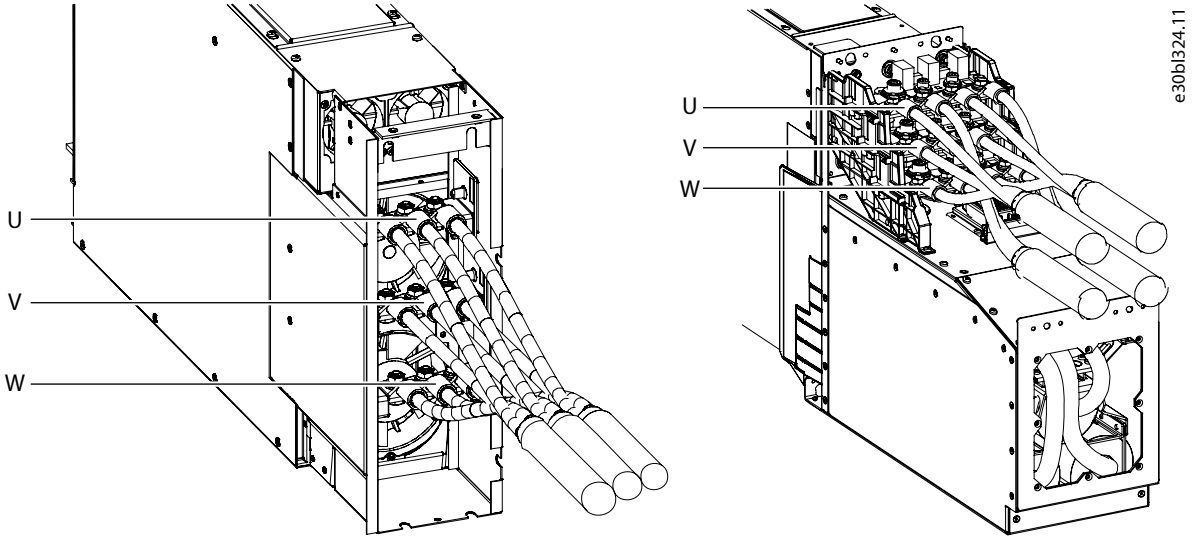


Figure 36: Motor Cable Installation, IM10, IM11 (left) and IR10, IR11 (right)

3.10 Installing the DC Fuses to the DC Terminals

Use these instructions to install the DC fuses. The DC fuses are available as option +AKFX.

NOTICE

To ensure correct operation of the DC fuses when there is a short circuit, it is important that there is low inductance in the DC link. Do not use DC inductors in the DC link.

1. Attach busbars to the DC fuses.

   Make sure that the visual indicators (the red dots) of the DC fuses are facing in the correct direction.

   - NFE Modules: The visual indicators must face left when looking from the front of the module.
   - AFE, Inverter, and GC Modules: The visual indicators must face upward.

   a. Screw the stud on the fuse. Make sure that the stud is inserted as far as it goes. The maximum tightening torque is 15 Nm (133 in-lb).

   b. Place the busbar on the stud.

   c. Mount the busbar with an M12 nut and washers, and tighten to torque 45 Nm (398 in-lb).

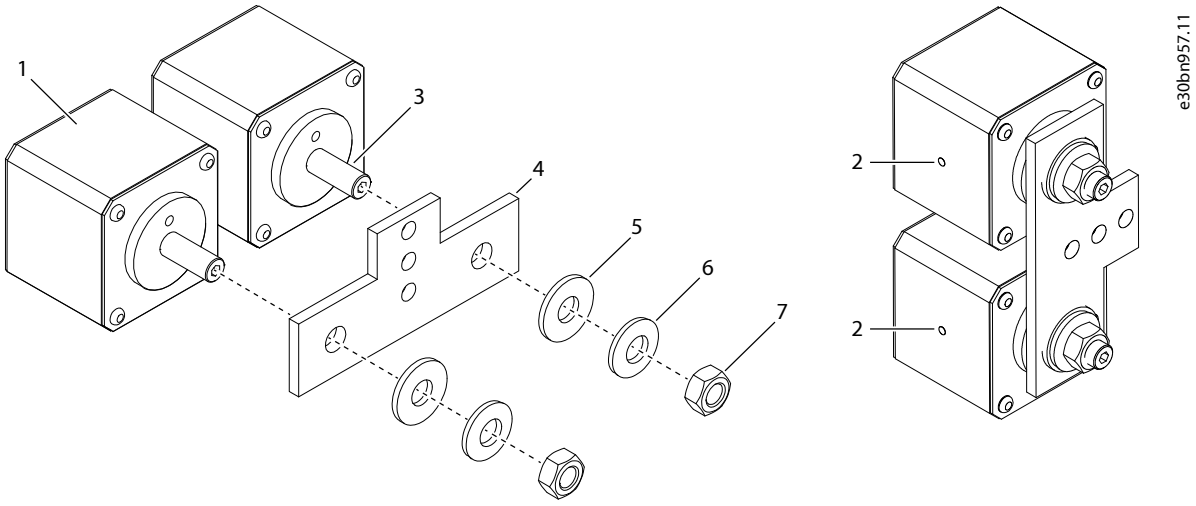


Figure 37: Installing Busbars to the DC Fuses for the NFE Modules

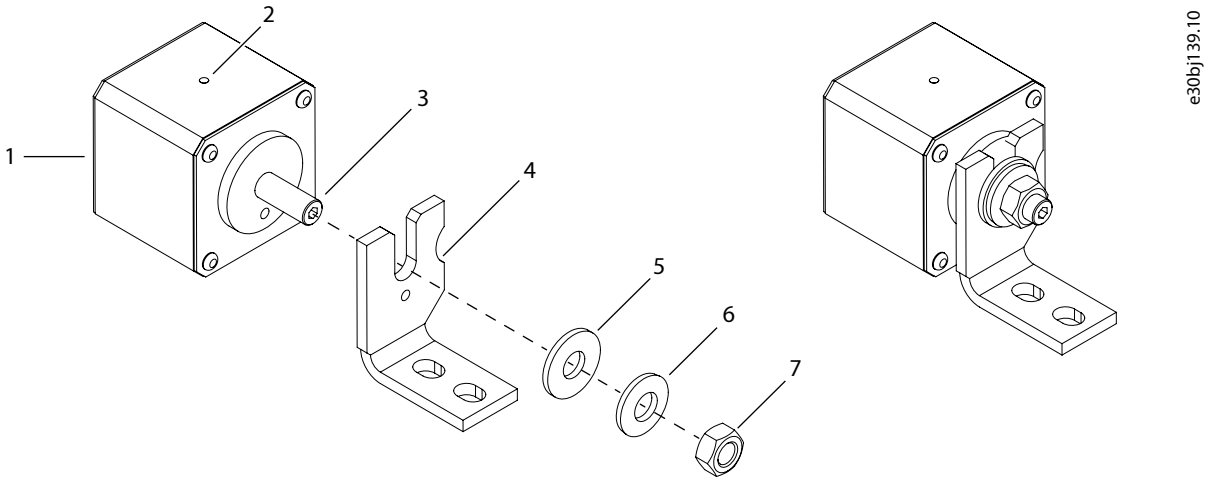


Figure 38: Installing Busbars to the DC Fuses for the AFE, Inverter, and GC Modules

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1	Fuse	2	Visual indicator
3	Stud	4	Busbar
5	M12 washer	6	M12 spring washer
7	M12 nut		

NOTICE

If the busbars on the DC fuses are not aligned, they can strain the fuse structure and break it over time. When tightening the screws, make sure that the busbars stay aligned.

2. Attach the DC fuse assemblies to the DC terminals. Use M10 screws and washers. Tighten the screws to torque 35–40 Nm (310–354 in-lb).

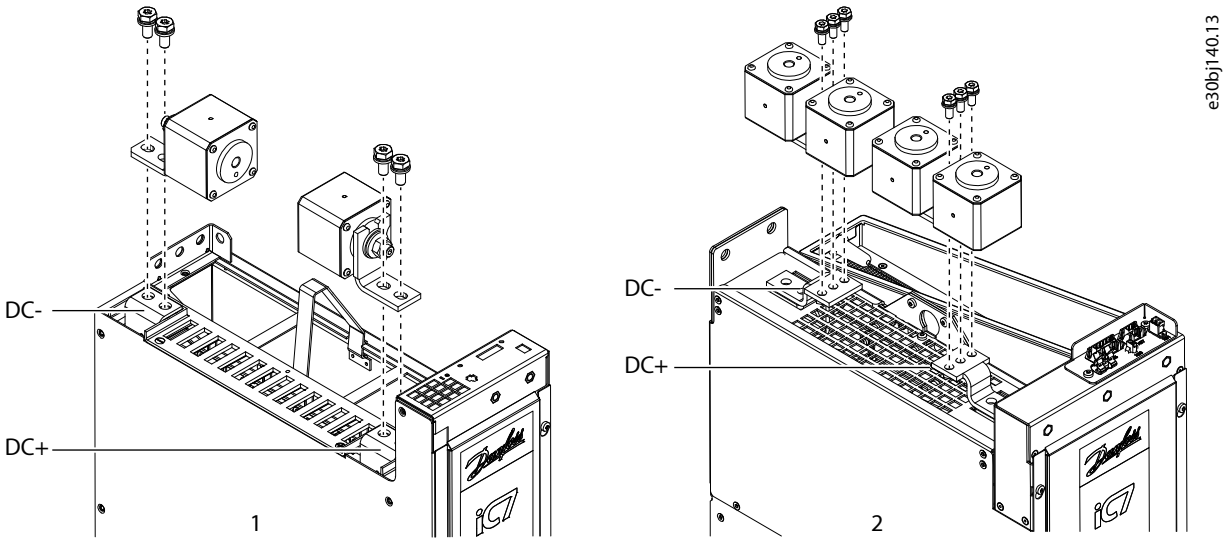


Figure 39: Installing DC Fuse Assemblies for the NFE, AFE, Inverter, and GC Modules

1	AFE, Inverter, and GC Modules	2	NFE Modules

3.11 Terminals of the System Modules

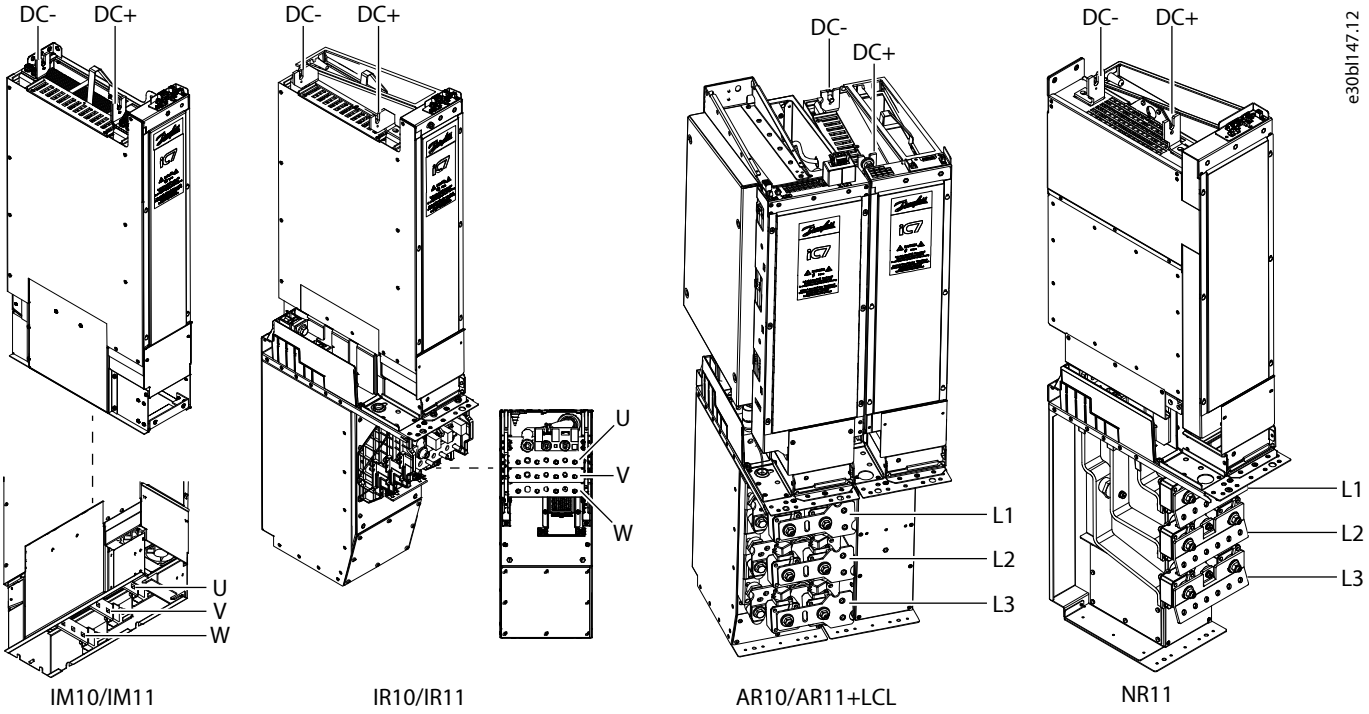


Figure 40: Locations of the Terminals on the System Modules

3.12 Changing the EMC Protection Level of the NFE Module in an IT System

In an IT system, to change the EMC protection level of the drive from C3 to C4, disconnect the HF capacitors of the inverter module, and disconnect the EMC board ground capacitor of the NFE module.

1. Go to MyDrive® Insight or use the control panel.
2. Change the parameter ***HF DC-link Filter Mode*** value of the inverter module to 0.
3. In the NFE module, disconnect the EMC board ground capacitor by detaching the jumper.

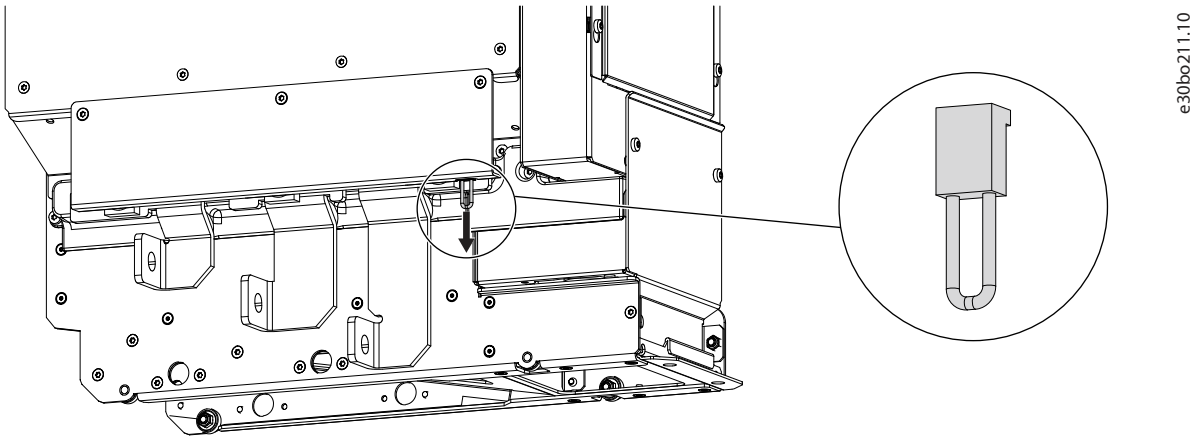


Figure 41: Detaching the Jumper

3.13 Changing the EMC Protection Level of the AFE Module in an IT System

In an IT system, to change the EMC protection level of the drive from C3 to C4, disconnect the LCL Filter ground capacitor.

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NOTICE

DAMAGE TO THE DRIVE FROM INCORRECT EMC LEVEL

The EMC level requirements for the drive depend on the installation environment. An incorrect EMC level can damage the drive.

- Before connecting the drive to the mains, make sure that the EMC level of the drive is correct for the mains.

1. Loosen the screw of the grounding wire of the capacitor of the LCL Filter.
2. Remove the grounding wire from the phase capacitor.

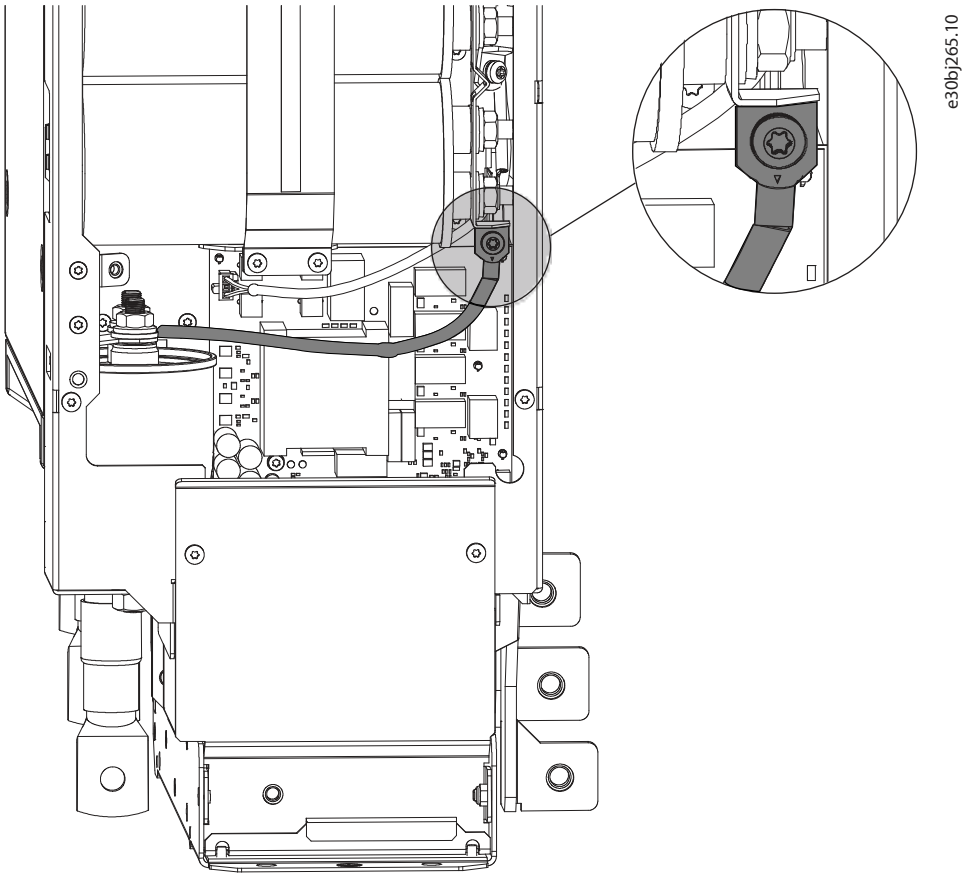


Figure 42: EMC Protection Level 3

3. Move the cable lug of the grounding wire with the screw onto the insulator and tighten the screw (maximum 0.5 Nm, 4.4 in-lb).

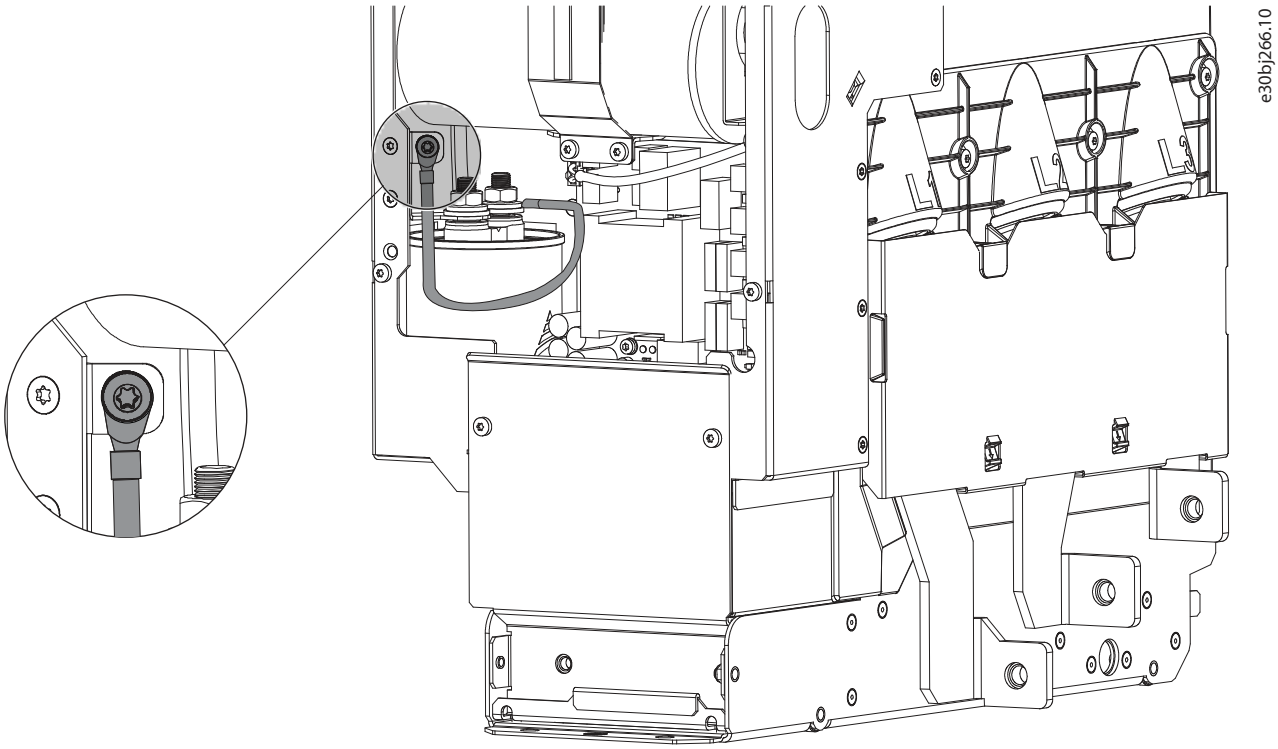


Figure 43: EMC Protection Level 4

4. After the change, write "The EMC level was changed" and the date on the "product modified" label. If the label is not yet attached, attach it on the drive near the product label.

3.14 AuxBus Communication

3.14.1 AuxBus Terminals

AuxBus is used for the temperature measurement of the filters.

IMPORTANT:

The terminals at the top of the system module have been updated. Both the versions of the terminals are shown below.

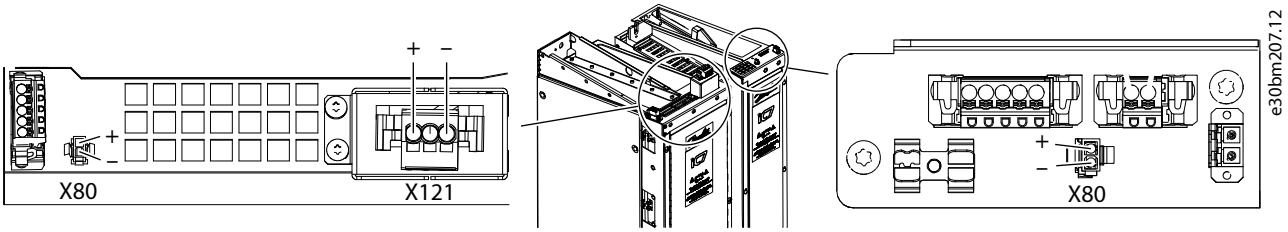


Figure 44: Auxiliary Terminals of the LCL Filter and the System Module (NFE, AFE, INU, GC)

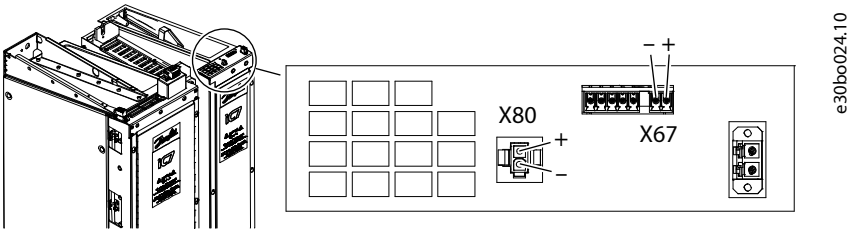


Figure 45: Previous Revision of the Auxiliary Terminals

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X25	AuxBus terminal (This terminal is not used in NFE modules.)	X80	Service 24 V DC supply terminal
X81	Control terminal	X67	24 V DC output terminal (This terminal is not used in NFE modules.)

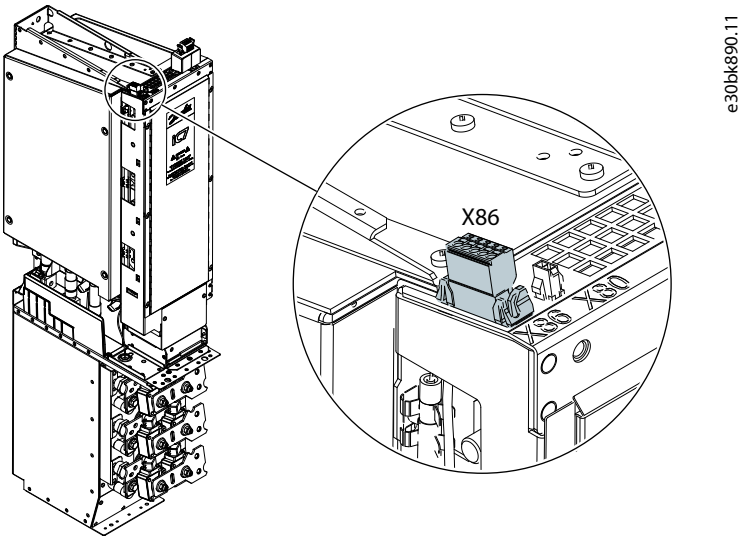


Figure 46: AuxBus Terminal of the LCL Filter (X86)

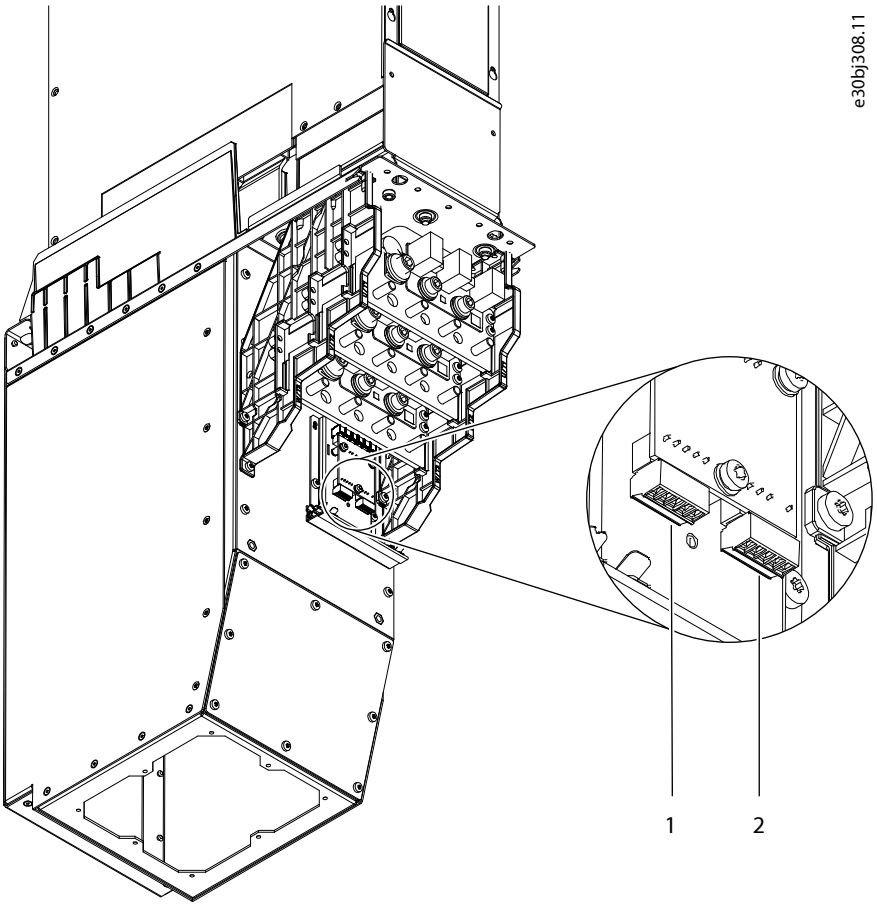


Figure 47: AuxBus Terminals of the Integration Unit with Filter

1	AuxBus out (X85)	2	AuxBus in (X86)

3.14.2 Preparing the AuxBus Cable

An AuxBus cable is included in the delivery. If the AuxBus cable was ordered as a loose option (a 10-meter cable), use these instructions.

1. Cut the cable to the required length.
2. To reveal the wires, strip the cable for 50 mm (1.97 in) at both ends.
3. At 1 end of the cable, remove approximately 15 mm (0.59 in) of the insulation of the cable.
4. Strip the wires 7 mm (0.28 in), except for the LCL terminal 10–11 mm (0.39–0.43 in).

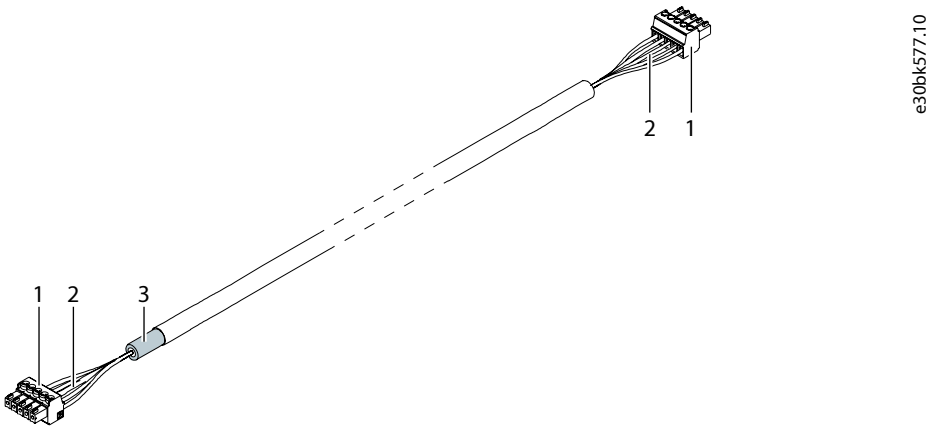


Figure 48: The Ready AuxBus Cable

1	Terminals	2	Wires
3	Shield removed		

3.14.3 AuxBus Cabling

1. Connect the AuxBus cable between the filter and the power unit. If there are several power units and filters, connect each filter to the power units individually.
   a. Connect the end of the AuxBus cable where the insulation was removed to terminal X25 on the power unit.
   b. Connect the other end of the AuxBus cable to terminal X86 on the filter.

   Use the tightening torque 0.22–0.25 Nm (1.9–2.2 in-lb).
2. Route the cable so that there is no risk of getting in touch with bare busbars or terminals.
3. Ground each AuxBus cable at 1 end, at the X25 terminal. To make the grounding connection, attach the shield of the cable to the frame with a cable clamp.

   The lower part of the cable clamp fixes the cable to the plate and provides strain relief. The upper part provides ~360° grounding for the cable shield.

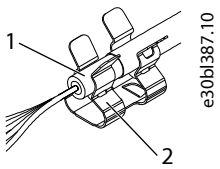


Figure 49: Grounding of the AuxBus Cable

1	Shield removed	2	Cable clamp

4. At the terminal X86 end of the cable, place the cable in a cable clamp for strain relief.

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4 Control Installation

4.1 Assembling the Control Unit Mounting Plates

Use these instructions to assemble the mounting plate of the modular control unit. All the parts can be found in the accessories bag.

1. Assemble the mounting plate as shown in the illustration.
   a. Attach the base grounding plate into the mounting plate.
   b. Align the cable clamps in the holes in a wave-like form and attach with screws.
   c. Attach the grounding plate extension onto the base grounding plate with 2 screws.
   d. Attach the cable clamps with screws.

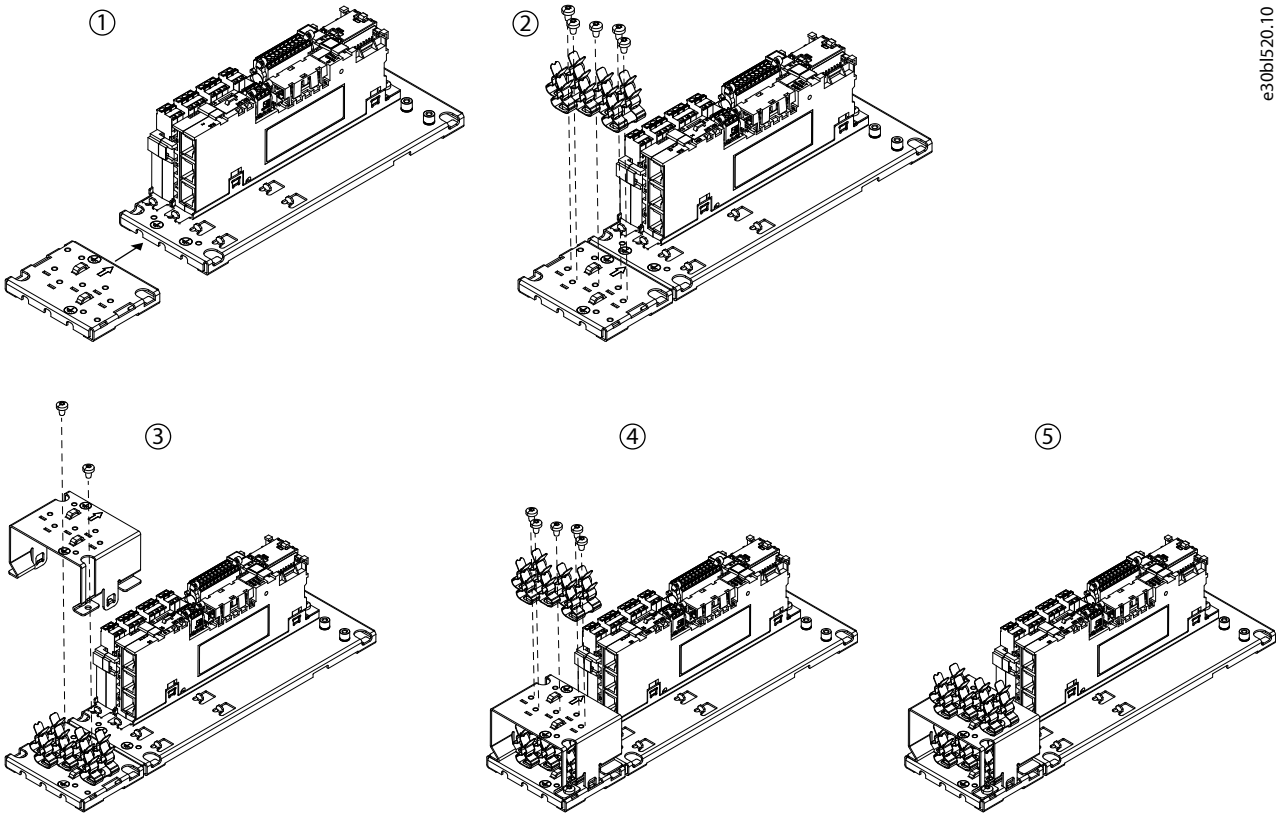


Figure 50: Assembling the Mounting Plate

4.2 Installing the Control Unit

Install the control unit to the selected location. Use the 4 mounting holes in the corners of the mounting plate.

4.3 Connecting the Fieldbus Cable and the Fiber Cables

1. Connect the PLC to the Ethernet port X1 or X2 in the control board with a fieldbus cable.
2. Connect the terminal X80 in the control board to the terminal X90 in the star coupler board with a fiber cable.
3. Connect the terminals X301–X316 in the star coupler board to the power units with fiber cables.

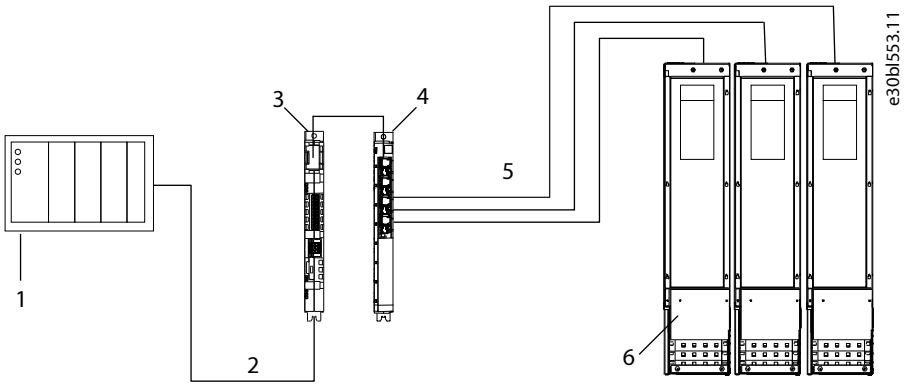


Figure 51: Connecting the Fieldbus Cable and the Fiber Cables

1	PLC (not included in the delivery)	2	Fieldbus cable
3	Control board	4	Star coupler board
5	Fiber cables	6	Power units

4.4 Installing the Control Cables into the Control Terminals

1. Install the control cables into the control terminals.

   See the pin numbering of the I/O and Relay Option in 4.8 I/O and Relay Option (OC7C1) Connections.

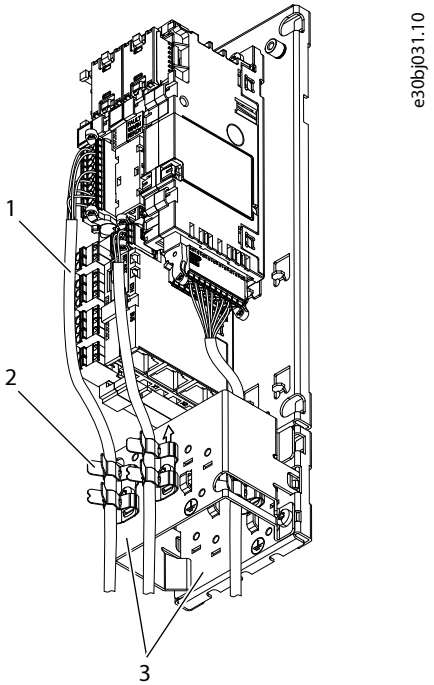


Figure 52: Example of Installing the Control Cables

1	Control cable	2	Cable clamp
3	Grounding plates		

2. Strip the control cables. Attach the control cables to the cable clamps on the suitable grounding plate.

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The lower part of the cable clamp fixes the cable to the plate and provides strain relief. The upper part provides ~360° grounding for the cable shield.

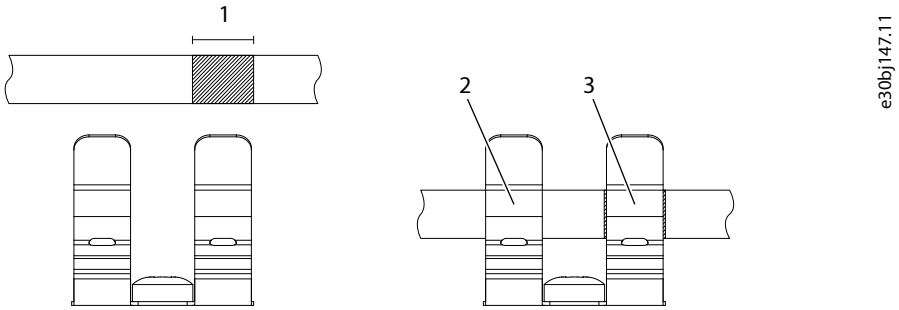


Figure 53: Stripping the Cable and Using the Grounding Plates

1	Stripping length, 10 mm (0.4 in)	2	Strain relief
3	Grounding		

4.5 Control Board Connections

Table 2: Control Board Connections

Terminal	Function	Connector type
X1	Ethernet port (used for fieldbus)	RJ45
X2	Ethernet port (used for fieldbus)	RJ45
X0	Ethernet port (used for the PC tool)	RJ45
Micro SD	microSD card	Micro SD
X62	24 V DC supply	2 x 3 spring force connector 0.2–1.5 mm^2
X33 for inverter module	STO terminal	1 x 10 spring force connector 0.2–1.5 mm^2
Option bus	Option bus (internal connection)	Custom
X80	Fiber optic link to power unit or star coupler board	LC-duplex
X9	Control panel terminal	iX Industrial
RTC battery	RTC battery	Battery type: • Panasonic BR1632A (3 V +125 °C) • Jauch Quartz CR1632 (246335) (3 V, +85 °C) • Renata Batteries CR1632 (3 V, +85 °C)

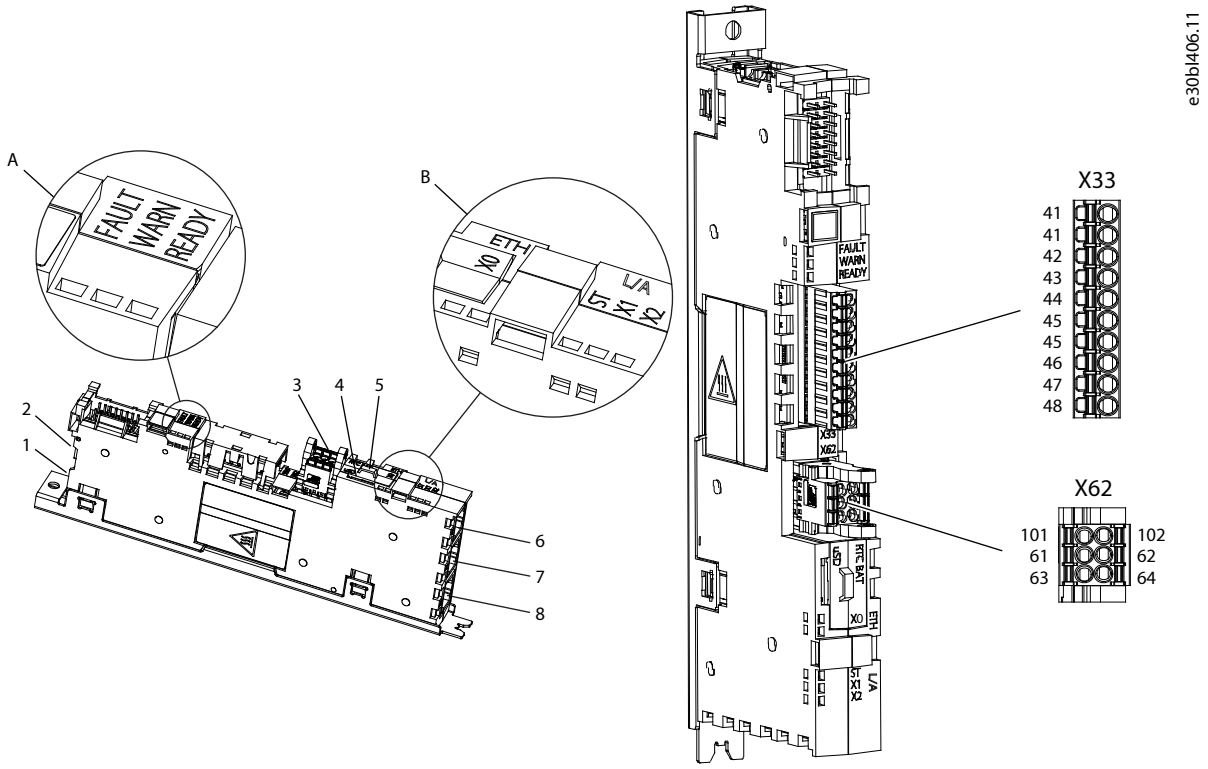


Figure 54: Control Board Terminal Block and Terminal Numbering

A	Status indicators (FAULT, WARN, READY)	B	Fieldbus indicators (ST, X1, X2) and Ethernet port indicators (X0)
1	Control panel connector (X9)	2	Fiber optic link to power unit (X80)
3	24 V DC supply (X62)	4	microSD card
5	RTC battery holder	6	Ethernet port (X0)
7	Ethernet port (X1)	8	Ethernet port (X2)

Table 3: STO Terminal Signals (X33) for the Inverter Module

Terminal	Function	Description
41A[1]	24 V	+ 24 V DC Output
41B[1]	24 V	+ 24 V DC Output
42	S.INA+	+ Safe Input Channel A
43	S.INB+	+ Safe Input Channel B
44	S.FB+	+ STO Feedback
45A[1]	GND	0 V/GND
45B[1]	GND	0 V/GND
46	S.INA-	- Safe Input Channel A
47	S.INB-	- Safe Input Channel B
48	S.FB-	- STO Feedback

1) Terminals 41A, 41B, 45A, and 45B have double pins to make connections easier.

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Table 4: 24 V DC Supply Signals (X62)

Terminal	Function	Description
101	+24 V input	Internal +24 V DC, 60 W control supply
102	GND	Power supply ground
61	+24 V external input	External +24 V DC control supply, maximum 10 A. Must be fuse-protected. Possible to daisy chain for multiple controllers.
62	GND	Power supply ground
63	+24 V output	+24 V DC output for daisy chain, only available when the +24 V DC external input control supply is used.
64	GND	Power supply ground

For the circuit diagrams of the control unit, see the product-specific design guide.

4.6 Star Coupler Board

The star coupler board can be installed next to the control unit. The star coupler board can also be installed near the power units to make the cabling from the star coupler board to the power units easier.

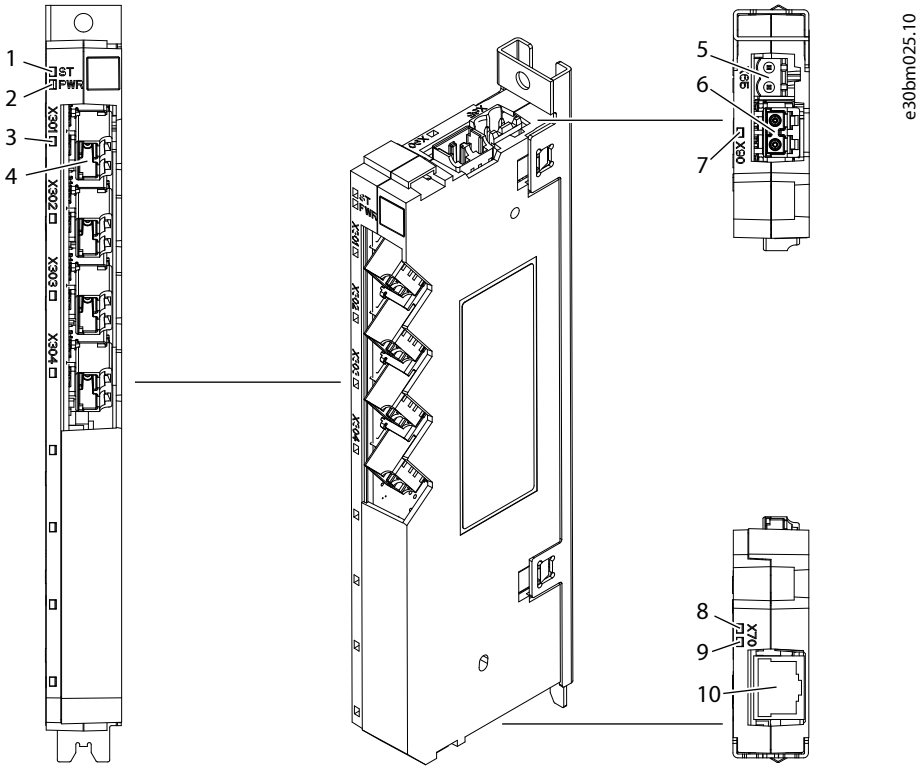


Figure 55: Terminal and Indicator Light Locations on the 4-port Star Coupler Board

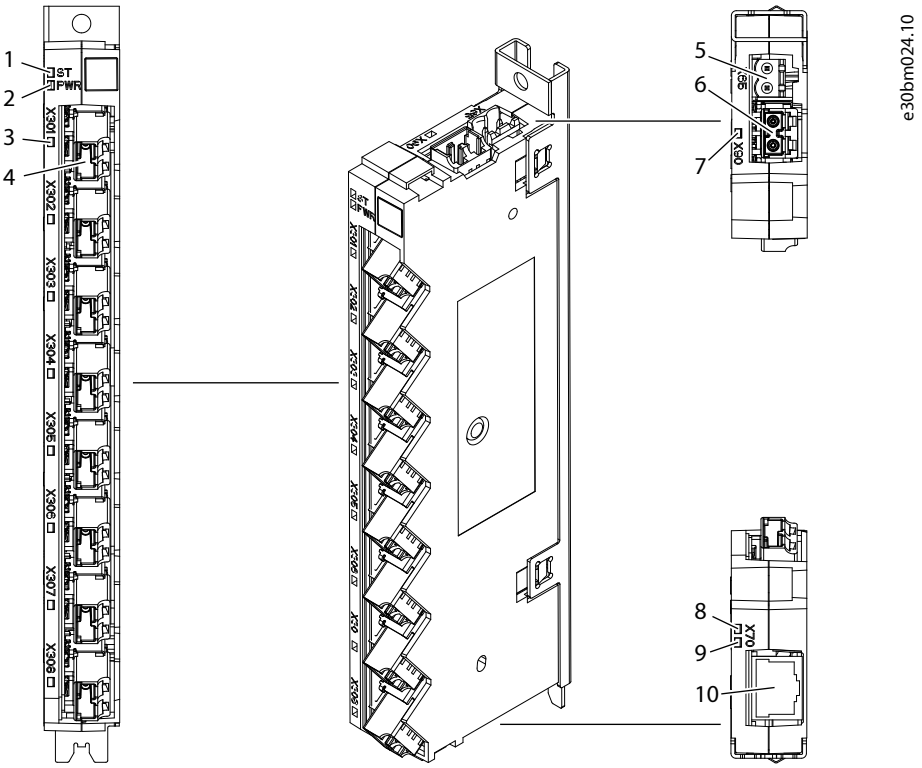


Figure 56: Terminal and Indicator Light Locations on the 8-port Star Coupler Board

1	Board configuration status indicator	2	+24 V power status indicator
3	Power unit connection status indicators	4	Fiber connection to the power unit (X301–X316)
5	+24 V power supply (X65)	6	Fiber connection to the control board (X90)
7	Control link status indicator	8	Ethernet speed indicator
9	Ethernet link activity indicator	10	Ethernet port (X7)

4.7 Star Coupler Board Connections

Table 5: Star Coupler Board Connections

Terminal	Function	Connector type
X7	Ethernet port	RJ45
X65	24 V DC supply	2 x spring force connector 2.5 mm^2
X90	Fiber optic link to control board	LC-duplex
X301–X316	Fiber optic link to power unit	LC-duplex

Table 6: 24 V DC Supply Signals (X65)

Terminal	Function	Description
61	+24 V external input	External +24 V DC star coupler supply, maximum 10 A. Must be fuse-protected.
62	GND	Power supply ground

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4.8 I/O and Relay Option (OC7C1) Connections

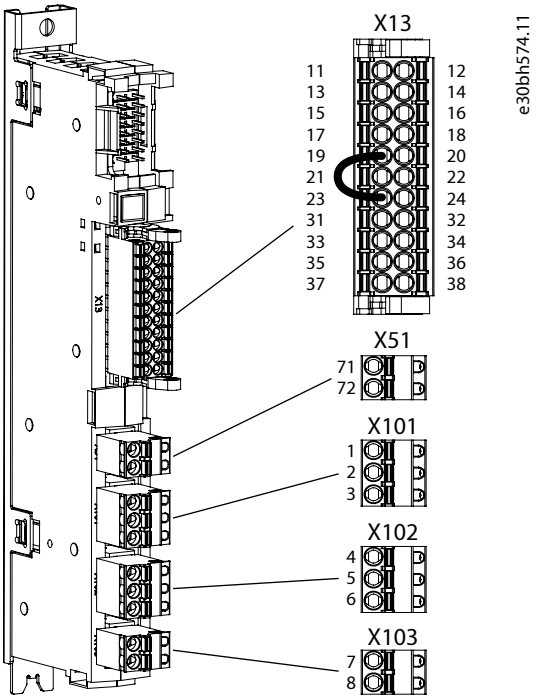


Figure 57: I/O and Relay Option Terminal Block and Terminal Numbering

Table 7: I/O and Relay Option (OC7C1) Signals

Terminal	Function	Connector type
X13	I/O terminal	2 x 11 spring force connector 0.2–1.5 mm^2
X51	Thermistor input	1 x 2 spring force connector 0.25–2.5 mm^2
X101	Relay 1	1 x 3 spring force connector 0.25–2.5 mm^2
X102	Relay 2	1 x 3 spring force connector 0.25–2.5 mm^2
X103	Relay 3	1 x 2 spring force connector 0.25–2.5 mm^2

Table 8: I/O Terminal Signals (X13)

Terminal	Function
11	+24 V_{out}
12	+24 V_{out}
13	DI 1
14	DI 2
15	DI 3
16	DI 4
17	DI 5
18	DI 6
19	DGND
20	DGND
21	DO 1

Table 8: I/O Terminal Signals (X13) - (continued)

Terminal	Function
22	DO 2
23	GND
24	GND
31	AO 1
32	+10 V ref.
33	AI 1
34	AI 2
35	GND
36	GND
37	GND
38	GND

Table 9: Thermistor Input Signals (X51)

Terminal	Function	Description
71	TI+	Thermistor input, galvanically isolated. R_{trip} = 4 kΩ
72	TI-	

Table 10: Relay 1 Signals (X101)

Terminal	Function	Description
1	COM	Configurable relay output. Switching capacity: • 24 V DC/8 A • 250 V AC/8 A • 125 V DC/0.4 A Minimum switching load: 5 V/10 mA
2	NO	
3	NC	

Table 11: Relay 2 Signals (X102)

Terminal	Function	Description
4	COM	Configurable relay output. Switching capacity: • 24 V DC/8 A • 250 V AC/8 A • 125 V DC/0.4 A Minimum switching load: 5 V/10 mA
5	NO	
6	NC	

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Table 12: Relay 3 Signals (X103)

Terminal	Function	Description
7	COM	Configurable relay output. Switching capacity: • 24 V DC/8 A • 250 V AC/8 A • 125 V DC/0.4 A Minimum switching load: 5 V/10 mA
8	NO	

4.9 Connecting the Control Panel

1. Connect the control panel to the terminal X9 in the modular control unit with a panel cable adapter.

4.10 Installing the microSD Card

Supported microSD card types:

- SD
- SDHC
- SDXC

The microSC card must be formatted for the file system FAT32. It is recommended to use SDHC type cards as they are preformatted to FAT32.

1. Locate the microSD card hole on the control board of the control unit.

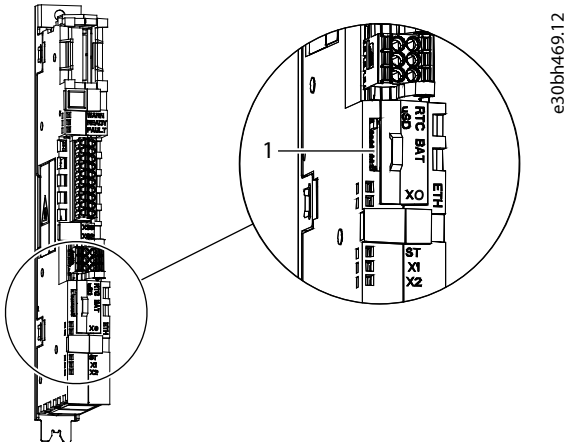


Figure 58: Location of the microSD Card

1	The microSD card

2. Push the new microSD card into the hole.

The contact area must face the text µSD on the right.

To remove the microSD card, push it. The microSD card pops out.

5 Commissioning

5.1 Commissioning of the Drive

Follow these instructions to commission the drive.

Read the safety instructions in the Safety Guide and obey them.

1. Make sure that the motor is installed correctly.
2. Make sure that the motor is not connected to mains.
3. Make sure that the drive and the motor are grounded.
4. Make sure to select the mains cable and the motor cable correctly.

   For information on cable selections, see 6.2.1 General Cable Size Information.
5. Make sure that the control cables are as far as possible from the power cables.
6. Make sure that the shields of the shielded cables are connected to a grounding terminal that is identified with the grounding symbol.
7. Check the tightening torques of all the terminals.
8. Make sure that the cables do not touch the electrical components of the drive.
9. Make sure that the common input +24 V is connected to an external power source and the ground of the digital input is connected to ground of the control terminal.
10. Make sure that there is no condensation on the surfaces of the drive.
11. Make sure that there are no unwanted objects in the installation space.
12. Before connecting the drive to mains, check the installation and the condition of all the fuses and other protective devices.

    For information on fuse selections, see 6.3.1 List of Fuse Size Information.
13. Perform the cable and motor insulation checks.

5.2 Recommissioning of the Drive

To recommission the drive, use these instructions. There can be a need for recommissioning the drive even during the 1st startup if the hardware configuration has changed. The need is indicated on the control panel or through MyDrive® Insight. Recommissioning is needed, for example, when an option board is changed, or the LCL filter in use is not the same as in the factory commissioning.

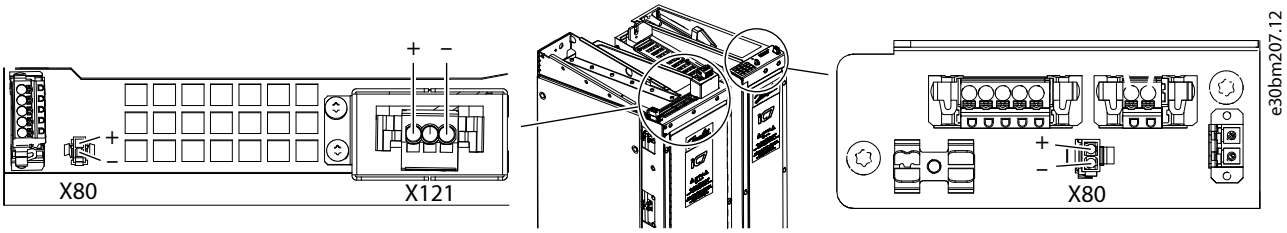


Figure 59: Service Voltage Terminals of the LCL Filter and the System Module (NFE, AFE, INU, GC)

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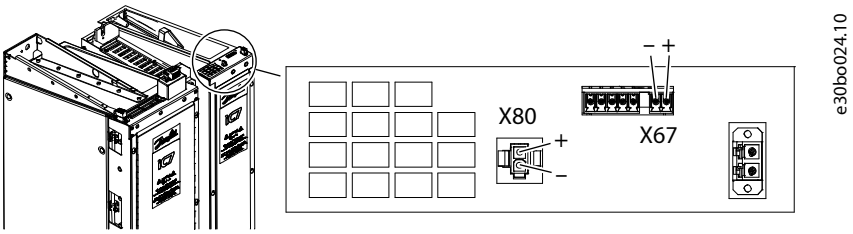


Figure 60: Previous Revision of the Service Voltage Terminals

IMPORTANT: The terminals at the top of the system module have been updated. The older versions of the terminals are shown in Figure 60. If performing the recommissioning of a module with the older terminals, connect the 24 V service voltage to terminals X80 and X67.

1. Power up all system modules and LCL filters.
   a. To power up the NFE, AFE, or GC module: Connect the 24 V service voltage to terminal X80.
   b. To power up the inverter module, use **1** of the following methods:

      Connect the 24 V service voltage to terminal X80.

      or

      Connect the DC-link voltage to the DC-link busbars of the power units.

   c. To power up the LCL filter, use **1** of the following methods:

      Connect the 24 V service voltage to terminal X80.

      or

      Connect the external DC-link voltage to the LCL fan supply terminal X121.

   - The supply must have ±5% voltage accuracy.
   - The supply current must be >2.5 A per power unit, depending on the configuration. This current is also enough for the control unit.
   - If there is more than 1 power unit connected to the same control unit, connect an external 24 V DC supply to all the power units.

2. Commission the drive from MyDrive® Insight or the control panel.
3. Disconnect the external 24 V DC supply from terminal X80 of the system modules and LCL filters.

5.3 Downloading the Software without the Mains Supply

Use these instructions to update the drive with new software without mains.

Before downloading the software, read all safety precautions in this guide and other guides available for this product.

IMPORTANT:

The terminals at the top of the system module have been updated. Both the versions of the terminals are shown in 5.2 Recommissioning of the Drive. If downloading the software with the older terminals, connect the 24 V service voltage to terminals X80 and X67.

1. Connect an external 24 V DC supply to terminals X80 at the top of the power unit.
   a. The supply must have ±10% voltage accuracy.

b. The supply current must be >2.5 A per power unit, depending on the configuration.

c. If there is more than 1 power unit connected to the same control unit, connect an external 24 V DC supply to all the power units.

2. Commission the drive from MyDrive® Insight.
3. Disconnect the external 24 V DC supply from terminals X80 of the power unit.

5.4 Measuring the Insulation Resistance of the Motor Cable

Use these instructions to check the insulation of the motor cable.

The drive is already measured at the factory.

1. Disconnect the motor cable from the terminals U, V, and W, and from the motor.
2. Measure the insulation resistance of the motor cable between phase conductors 1 and 2, between phase conductors 1 and 3, and between phase conductors 2 and 3.
3. Measure the insulation resistance between each phase conductor and the grounding conductor.
4. The insulation resistance must be >1 MΩ at the ambient temperature of 20 °C (68 °F).

5.5 Measuring the Insulation Resistance of the Mains Cable

Use these instructions to check the insulation of the mains cable.

The drive is already measured at the factory.

1. Disconnect the mains cable from the terminals L1, L2, and L3, and from mains.
2. Measure the insulation resistance of the mains cable between phase conductors 1 and 2, between phase conductors 1 and 3, and between phase conductors 2 and 3.
3. Measure the insulation resistance between each phase conductor and the grounding conductor.
4. The insulation resistance must be >1 MΩ at the ambient temperature of 20 °C (68 °F).

5.6 Measuring the Insulation Resistance of the Motor

Use these instructions to check the insulation of the motor.

The drive is already measured at the factory.

NOTICE

Obey the instructions of the motor manufacturer.

1. Disconnect the motor cable from the motor.
2. Open the bridging connections in the motor connection box.
3. Measure the insulation resistance of each motor winding. The voltage must be the same or higher than the motor nominal voltage, but at least 1000 V.
4. The insulation resistance must be >1 MΩ at the ambient temperature of 20 °C (68 °F).
5. Connect the motor cables to the motor.
6. Do the final insulation check on the drive side. Put all phases together and measure to the ground.
7. Connect the motor cables to the drive.

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5.7 Preparing for a PC Connection

Use these instructions to connect the drive or several drives to a PC with an RJ45 cable.

1. Connect an RJ45 cable to the PC.

   To connect several drives at the same time, use an Ethernet switch between the PC and the control unit.

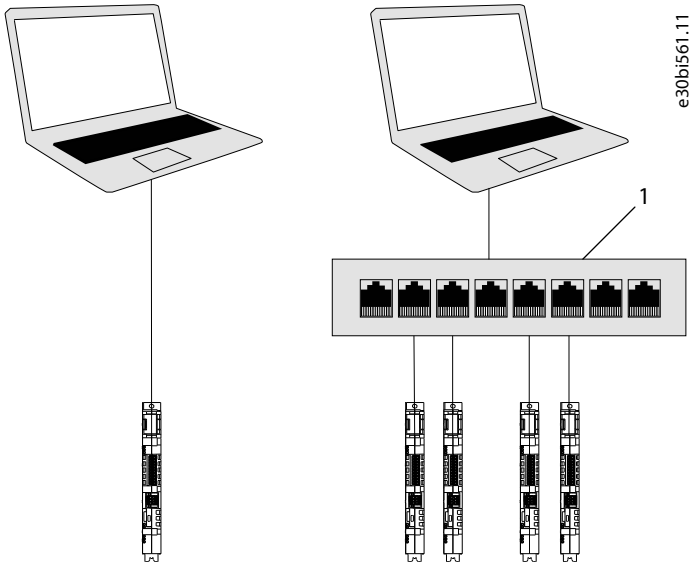


Figure 61: Connecting the Drive to a PC

1	Ethernet switch

2. Connect the cable coming from the PC or from the Ethernet switch to the Ethernet port X0 on the control unit of the drive.
3. See the application guide for information on the next steps.

6 Specifications

6.1 Tightening Torques

Table 13: Tightening Torques

Bolt	Tightening torque [Nm (in-lb)]	Maximum inward thread length [mm (in)]
M8	20 (177)	10 (0.39)
M10	40 (354)	22 (0.87)
M12	70 (620)	22 (0.87)
Grounding bolt (M8)	13.5 (119)	–

6.2 Cable Sizes

6.2.1 General Cable Size Information

The IEC cable sizing is based on these conditions:

- Ambient temperature of 40 °C (104 °F).
- Cables laid side by side on cable ladders.
- Maximum 9 cables per ladder.
- 3 ladders on top of each other.
- XLPE insulated cables with a maximum conductor temperature of 90 °C (194 °F).

In other conditions, refer to the local safety regulations, the input voltage, and the load current of the drive.

The UL cable sizing is based on these conditions:

- Ambient temperature of 40 °C (104 °F). Conductor sizing is based on NEC table 310.15(B)(16).
- 75 °C (167 °F) rated copper cables.
- Multicore cables installed in cable ducts.
  - If cable ducts are not used, keep sufficient spacing between the cables.
  - Do not stack or bundle the cables without proper spacing for longer than 600 mm (24 in).

In other conditions, refer to the local safety regulations, the input voltage, and the load current of the drive.

IMPORTANT: Use symmetrical cabling with system modules connected in parallel. Each module must have the same number of cables with an equal cross-section.

The cable size tables for the air-cooled system modules can be found with these links.

- 6.2.2 Mains Cable Size Recommendations for NFE Modules, 380–500 V
- 6.2.3 Mains Cable Size Recommendations for AFE Modules, 380–500 V
- 6.2.4 Motor Cable Sizes Recommendation for Inverter Modules, 380–500 V
- 6.2.5 Motor Cable Size Recommendations for Inverter Modules with Integration Units, 380–500 V
- 6.2.6 Mains Cable Size Recommendations for NFE Modules, UL 480 V

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- 6.2.7 Mains Cable Size Recommendations for AFE Modules, UL 480 V
- 6.2.8 Motor Cable Sizes Recommendation for Inverter Modules, UL 460 V
- 6.2.9 Motor Cable Size Recommendations for Inverter Modules with Integration Units, UL 460 V
- 6.2.10 Mains Cable Size Recommendations for NFE Modules, UL 600 V
- 6.2.11 Mains Cable Size Recommendations for AFE Modules, UL 600 V
- 6.2.12 Motor Cable Sizes Recommendation for Inverter Modules, UL 575 V
- 6.2.13 Motor Cable Sizes Recommendation for Inverter Modules with Integration Units, UL 575 V
- 6.2.14 Mains Cable Size Recommendations for NFE Modules, 525–690 V
- 6.2.15 Mains Cable Size Recommendations for AFE Modules, 525–690 V
- 6.2.16 Motor Cable Sizes Recommendation for Inverter Modules, 525–690 V
- 6.2.17 Motor Cable Sizes Recommendation for Inverter Modules with Integration Units, 525–690 V

6.2.2 Mains Cable Size Recommendations for NFE Modules, 380–500 V

Table 14: Mains Cable Size Recommendations for NFE Modules, 380–500 V

Model code	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3N05-730A	NR11	3x (3 x 150 + 70)	4x (3 x 150 + 41)
iC7-60SA3N05-869A		3x (3 x 185 + 95)	4x (3 x 185 + 57)
iC7-60SA3N05-1094		4x (3 x 185 + 95)	6x (3 x 150 + 41)
iC7-60SA3N05-1420	2 x NR11	6x (3 x 150+ 70)	8x (3 x 150 + 41)
iC7-60SA3N05-1600		6x (3 x 185+ 95)	8x (3 x 185 + 57)
iC7-60SA3N05-2090		8x (3 x 185 + 95)	12x (3 x 150 + 41)
iC7-60SA3N05-2450	3 x NR11	9x (3 x 185 + 95)	12x (3 x 185 + 57)
iC7-60SA3N05-3130		12x (3 x 185 + 95)	15x (3 x 185+ 57)
iC7-60SA3N05-4170	4 x NR11	16x (3 x 185 + 95)	20x (3 x 185 + 57)
iC7-60SA3N05-5210	5 x NR11	20x (3 x 185 + 95)	30x (3 x 150 + 41)
iC7-60SA3N05-6260	6 x NR11	24x (3 x 185 + 95)	30x (3 x 185 + 57)

6.2.3 Mains Cable Size Recommendations for AFE Modules, 380–500 V

Table 15: Mains Cable Size Recommendations for AFE Modules, 380–500 V

Model code[(1)]	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3x05-317AE00	AM10/AR10	1x (3 x 150 + 70)	2x (3 x 95 + 29)
iC7-60SA3x05-400AE00		3x (3 x 50 + 25)	3x (3 x 95 + 29)
iC7-60SA3x05-514AE00		3x (3 x 70 + 35)	3x (3 x 120 + 41)
iC7-60SA3x05-580AE00	AM11/AR11	2x (3 x 150 + 70)	3x (3 x 150 + 41)
iC7-60SA3x05-650AE00		4x (3 x 70 + 35)	4x (3 x 120 + 41)
iC7-60SA3x05-730AE00		4x (3 x 95+ 50)	4x (3 x 150 + 41)
iC7-60SA3x05-816AE00		3x (3 x 150 + 70)	4x (3 x 150 + 41)
iC7-60SA3x05-920AE00	2xAM10/2xAR10	6x (3 x 70 + 35)	4x (3 x 185 + 57)
iC7-60SA3x05-1030E00		4x (3 x 150 + 70)	6x (3 x 150 + 41)

Table 15: Mains Cable Size Recommendations for AFE Modules, 380–500 V - (continued)

Model code[1]	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3x05-1210E00	2xAM11/2xAR11	6x (3 x 120 + 70)	6x (3 x 185 + 57)
iC7-60SA3x05-1410E00		6x (3 x 150 + 70)	8x (3 x 150 + 41)
iC7-60SA3x05-1630E00		6x (3 x 185 + 95)	8x (3 x 185 + 57)
iC7-60SA3x05-1860E00	3xAM11/3xAR11	9x (3 x 120 + 70)	9x (3 x 185 + 57)
iC7-60SA3x05-2120E00		9x (3 x 150 + 70)	12x (3 x 150 + 41)
iC7-60SA3x05-2450E00		9x (3 x 185 + 95)	12x (3 x 185 + 57)
iC7-60SA3x05-2800E00	4xAM11/4xAR11	12x (3 x 150 + 70)	16x (3 x 150 + 41)
iC7-60SA3x05-3270E00		12x (3 x 185 + 95)	16x (3 x 185 + 57)
iC7-60SA3x05-3650E00	5xAM11/5xAR11	15x (3 x 150+ 70)	20x (3 x 150 + 41)
iC7-60SA3x05-4080E00		15x (3 x 150 + 70)	20x (3 x 150 + 41)
iC7-60SA3x05-4500E00	6xAM11/6xAR11	18x (3 x 150 + 70)	24x (3 x 150 + 41)
iC7-60SA3x05-4900E00		18x (3 x 185 + 95)	24x (3 x 185 + 57)

1) Model codes starting with iC7-60SA3A05 or iC7-60SA3H05

6.2.4 Motor Cable Sizes Recommendation for Inverter Modules, 380–500 V

Table 16: Motor Cable Size Recommendations for Inverter Modules, 380–500 V

Model code	Frame	Motor cable Cu [mm^2]	Motor cable Al [mm^2]
iC7-60SAIN05-385A	IM10	3x (3 x 50 + 25)	2x (3 x 120 + 41)
iC7-60SAIN05-480A		3x (3 x 70 + 35)	3x (3 x 120 + 41)
iC7-60SAIN05-590A		3x (3 x 95 + 50)	3x (3 x 150+ 41)
iC7-60SAIN05-658A	IM11	4x (3 x 70 + 35)	4x (3 x 120 + 41)
iC7-60SAIN05-730A		4x (3 x 95 + 50)	4x (3 x 150 + 41)
iC7-60SAIN05-820A		3x (3 x 150 + 70)	4x (3 x 150 + 41)
iC7-60SAIN05-880A		4x (3 x 120 + 70)	4x (3 x 185 + 57)
iC7-60SAIN05-1000	2xIM10	6x (3 x 95 + 50)	6x (3 x 120 + 41)
iC7-60SAIN05-1100		6x (3 x 95 + 50)	6x (3 x 150 + 41)
iC7-60SAIN05-1260	2xIM11	6x (3 x 120 + 70)	8x (3 x 120 + 41)
iC7-60SAIN05-1450		8x (3 x 95 + 50)	8x (3 x 150 + 41)
iC7-60SAIN05-1710		8x (3 x 120 + 70)	8x (3 x 185 + 57)
iC7-60SAIN05-1760	3xIM11	9x (3 x 120 + 70)	12x (3 x 120 + 41)
iC7-60SAIN05-1960		9x (3 x 150 + 70)	12x (3 x 120 + 41)
iC7-60SAIN05-2150		9x (3 x 150 + 70)	12x (3 x 150 + 41)
iC7-60SAIN05-2510		12x (3 x 120 + 70)	12x (3 x 185 + 57)
iC7-60SAIN05-2640	4xIM11	12x (3 x 120 + 70)	16x (3 x 120 + 41)
iC7-60SAIN05-2880		12x (3 x 150 + 70)	16x (3 x 150 + 41)
iC7-60SAIN05-3280		16x (3 x 120 + 70)	16x (3 x 150 + 41)

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Table 16: Motor Cable Size Recommendations for Inverter Modules, 380–500 V - (continued)

Model code	Frame	Motor cable Cu [mm^2]	Motor cable Al [mm^2]
iC7-60SAIN05-3600	5xIM11	15x (3 x 150 + 70)	15x (3 x 185 + 57)
iC7-60SAIN05-4060		20x (3 x 120 + 70)	20x (3 x 150 + 41)
iC7-60SAIN05-4320	6xIM11	18x (3 x 150 + 70)	18x (3 x 185 + 57)
iC7-60SAIN05-4870		24x (3 x 120 + 70)	24x (3 x 150 + 41)

6.2.5 Motor Cable Size Recommendations for Inverter Modules with Integration Units, 380–500 V

Table 17: Motor Cable Size Recommendations for Inverter Modules with Integration Units, 380–500 V

Model code	Frame	Motor cable Cu [mm^2]	Motor cable Al [mm^2]
iC7-60SAIN05-385A	IR10	3x (3 x 50 + 25)	2x (3 x 120 + 41)
iC7-60SAIN05-480A		3x (3 x 70 + 35)	3x (3 x 120 + 41)
iC7-60SAIN05-590A		3x (3 x 95 + 50)	3x (3 x 150+ 41)
iC7-60SAIN05-658A	IR11	4x (3 x 70 + 35)	4x (3 x 120 + 41)
iC7-60SAIN05-730A		4x (3 x 95 + 50)	4x (3 x 150 + 41)
iC7-60SAIN05-820A		3x (3 x 150 + 70)	4x (3 x 150 + 41)
iC7-60SAIN05-880A		4x (3 x 120 + 70)	4x (3 x 185 + 57)
iC7-60SAIN05-1000	2xIR10	6x (3 x 95 + 50)	6x (3 x 120 + 41)
iC7-60SAIN05-1100		6x (3 x 95 + 50)	6x (3 x 150 + 41)
iC7-60SAIN05-1260	2xIR11	6x (3 x 120 + 70)	8x (3 x 120 + 41)
iC7-60SAIN05-1450		8x (3 x 95 + 50)	8x (3 x 150 + 41)
iC7-60SAIN05-1710		8x (3 x 120 + 70)	8x (3 x 185 + 57)
iC7-60SAIN05-1760	3xIR11	9x (3 x 120 + 70)	12x (3 x 120 + 41)
iC7-60SAIN05-1960		9x (3 x 150 + 70)	12x (3 x 120 + 41)
iC7-60SAIN05-2150		9x (3 x 150 + 70)	12x (3 x 150 + 41)
iC7-60SAIN05-2510		12x (3 x 120 + 70)	12x (3 x 185 + 57)
iC7-60SAIN05-2640	4xIR11	12x (3 x 120 + 70)	16x (3 x 120 + 41)
iC7-60SAIN05-2880		12x (3 x 150 + 70)	16x (3 x 150 + 41)
iC7-60SAIN05-3280		16x (3 x 120 + 70)	16x (3 x 150 + 41)
iC7-60SAIN05-3600	5xIR11	15x (3 x 150 + 70)	15x (3 x 185 + 57)
iC7-60SAIN05-4060		20x (3 x 120 + 70)	20x (3 x 150 + 41)
iC7-60SAIN05-4320	6xIR11	18x (3 x 150 + 70)	18x (3 x 185 + 57)
iC7-60SAIN05-4870		24x (3 x 120 + 70)	24x (3 x 150 + 41)

6.2.6 Mains Cable Size Recommendations for NFE Modules, UL 480 V

Table 18: Mains Cable Size Recommendations for NFE Modules, UL 480 V

Model code	Frame	Mains cable Cu	Mains cable termination, Panduit terminal part number
iC7-60SA3N05-730A	NR11	4 x 250 MCM	LCAX250-12-X
iC7-60SA3N05-869A		5 x 250 MCM	LCAX250-12-X
iC7-60SA3N05-1094		6 x 300 MCM	LCAX300-12-6
iC7-60SA3N05-1420	2 x NR11	8 x 300 MCM	LCAX300-12-6
iC7-60SA3N05-1600		8 x 350 MCM	LCAX350-12-6
iC7-60SA3N05-2090		12 x 250 MCM	LCAX250-12-X
iC7-60SA3N05-2450	3 x NR11	12 x 350 MCM	LCAX350-12-6
iC7-60SA3N05-3130		15 x 350 MCM	LCAX350-12-6
iC7-60SA3N05-4170	4 x NR11	20 x 350 MCM	LCAX350-12-6
iC7-60SA3N05-5210	5 x NR11	20 x 500 MCM	LCAX500-12-6
iC7-60SA3N05-6260	6 x NR11	24 x 500 MCM	LCAX500-12-6

6.2.7 Mains Cable Size Recommendations for AFE Modules, UL 480 V

Table 19: Mains Cable Size Recommendations for AFE Modules, UL 480 V

Model code[(1)]	Frame	Mains cable Cu [mm^2]	Mains cable termination, Panduit terminal part number
iC7-60SA3x05-317AE00	AM10/AR10	2 x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x05-400AE00		2 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-514AE00		3 x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x05-580AE00	AM11/AR11	3 x 250 MCM	LCAX250-12-X
iC7-60SA3x05-650AE00		3 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-730AE00		4 x 250 MCM	LCAX250-12-X
iC7-60SA3x05-816AE00		4 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-920AE00	2 x AM10/2 x AR10	4 x 350 MCM	LCAX350-12-6
iC7-60SA3x05-1030E00		6 x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x05-1210E00	2 x AM11/2 x AR11	6 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-1410E00		6 x 350 MCM	LCAX350-12-6
iC7-60SA3x05-1630E00		8 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-1860E00	3 x AM11/3 x AR11	9 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-2120E00		9 x 350 MCM	LCAX350-12-6
iC7-60SA3x05-2450E00		12 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-2800E00	4 x AM11/4 x AR11	12 x 350 MCM	LCAX350-12-6
iC7-60SA3x05-3270E00		16 x 300 MCM	LCAX300-12-6

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Table 19: Mains Cable Size Recommendations for AFE Modules, UL 480 V - (continued)

Model code[1]	Frame	Mains cable Cu [mm^2]	Mains cable termination, Panduit terminal part number
iC7-60SA3x05-3650E00	5 x AM11/5 x AR11	20 x 250 MCM	LCAX250-12-X
iC7-60SA3x05-4080E00		20 x 300 MCM	LCAX300-12-6
iC7-60SA3x05-4500E00	6 x AM11/6 x AR11	24 x 250 MCM	LCAX250-12-X
iC7-60SA3x05-4900E00		24 x 300 MCM	LCAX300-12-6

1) Model codes starting with iC7-60SA3A05 or iC7-60SA3H05

6.2.8 Motor Cable Sizes Recommendation for Inverter Modules, UL 460 V

Table 20: Motor Cable Sizes Recommendation for Inverter Modules, UL 460 V

Model code	Frame	Motor cable Cu	Motor cable termination, Panduit terminal part number[1]
iC7-60SAIN05-385A	IM10	2x300 MCM	LCAX300-12-6
iC7-60SAIN05-480A		3x250 MCM	LCAX250-12-X
iC7-60SAIN05-590A		3x300 MCM	LCAX300-12-6
iC7-60SAIN05-658A	IM11	3x350 MCM	LCAN350-12-X
iC7-60SAIN05-730A		4x250 MCM	LCAX250-12-X
iC7-60SAIN05-820A		4x300 MCM	LCAX300-12-6
iC7-60SAIN05-880A		4x350 MCM	LCAN350-12-X
iC7-60SAIN05-1000	2xIM10	6x4/0 AWG	LCAX4/0-12-X
iC7-60SAIN05-1100		6x250 MCM	LCAX250-12-X
iC7-60SAIN05-1260	2xIM11	6x300 MCM	LCAX300-12-6
iC7-60SAIN05-1450		8x250 MCM	LCAX250-12-X
iC7-60SAIN05-1710		8x350 MCM	LCAN350-12-X
iC7-60SAIN05-1760	3xIM11	9x350 MCM	LCAN350-12-X
iC7-60SAIN05-1960		9x350 MCM	LCAN350-12-X
iC7-60SAIN05-2150		12x250 MCM	LCAX250-12-X
iC7-60SAIN05-2510		12x300 MCM	LCAX300-12-6
iC7-60SAIN05-2640	4xIM11	12x350 MCM	LCAN350-12-X
iC7-60SAIN05-2880		16x250 MCM	LCAX250-12-X
iC7-60SAIN05-3280		16x300 MCM	LCAX300-12-6
iC7-60SAIN05-3600	5xIM11	20x250 MCM	LCAX250-12-X
iC7-60SAIN05-4060		20x300 MCM	LCAX300-12-6
iC7-60SAIN05-4320	6xIM11	24x250 MCM	LCAX250-12-X
iC7-60SAIN05-4870		24x300 MCM	LCAX300-12-6

1) The bolt hole spacing is 35 mm. Because of the limited space, LCAN350-12-X narrow lug type is recommended for 350 MCM conductors.

6.2.9 Motor Cable Size Recommendations for Inverter Modules with Integration Units, UL 460 V

Table 21: Motor Cable Size Recommendations for Inverter Modules with Integration Units, UL 460 V

Model code	Frame	Motor cable Cu	Motor cable termination, Panduit terminal part number
iC7-60SAIN05-385A	IR10	2x300 MCM	LCAX300-12-6
iC7-60SAIN05-480A		3x250 MCM	LCAX250-12-X
iC7-60SAIN05-590A		3x300 MCM	LCAX300-12-6
iC7-60SAIN05-658A	IR11	3x350 MCM	LCAX350-12-6
iC7-60SAIN05-730A		4x250 MCM	LCAX250-12-X
iC7-60SAIN05-820A		4x300 MCM	LCAX300-12-6
iC7-60SAIN05-880A		4x350 MCM	LCAX350-12-6
iC7-60SAIN05-1000	2xIR10	6x4/0 AWG	LCAX4/0-12-X
iC7-60SAIN05-1100		6x250 MCM	LCAX250-12-X
iC7-60SAIN05-1260	2xIR11	6x300 MCM	LCAX300-12-6
iC7-60SAIN05-1450		8x250 MCM	LCAX250-12-X
iC7-60SAIN05-1710		8x350 MCM	LCAX350-12-6
iC7-60SAIN05-1760	3xIR11	9x350 MCM	LCAX350-12-6
iC7-60SAIN05-1960		9x350 MCM	LCAX350-12-6
iC7-60SAIN05-2150		12x250 MCM	LCAX250-12-X
iC7-60SAIN05-2510		12x300 MCM	LCAX300-12-6
iC7-60SAIN05-2640	4xIR11	12x350 MCM	LCAX350-12-6
iC7-60SAIN05-2880		16x250 MCM	LCAX250-12-X
iC7-60SAIN05-3280		16x300 MCM	LCAX300-12-6
iC7-60SAIN05-3600	5xIR11	20x250 MCM	LCAX250-12-X
iC7-60SAIN05-4060		20x300 MCM	LCAX300-12-6
iC7-60SAIN05-4320	6xIR11	24x250 MCM	LCAX250-12-X
iC7-60SAIN05-4870		24x300 MCM	LCAX300-12-6

6.2.10 Mains Cable Size Recommendations for NFE Modules, UL 600 V

Table 22: Mains Cable Size Recommendations for NFE Modules, UL 600 V

Model code	Frame	Mains cable Cu	Mains cable termination, Panduit terminal part number
iC7-60SA3N07-504A	NR11	2 x 250 MCM	LCAX250-12-X
iC7-60SA3N07-605A		3x 350 MCM	LCAX350-12-6
iC7-60SA3N07-806A		4x 350 MCM	LCAX350-12-6
iC7-60SA3N07-1007		6x 250 MCM	LCAX250-12-X
iC7-60SA3N07-1100	2 x NR11	6x 300 MCM	LCAX300-12-6
iC7-60SA3N07-1500		8x 300 MCM	LCAX300-12-6
iC7-60SA3N07-1960		12x 250 MCM	LCAX250-12-X

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Table 22: Mains Cable Size Recommendations for NFE Modules, UL 600 V - (continued)

Model code	Frame	Mains cable Cu	Mains cable termination, Panduit terminal part number
iC7-60SA3N07-2300	3 x NR11	12x 300 MCM	LCAX300-12-6
iC7-60SA3N07-2900		15x 300 MCM	LCAX300-12-6
iC7-60SA3N07-3850	4 x NR11	20x 300 MCM	LCAX300-12-6
iC7-60SA3N07-4800	5 x NR11	20x 500 MCM	LCAX500-12-6
iC7-60SA3N07-5750	6 x NR11	24x 500 MCM	LCAX500-12-6

6.2.11 Mains Cable Size Recommendations for AFE Modules, UL 600 V

Table 23: Mains Cable Size Recommendations for AFE Modules, UL 600 V

Model code[(1)]	Frame	Mains cable Cu [AWG/MCM]	Mains cable termination, Panduit terminal part number
iC7-60SA3x07-236A	AM10	2x 3/0 AWG	LCAX3/0-12-X
iC7-60SA3x07-300A	AM10	2x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x07-334A	AM10	2 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-380A	AM10	2 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-425A	AM11	3x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x07-475A	AM11	3 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-530A	AM11	3 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-595A	2xAM10	4x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x07-670A	2xAM10	4 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-760A	2xAM10	4 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-850A	2xAM11	6x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x07-945A	2xAM11	6 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-1060A	2xAM11	6 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-1190A	3xAM11	9x 3/0 AWG	LCAX3/0-12-X
iC7-60SA3x07-1325A	3xAM11	9x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x07-1590A	3xAM11	9 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-1780A	4xAM11	12x 4/0 AWG	LCAX4/0-12-X
iC7-60SA3x07-2120A	4xAM11	12 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-2380A	5xAM11	15 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-2650A	5xAM11	15 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-2970A	6xAM11	18 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-3180A	6xAM11	18 x 300 MCM	LCAX300-12-6
iC7-60SA3x07-3350A	7xAM11	21 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-3710A	7xAM11	21 x 300 MCM	LCAX300-12-6

Table 23: Mains Cable Size Recommendations for AFE Modules, UL 600 V - (continued)

Model code[1]	Frame	Mains cable Cu [AWG/MCM]	Mains cable termination, Panduit terminal part number
iC7-60SA3x07-4000A	8xAM11	24 x 250 MCM	LCAX250-12-X
iC7-60SA3x07-4240A	8xAM11	24 x 300 MCM	LCAX300-12-6

1) Model codes starting with iC7-60SA3A07 or iC7-60SA3H07

6.2.12 Motor Cable Sizes Recommendation for Inverter Modules, UL 575 V

Table 24: Motor Cable Sizes Recommendation for Inverter Modules, UL 575 V

Model code	Frame	Motor cable Cu	Motor cable termination, Panduit terminal part number
iC7-60SAIN07-261A	IM10	2x 3/0 AWG	LCAX3/0-12-X
iC7-60SAIN07-325A		2 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-365A		2 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-416A		3x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-465A	IM11	3x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-525A		4x 3/0 AWG	LCAX3/0-12-X
iC7-60SAIN07-590A		4x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-650A	2 x IM10	4 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-730A		4 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-820A		4 x 350 MCM	LCAN350-12-6
iC7-60SAIN07-945A	2 x IM11	6 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-1060		6 x 300 MCM	LCAX300-12-X
iC7-60SAIN07-1180		6 x 350 MCM	LCAN350-12-X
iC7-60SAIN07-1300	3 x IM11	9x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-1500		9 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-1770		12x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-1950	4 x IM11	12 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-2360		12 x 350 MCM	LCAN350-12-X
iC7-60SAIN07-2600	5 x IM11	15 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-2950		15 x 350 MCM	LCAN350-12-X
iC7-60SAIN07-3250	6 x IM11	18 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-3540		18 x 350 MCM	LCAN350-12-X
iC7-60SAIN07-3800	7 x IM11	21 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-4130		21 x 350 MCM	LCAN350-12-X
iC7-60SAIN07-4400	8 x IM11	24 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-4720		24 x 350 MCM	LCAN350-12-X

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6.2.13 Motor Cable Sizes Recommendation for Inverter Modules with Integration Units, UL 575 V

Table 25: Motor Cable Sizes Recommendation for Inverter Modules with Integration Units, UL 575 V

Model code	Frame	Motor cable Cu	Motor cable termination, Panduit terminal part number
iC7-60SAIN07-261A	IR10	2x 3/0 AWG	LCAX3/0-12-X
iC7-60SAIN07-325A		2 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-365A		2 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-416A		3x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-465A	IR11	3x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-525A		4x 3/0 AWG	LCAX3/0-12-X
iC7-60SAIN07-590A		4x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-650A	2 x IR10	4 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-730A		4 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-820A		4 x 350 MCM	LCAX350-12-6
iC7-60SAIN07-945A	2 x IR11	6 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-1060		6 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-1180		6 x 350 MCM	LCAX350-12-6
iC7-60SAIN07-1300	3xIR11	9x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-1500		9 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-1770		12x 4/0 AWG	LCAX4/0-12-X
iC7-60SAIN07-1950	4 x IR11	12 x 250 MCM	LCAX250-12-X
iC7-60SAIN07-2360		12 x 350 MCM	LCAX350-12-6
iC7-60SAIN07-2600	5 x IR11	15 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-2950		15 x 350 MCM	LCAX350-12-6
iC7-60SAIN07-3250	6 x IR11	18 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-3540		18 x 350 MCM	LCAX350-12-6
iC7-60SAIN07-3800	7 x IR11	21 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-4130		21 x 350 MCM	LCAX350-12-6
iC7-60SAIN07-4400	8 x IR11	24 x 300 MCM	LCAX300-12-6
iC7-60SAIN07-4720		24 x 350 MCM	LCAX350-12-6

6.2.14 Mains Cable Size Recommendations for NFE Modules, 525–690 V

Table 26: Mains Cable Size Recommendations for NFE Modules, 525–690 V

Model code	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3N07-504A	NR11	2x (3 x 185+ 95)	2x (3 x 240 + 72)
iC7-60SA3N07-605A		3x (3 x 150 + 70)	3x (3 x 185 + 57)
iC7-60SA3N07-806A		3x (3 x 185 + 95)	4x (3 x 185 + 57)
iC7-60SA3N07-1007		4x (3 x 185 + 95)	4x (3 x 240 + 72)

Table 26: Mains Cable Size Recommendations for NFE Modules, 525–690 V - (continued)

Model code	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3N07-1150	2 x NR11	4x (3 x 185 + 95)	6x (3 x 150 + 41)
iC7-60SA3N07-1500		6x (3 x 185 + 95)	8x (3 x 150 + 41)
iC7-60SA3N07-1960		8x (3 x 150 + 70)	8x (3 x 240 + 72)
iC7-60SA3N07-2300	3 x NR11	9x (3 x 185 + 95)	12x (3 x 185+ 72)
iC7-60SA3N07-2900		12x (3 x 150 + 70)	12x (3 x 240 + 72)
iC7-60SA3N07-3850	4 x NR11	16x (3 x 150 + 70)	16x (3 x 240 + 72)
iC7-60SA3N07-4800	5 x NR11	20x (3 x 150 + 70)	20x (3 x 240 + 72)
iC7-60SA3N07-5750	6 x NR11	24x (3 x 150 + 70)	24x (3 x 240 + 72)

6.2.15 Mains Cable Size Recommendations for AFE Modules, 525–690 V

Table 27: Mains Cable Size Recommendations for AFE Modules, 525–690 V

Model code[(1)]	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3x07-236A	AM10	1x(3 x 95 + 50)	1x(3 x 150 + 41)
iC7-60SA3x07-300A	AM10	1x(3 x 150 + 70)	2x(3 x 95 + 29)
iC7-60SA3x07-334A	AM10	1x(3 x 150 + 70)	2x(3 x 120 + 41)
iC7-60SA3x07-380A	AM10	2x(3 x 95 + 50)	2x(3 x 120 + 41)
iC7-60SA3x07-425A	AM11	2x(3 x 95 + 50)	2x(3 x 150 + 41)
iC7-60SA3x07-475A	AM11	2x(3 x 120 + 70)	3x(3 x 120 + 41)
iC7-60SA3x07-530A	AM11	2x(3 x 150 + 70)	3x(3 x 120 + 41)
iC7-60SA3x07-595A	2xAM10	4x(3 x 70 + 35)	4x(3 x 120 + 41)
iC7-60SA3x07-670A	2xAM10	4x(3 x 95 + 50)	4x(3 x 120 + 41)
iC7-60SA3x07-760A	2xAM10	4x(3 x 95 + 50)	4x(3 x 150 + 41)
iC7-60SA3x07-850A	2xAM11	4x(3 x 120 + 70)	6x(3 x 95 + 29)
iC7-60SA3x07-945A	2xAM11	4x(3 x 150 + 70)	6x(3 x 120 + 41)
iC7-60SA3x07-1060	2xAM11	6x(3 x 95 + 50)	6x(3 x 150 + 41)
iC7-60SA3x07-1190	3xAM11	6x(3 x 120 + 70)	9x(3 x 95 + 29)
iC7-60SA3x07-1325	3xAM11	6x(3 x 150 + 70)	9x(3 x 120 + 41)
iC7-60SA3x07-1590	3xAM11	9x(3 x 95 + 50)	9x(3 x 150 + 41)
iC7-60SA3x07-1780	4xAM11	8x(3 x 150 + 70)	12x(3 x 120 + 41)
iC7-60SA3x07-2120	4xAM11	8x(3 x 185 + 95)	12x(3 x 150 + 41)
iC7-60SA3x07-2380	5xAM11	10x(3 x 150 + 70)	15x(3 x 120 + 41)
iC7-60SA3x07-2650	5xAM11	10x(3 x 185 + 95)	15x(3 x 150 + 41)
iC7-60SA3x07-2970	6xAM11	12x(3 x 185 + 95)	18x(3 x 150 + 41)
iC7-60SA3x07-3180	6xAM11	12x(3 x 185 + 95)	18x(3 x 150 + 41)
iC7-60SA3x07-3350	7xAM11	14x(3 x 150 + 70)	21x(3 x 150 + 41)
iC7-60SA3x07-3710	7xAM11	14x(3 x 185 + 95)	21x(3 x 150 + 41)

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Table 27: Mains Cable Size Recommendations for AFE Modules, 525–690 V - (continued)

Model code[1]	Frame	Mains cable Cu [mm^2]	Mains cable Al [mm^2]
iC7-60SA3x07-4000	8xAM11	16x(3 x 185 + 95)	24x(3 x 150 + 41)
iC7-60SA3x07-4240	8xAM11	16x(3 x 185 + 95)	24x(3 x 150 + 41)

1) Model codes starting with iC7-60SA3A07 or iC7-60SA3H07

6.2.16 Motor Cable Sizes Recommendation for Inverter Modules, 525–690 V

Table 28: Motor Cable Sizes Recommendation for Inverter Modules, 525–690 V

Model code	Frame	Motor cable Cu [mm^2]	Motor cable Al [mm^2]
iC7-60SAIN07-261A	IM10	2x(3 x 50 + 25)	1x(3 x 185 + 57)
iC7-60SAIN07-325A	IM10	1x(3 x 150 + 70)	2x(3 x 95 + 29)
iC7-60SAIN07-365A	IM10	1x(3 x 185 + 95)	2x(3 x 120 + 41)
iC7-60SAIN07-416A	IM10	2x(3 x 95 + 50)	2x(3 x 150 + 41)
iC7-60SAIN07-465A	IM11	2x(3 x 120 + 70)	3x(3 x 120 + 41)
iC7-60SAIN07-525A	IM11	2x(3 x 150 + 70)	3x(3 x 120 + 41)
iC7-60SAIN07-590A	IM11	3x(3 x 95 + 50)	2x(3 x 150 + 41)
iC7-60SAIN07-650A	2xIM10	6x(3 x 50 + 50)	4x(3 x 120 + 41)
iC7-60SAIN07-730A	2xIM10	4x(3 x 95 + 50)	4x(3 x 150 + 41)
iC7-60SAIN07-820A	2xIM10	4x(3 x 120 + 70)	4x(3 x 185 + 57)
iC7-60SAIN07-945A	2xIM11	4x(3 x 150 + 70)	6x(3 x 120 + 41)
iC7-60SAIN07-1060	2xIM11	6x(3 x 95 + 50)	6x(3 x 150 + 41)
iC7-60SAIN07-1180	2xIM11	6x(3 x 120 + 70)	6x(3 x 185 + 57)
iC7-60SAIN07-1300	3xIM11	6x(3 x 150 + 70)	9x(3 x 120 + 41)
iC7-60SAIN07-1500	3xIM11	9x(3 x 95 + 50)	9x(3 x 150 + 41)
iC7-60SAIN07-1770	3xIM11	9x(3 x 120 + 70)	9x(3 x 185 + 57)
iC7-60SAIN07-1950	4xIM11	8x(3 x 185+ 95)	12x(3 x 150 + 41)
iC7-60SAIN07-2360	4xIM11	12x(3 x 120 + 70)	12x(3 x 185 + 57)
iC7-60SAIN07-2600	5xIM11	10x(3 x 185+ 95)	15x(3 x 150 + 41)
iC7-60SAIN07-2950	5xIM11	15x(3 x 120 + 70)	15x(3 x 185 + 57)
iC7-60SAIN07-3250	6xIM11	12x(3 x 185+ 95)	18x(3 x 150 + 41)
iC7-60SAIN07-3540	6xIM11	18x(3 x 120 + 70)	18x(3 x 185 + 57)
iC7-60SAIN07-3800	7xIM11	14x(3 x 185 + 95)	21x(3 x 150 + 41)
iC7-60SAIN07-4130	7xIM11	14x(3 x 240 + 120)	21x(3 x 185 + 57)
iC7-60SAIN07-4400	8xIM11	16x(3 x 185+ 95)	24x(3 x 150 + 41)
iC7-60SAIN07-4720	8xIM11	16x(3 x 240+ 120)	24x(3 x 185 + 57)

6.2.17 Motor Cable Sizes Recommendation for Inverter Modules with Integration Units, 525–690 V

Table 29: Motor Cable Sizes Recommendation for Inverter Modules with Integration Units, 525–690 V

Model code	Frame	Motor cable Cu [mm^2]	Motor cable Al [mm^2]
iC7-60SAIN07-261A	IR10	2x(3 x 50 + 25)	1x(3 x 185 + 57)
iC7-60SAIN07-325A		1x(3 x 150 + 70)	2x(3 x 95 + 29)
iC7-60SAIN07-365A		1x(3 x 185 + 95)	2x(3 x 120 + 41)
iC7-60SAIN07-416A		2x(3 x 95 + 50)	2x(3 x 150 + 41)
iC7-60SAIN07-465A	IR11	2x(3 x 120 + 70)	3x(3 x 120 + 41)
iC7-60SAIN07-525A		2x(3 x 150 + 70)	3x(3 x 120 + 41)
iC7-60SAIN07-590A		3x(3 x 95 + 50)	2x(3 x 150 + 41)
iC7-60SAIN07-650A	2 x IR10	6x(3 x 50 + 50)	4x(3 x 120 + 41)
iC7-60SAIN07-730A		4x(3 x 95 + 50)	4x(3 x 150 + 41)
iC7-60SAIN07-820A		4x(3 x 120 + 70)	4x(3 x 185 + 57)
iC7-60SAIN07-945A	2 x IR11	4x(3 x 150 + 70)	6x(3 x 120 + 41)
iC7-60SAIN07-1060		6x(3 x 95 + 50)	6x(3 x 150 + 41)
iC7-60SAIN07-1180		6x(3 x 120 + 70)	6x(3 x 185 + 57)
iC7-60SAIN07-1300	3 x IR11	6x(3 x 150 + 70)	9x(3 x 120 + 41)
iC7-60SAIN07-1500		9x(3 x 95 + 50)	9x(3 x 150 + 41)
iC7-60SAIN07-1770		9x(3 x 120 + 70)	9x(3 x 185 + 57)
iC7-60SAIN07-1950	4 x IR11	8x(3 x 185+ 95)	12x(3 x 150 + 41)
iC7-60SAIN07-2360		12x(3 x 120 + 70)	12x(3 x 185 + 57)
iC7-60SAIN07-2600	5 x IR11	10x(3 x 185+ 95)	15x(3 x 150 + 41)
iC7-60SAIN07-2950		15x(3 x 120 + 70)	15x(3 x 185 + 57)
iC7-60SAIN07-3250	6 x IR11	12x(3 x 185+ 95)	18x(3 x 150 + 41)
iC7-60SAIN07-3540		18x(3 x 120 + 70)	18x(3 x 185 + 57)
iC7-60SAIN07-3800	7 x IR11	14x(3 x 185 + 95)	21x(3 x 150 + 41)
iC7-60SAIN07-4130		14x(3 x 240 + 120)	21x(3 x 185 + 57)
iC7-60SAIN07-4400	8 x IR11	16x(3 x 185+ 95)	24x(3 x 150 + 41)
iC7-60SAIN07-4720		16x(3 x 240+ 120)	24x(3 x 185 + 57)

6.3 Fuses

6.3.1 List of Fuse Size Information

The fuse size tables for the air-cooled system modules can be found with these links.

- 6.3.2 AC Fuses for NFE, 380–500 V AC
- 6.3.3 DC Fuses for NFE, 465–740 V DC
- 6.3.4 AC Fuses for NFE, 525–690 V AC
- 6.3.5 DC Fuses for NFE, 640–1100 V DC
- 6.3.6 AC Fuses for AFE or GC, 380–500 V AC

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- 6.3.7 DC Fuses for AFE or GC, 465–740 V DC
- 6.3.8 AC Fuses for AFE, 525–690 V AC
- 6.3.9 DC Fuses for AFE, 640–1100 V DC
- 6.3.10 DC Fuses for Inverter Modules, 465–740 V DC
- 6.3.11 DC Fuses for Inverter Modules, 640–1100 V DC

6.3.2 AC Fuses for NFE, 380–500 V AC

Table 30: AC Fuses for NFE, 380–500 V AC

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]	Minimum $I_{cp,mr}$ [A]
iC7-60SA3N05-730A	NR11	730	6	33	PC33UD69V550TF	690	550	6600
iC7-60SA3N05-869A		869			PC33UD69V700TF	690	700	9600
iC7-60SA3N05-1094		1094			PC33UD69V800TF	690	800	12300
iC7-60SA3N05-1420A	2 x NR11	1420	12	33	PC33UD69V550TF	690	550	–
iC7-60SA3N05-1600		1600			PC33UD69V700TF	690	700	–
iC7-60SA3N05-2090		2090			PC33UD69V800TF	690	800	–
iC7-60SA3N05-2450	3 x NR11	2450	18	33	PC33UD69V700TF	690	700	–
iC7-60SA3N05-3130		3130			PC33UD69V800TF	690	800	–
iC7-60SA3N05-4170	4 x NR11	4170	24	33	PC33UD69V800TF	690	800	–
iC7-60SA3N05-5210	5 x NR11	5210	30	33	PC33UD69V800TF	690	800	–
iC7-60SA3N05-6260	6 x NR11	6260	36	33	PC33UD69V800TF	690	800	–

1) Available as option +AJFX

6.3.3 DC Fuses for NFE, 465–740 V DC

Table 31: DC Fuses for NFE, 465–740 V DC

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SA3N05-730A	NR11	730	4	73	PC73UD13C630TF	1250	630
iC7-60SA3N05-869A		869			PC73UD13C800TF	1250	800
iC7-60SA3N05-1094		1094			PC73UD10C1000TF	1000	1000
iC7-60SA3N05-1420	2 x NR11	1420	8	73	PC73UD13C630TF	1250	630
iC7-60SA3N05-1600		1600			PC73UD13C700TF	1250	700
iC7-60SA3N05-2090		2090			PC73UD10C1000TF	1000	1000
iC7-60SA3N05-2450	3 x NR11	2450	12	73	PC73UD13C700TF	1250	700
iC7-60SA3N05-3130		3130			PC73UD10C1000TF	1000	1000
iC7-60SA3N05-4170	4 x NR11	4170	16	73	PC73UD10C1000TF	1000	1000

Table 31: DC Fuses for NFE, 465–740 V DC - (continued)

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number(1)	Fuse U_n [V]	Fuse I_n [A]
iC7-60SA3N05-5210	5 x NR11	5210	20	73	PC73UD10C1000TF	1000	1000
iC7-60SA3N05-6260	6 x NR11	6260	24	73	PC73UD10C1000TF	1000	1000

1) Available as option +AKFX

6.3.4 AC Fuses for NFE, 525–690 V AC

Table 32: AC Fuses for NFE, 525–690 V AC

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number(1)	Fuse U_n [V]	Fuse I_n [A]	Minimum $I_{cp,mr}$ [A]
iC7-60SA3N07-504A	NR11	504	6	33	PC33UD69V550TF	690	550	6600
iC7-60SA3N07-605A		605			PC33UD69V550TF	690	550	6600
iC7-60SA3N07-806A		806			PC33UD69V700TF	690	700	9600
iC7-60SA3N07-1007		1007			PC33UD69V800TF	690	800	12300
iC7-60SA3N07-1150	2 x NR11	1150	12	33	PC33UD69V550TF	690	550	–
iC7-60SA3N07-1500		1500			PC33UD69V700TF	690	700	–
iC7-60SA3N07-1960		1960			PC33UD69V800TF	690	800	–
iC7-60SA3N07-2300	3 x NR11	2300	18	33	PC33UD69V700TF	690	700	–
iC7-60SA3N07-2900		2900			PC33UD69V800TF	690	800	–
iC7-60SA3N07-3850	4 x NR11	3850	24	33	PC33UD69V800TF	690	800	–
iC7-60SA3N07-4800	5 x NR11	4800	30	33	PC33UD69V800TF	690	800	–
iC7-60SA3N07-5750	6 x NR11	5750	36	33	PC33UD69V800TF	690	800	–

1) Available as option +AJFX

6.3.5 DC Fuses for NFE, 640–1100 V DC

Table 33: DC Fuses for NFE, 640–1100 V DC

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number(1)	Fuse U_n [V]	Fuse I_n [A]
iC7-60SA3N07-504A	NR11	504	4	73	PC73UD13C630TF	1250	630
iC7-60SA3N07-605A		605			PC73UD13C630TF	1250	630
iC7-60SA3N07-806A		806			PC73UD13C700TF	1250	700
iC7-60SA3N07-1007		1007			PC73UD12C900TF	1200	900
iC7-60SA3N07-1150	2 x NR11	1150	8	73	PC73UD13C630TF	1250	630
iC7-60SA3N07-1500		1500			PC73UD13C700TF	1250	700
iC7-60SA3N07-1960		1960			PC73UD12C900TF	1200	900

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Table 33: DC Fuses for NFE, 640–1100 V DC - (continued)

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SA3N07-2300	3 x NR11	2300	12	73	PC73UD13C700TF	1250	700
iC7-60SA3N07-2900		2900			PC73UD12C900TF	1200	900
iC7-60SA3N07-3850	4 x NR11	3850	16	73	PC73UD12C900TF	1200	900
iC7-60SA3N07-4800	5 x NR11	4800	20	73	PC73UD12C900TF	1200	900
iC7-60SA3N07-5750	6 x NR11	5750	24	73	PC73UD12C900TF	1200	900

1) Available as option +AKFX

6.3.6 AC Fuses for AFE or GC, 380–500 V AC

Table 34: AC Fuses for AFE or GC, 380–500 V AC

Model code[1]	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[2]	Fuse U_n [V]	Fuse I_n [A]	Minimum $I_{cp,mr}$ [A]
iC7-60SAxx05-317AE00	AM10/ AR10	317	3	33	PC33UD69V550TF	690	550	3300
iC7-60SAxx05-400AE00		400			PC33UD69V550TF	690	550	3300
iC7-60SAxx05-514AE00		514			PC33UD69V700TF	690	700	4800
iC7-60SAxx05-580AE00	AM11/ AR11	580	6	33	PC33UD69V550TF	690	550	6600
iC7-60SAxx05-650AE00		650			PC33UD69V550TF	690	550	6600
iC7-60SAxx05-730AE00		730			PC33UD69V550TF	690	550	6600
iC7-60SAxx05-816AE00		816			PC33UD69V550TF	690	550	6600
iC7-60SAxx05-920E00	2 x AM10/ 2 x AR10	920	6	33	PC33UD69V700TF	690	700	–
iC7-60SAxx05-1030E00		1030			PC33UD69V700TF	690	700	–
iC7-60SAxx05-1210E00	2 x AM11/ 2 x AR11	1210	12	33	PC33UD69V550TF	690	550	–
iC7-60SAxx05-1410E00		1410			PC33UD69V550TF	690	550	–
iC7-60SAxx05-1630E00		1630			PC33UD69V550TF	690	550	–
iC7-60SAxx05-1860E00	3 x AM11/ 3 x AR11	1860	18	33	PC33UD69V550TF	690	550	–
iC7-60SAxx05-2120E00		2120			PC33UD69V550TF	690	550	–
iC7-60SAxx05-2450E00		2450			PC33UD69V550TF	690	550	–
iC7-60SAxx05-2800E00	4 x AM11/ 4 x AR11	2800	24	33	PC33UD69V550TF	690	550	–
iC7-60SAxx05-3270E00		3270			PC33UD69V550TF	690	550	–
iC7-60SAxx05-3650E00	5 x AM11/ 5 x AR11	3650	30	33	PC33UD69V550TF	690	550	–
iC7-60SAxx05-4080E00		4080			PC33UD69V550TF	690	550	–
iC7-60SAxx05-4500E00	6 x AM11/ 6 x AR11	4500	36	33	PC33UD69V550TF	690	550	–
iC7-60SAxx05-4900E00		4900			PC33UD69V550TF	690	550	–

1) Model codes starting with iC7-60SA3A05, iC7-60SA3H05, or iC7-60SAGC05

2) Available as option +AJFX

6.3.7 DC Fuses for AFE or GC, 465–740 V DC

Table 35: DC Fuses for AFE or GC, 465–740 V DC

Model code[1]	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[2]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SAxx05-317AE00	AM10/AR10	317	2	73	PC73UD13C630TF	1250	630
iC7-60SAxx05-400AE00		400			PC73UD13C800TF	1250	800
iC7-60SAxx05-514AE00		514			PC73UD10C1000TF	1000	1000
iC7-60SAxx05-580AE00	AM11/AR11	580	2	73	PC73UD90V13CTF	900	1250
iC7-60SAxx05-650AE00		650			PC73UD90V13CTF	900	1250
iC7-60SAxx05-730AE00		730			PC73UD85V14CTF	850	1400
iC7-60SAxx05-816AE00		816			PC73UD85V14CTF	850	1400
iC7-60SAxx05-920E00	2 x AM10/ 2 x AR10	920	4	73	PC73UD13C800TF	1250	800
iC7-60SAxx05-1030E00		1030			PC73UD10C1000TF	1000	1000
iC7-60SAxx05-1210E00	2 x AM11/ 2 x AR11	1210	4	73	PC73UD90V13CTF	900	1250
iC7-60SAxx05-1410E00		1410			PC73UD85V14CTF	850	1250
iC7-60SAxx05-1630E00		1630			PC73UD85V14CTF	850	1400
iC7-60SAxx05-1860E00	3 x AM11/ 3 x AR11	1860	6	73	PC73UD90V13CTF	900	1250
iC7-60SAxx05-2120E00		2120			PC73UD90V13CTF	900	1250
iC7-60SAxx05-2450E00		2450			PC73UD85V14CTF	850	1400
iC7-60SAxx05-2800E00	4 x AM11/ 4 x AR11	2800	8	73	PC73UD90V13CTF	900	1250
iC7-60SAxx05-3270E00		3270			PC73UD85V14CTF	850	1400
iC7-60SAxx05-3650E00	5 x AM11/ 5 x AR11	3650	10	73	PC73UD85V14CTF	850	1250
iC7-60SAxx05-4080E00		4080			PC73UD85V14CTF	850	1400
iC7-60SAxx05-4500E00	6 x AM11/ 6 x AR11	4500	12	73	PC73UD85V14CTF	850	1250
iC7-60SAxx05-4900E00		4900			PC73UD85V14CTF	850	1400

1) Model codes starting with iC7-60SA3A05, iC7-60SA3H05, or iC7-60SAGC05

2) Available as option +AKFX

6.3.8 AC Fuses for AFE, 525–690 V AC

Table 36: AC Fuses for AFE, 525–690 V AC

Model code[1]	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[2]	Fuse U_n [V]	Fuse I_n [A]	Minimum Icp,mr [A]
iC7-60SA3x07-236AE00	AM10/ AR10	236	3	33	PC33UD69V550TF	690	550	3300
iC7-60SA3x07-300AE00		300			PC33UD69V550TF	690	550	3300
iC7-60SA3x07-334AE00		334			PC33UD69V550TF	690	550	3300
iC7-60SA3x07-380AE00		380			PC33UD69V630TF	690	630	4000

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Table 36: AC Fuses for AFE, 525–690 V AC - (continued)

Model code[1]	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[2]	Fuse U_n [V]	Fuse I_n [A]	Minimum Icp,mr [A]
iC7-60SA3x07-425AE00	AM11/ AR11	425	3	33	PC33UD69V700TF	690	700	4800
iC7-60SA3x07-475AE00		475			PC33UD69V700TF	690	700	4800
iC7-60SA3x07-530AE00		530			PC33UD69V800TF	690	800	6100
iC7-60SA3x07-595AE00	2 x AM10/2 x AR10	595	6	33	PC33UD69V550TF	690	550	–
iC7-60SA3x07-670AE00		670			PC33UD69V550TF	690	550	–
iC7-60SA3x07-760AE00		760			PC33UD69V630TF	690	630	–
iC7-60SA3x07-850AE00	2 x AM11/2 x AR11	850	6	33	PC33UD69V630TF	690	630	–
iC7-60SA3x07-945AE00		945			PC33UD69V700TF	690	700	–
iC7-60SA3x07-1060AE00		1060			PC33UD69V800TF	690	800	–
iC7-60SA3x07-1190AE00	3 x AM11/3 x AR11	1190	9	33	PC33UD69V630TF	690	630	–
iC7-60SA3x07-1325AE00		1325			PC33UD69V630TF	690	630	–
iC7-60SA3x07-1590AE00		1590			PC33UD69V800TF	690	800	–
iC7-60SA3x07-1780AE00	4 x AM11/4 x AR11	1780	12	33	PC33UD69V630TF	690	630	–
iC7-60SA3x07-2120AE00		2120			PC33UD69V800TF	690	800	–
iC7-60SA3x07-2380AE00	5 x AM11/5 x AR11	2380	15	33	PC33UD69V700TF	690	700	–
iC7-60SA3x07-2650AE00		2650			PC33UD69V800TF	690	800	–
iC7-60SA3x07-2970AE00	6 x AM11/6 x AR11	2970	18	33	PC33UD69V700TF	690	700	–
iC7-60SA3x07-3180AE00		3180			PC33UD69V800TF	690	800	–
iC7-60SA3x07-3350AE00	7 x AM11/7 x AR11	3350	21	33	PC33UD69V700TF	690	700	–
iC7-60SA3x07-3710AE00		3710			PC33UD69V800TF	690	800	–
iC7-60SA3x07-4000AE00	8 x AM11/8 x AR11	4000	24	33	PC33UD69V700TF	690	700	–
iC7-60SA3x07-4240AE00		4240			PC33UD69V800TF	690	800	–

1) Model codes starting with iC7-60SA3A07 or iC7-60SA3H07

2) Available as option +AJFX

6.3.9 DC Fuses for AFE, 640–1100 V DC

Table 37: DC Fuses for AFE, 640–1100 V DC

Model code[1]	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[2]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SA3x07-236AE00	AM10/ AR10	236	2	73	PC73UD13C500TF	1250	500
iC7-60SA3x07-300AE00		300			PC73UD13C500TF	1250	500
iC7-60SA3x07-334AE00		334			PC73UD13C700TF	1250	700
iC7-60SA3x07-380AE00		380			PC73UD13C700TF	1250	700

Table 37: DC Fuses for AFE, 640–1100 V DC - (continued)

Model code[1]	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[2]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SA3x07-425AE00	AM11/ AR11	425	2	73	PC73UD13C800TF	1250	800
iC7-60SA3x07-475AE00		475			PC73UD12C900TF	1200	900
iC7-60SA3x07-530AE00		530			PC73UD12C900TF	1200	900
iC7-60SA3x07-595AE00	2 x AM10/2 x AR10	595	4	73	PC73UD13C500TF	1250	500
iC7-60SA3x07-670AE00		670			PC73UD13C700TF	1250	700
iC7-60SA3x07-760AE00		760			PC73UD13C700TF	1250	700
iC7-60SA3x07-850AE00	2 x AM11/2 x AR11	850	4	73	PC73UD13C800TF	1250	800
iC7-60SA3x07-945AE00		945			PC73UD12C900TF	1200	900
iC7-60SA3x07-1060AE00		1060			PC73UD12C900TF	1200	900
iC7-60SA3x07-1190AE00	3 x AM11/3 x AR11	1190	6	73	PC73UD13C700TF	1250	700
iC7-60SA3x07-1325AE00		1325			PC73UD12C900TF	1200	900
iC7-60SA3x07-1590AE00		1590			PC73UD12C900TF	1200	900
iC7-60SA3x07-1780AE00	4 x AM11/4 x AR11	1780	8	73	PC73UD13C800TF	1250	800
iC7-60SA3x07-2120AE00		2120			PC73UD12C900TF	1200	900
iC7-60SA3x07-2380AE00	5 x AM11/5 x AR11	2380	10	73	PC73UD12C900TF	1200	900
iC7-60SA3x07-2650AE00		2650			PC73UD12C900TF	1200	900
iC7-60SA3x07-2970AE00	6 x AM11/6 x AR11	2970	12	73	PC73UD12C900TF	1200	900
iC7-60SA3x07-3180AE00		3180			PC73UD12C900TF	1200	900
iC7-60SA3x07-3350AE00	7 x AM11/7 x AR11	3350	14	73	PC73UD12C900TF	1200	900
iC7-60SA3x07-3710AE00		3710			PC73UD12C900TF	1200	900
iC7-60SA3x07-4000AE00	8 x AM11/8 x AR11	4000	16	73	PC73UD12C900TF	1200	900
iC7-60SA3x07-4240AE00		4240			PC73UD12C900TF	1200	900

1) Model codes starting with iC7-60SA3A07 or iC7-60SA3H07

2) Available as option +AKFX

6.3.10 DC Fuses for Inverter Modules, 465–740 V DC

Table 38: DC Fuses for Inverter Modules, 465–740 V DC

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SAIN05-385AE00	IM10/IR10	385	2	73	PC73UD13C630TF	1250	630
iC7-60SAIN05-480AE00		480			PC73UD13C800TF	1250	800
iC7-60SAIN05-590AE00		590			PC73UD10C1000TF	1000	1000

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Table 38: DC Fuses for Inverter Modules, 465–740 V DC - (continued)

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SAIN05-658AE00	IM11/IR11	658	2	73	PC73UD90V13CTF	900	1250
iC7-60SAIN05-730AE00		730			PC73UD90V13CTF	900	1250
iC7-60SAIN05-820AE00		820			PC73UD85V14CTF	850	1400
iC7-60SAIN05-880AE00		880			PC73UD85V14CTF	850	1400
iC7-60SAIN05-1000E00	2 x IM10/2 x IR10	1000	4	73	PC73UD13C800TF	1250	800
iC7-60SAIN05-1100E00		1100			PC73UD10C1000TF	1000	1000
iC7-60SAIN05-1260E00	2 x IM11/2 x IR11	1260	4	73	PC73UD90V13CTF	900	1250
iC7-60SAIN05-1450E00		1450			PC73UD90V13CTF	900	1250
iC7-60SAIN05-1710E00		1710			PC73UD85V14CTF	850	1400
iC7-60SAIN05-1760E00	3 x IM11/3 x IR11	1760	6	73	PC73UD90V13CTF	900	1250
iC7-60SAIN05-1960E00		1960			PC73UD90V13CTF	900	1250
iC7-60SAIN05-2150E00		2150			PC73UD90V13CTF	900	1250
iC7-60SAIN05-2510E00		2510			PC73UD85V14CTF	850	1400
iC7-60SAIN05-2640E00	4 x IM11/4 x IR11	2640	8	73	PC73UD90V13CTF	900	1250
iC7-60SAIN05-2880E00		2880			PC73UD90V13CTF	900	1250
iC7-60SAIN05-3280E00		3280			PC73UD85V14CTF	850	1400
iC7-60SAIN05-3600E00	5 x IM11/5 x IR11	3600	10	73	PC73UD90V13CTF	900	1250
iC7-60SAIN05-4060E00		4060			PC73UD85V14CTF	850	1400
iC7-60SAIN05-4320E00	6 x IM11/6 x IR11	4320	12	73	PC73UD90V13CTF	900	1250
iC7-60SAIN05-4870E00		4870			PC73UD85V14CTF	850	1400

1) Available as option +AKFX

6.3.11 DC Fuses for Inverter Modules, 640–1100 V DC

Table 39: DC Fuses for Inverter Modules, 640–1100 V DC

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SAIN07-261AE00	IM10/IR10	261	2	73	PC73UD13C500TF	1250	500
iC7-60SAIN07-325AE00		325			PC73UD13C500TF	1250	500
iC7-60SAIN07-365AE00		365			PC73UD13C700TF	1250	700
iC7-60SAIN07-416AE00		416			PC73UD13C700TF	1250	700
iC7-60SAIN07-465AE00	IM11/IR11	465	2	73	PC73UD13C800TF	1250	800
iC7-60SAIN07-525AE00		525			PC73UD12C900TF	1200	900
iC7-60SAIN07-590AE00		590			PC73UD12C900TF	1200	900

Table 39: DC Fuses for Inverter Modules, 640–1100 V DC - (continued)

Model code	Frame	Rated current I_L [A]	Number of fuses	Fuse size	Mersen part number[1]	Fuse U_n [V]	Fuse I_n [A]
iC7-60SAIN07-650AE00	2 x IM10/2 x IR10	650	4	73	PC73UD13C500TF	1250	500
iC7-60SAIN07-730AE00		730			PC73UD13C700TF	1250	700
iC7-60SAIN07-820AE00		820			PC73UD13C700TF	1250	700
iC7-60SAIN07-945AE00	2 x IM11/2 x IR11	945	4	73	PC73UD13C800TF	1250	800
iC7-60SAIN07-1060E00		1060			PC73UD12C900TF	1200	900
iC7-60SAIN07-1180E00		1180			PC73UD12C900TF	1200	900
iC7-60SAIN07-1300E00	3 x IM11/3 x IR11	1300	6	73	PC73UD13C700TF	1250	700
iC7-60SAIN07-1500E00		1500			PC73UD12C900TF	1200	900
iC7-60SAIN07-1770E00		1770			PC73UD12C900TF	1200	900
iC7-60SAIN07-1950E00	4 x IM11/4 x IR11	1950	8	73	PC73UD13C800TF	1250	800
iC7-60SAIN07-2360E00		2360			PC73UD12C900TF	1200	900
iC7-60SAIN07-2600E00	5 x IM11/5 x IR11	2600	10	73	PC73UD12C900TF	1200	900
iC7-60SAIN07-2950E00		2950			PC73UD12C900TF	1200	900
iC7-60SAIN07-3250E00	6 x IM11/6 x IR11	3250	12	73	PC73UD12C900TF	1200	900
iC7-60SAIN07-3540E00		3540			PC73UD12C900TF	1200	900
iC7-60SAIN07-3800E00	7 x IM11/7 x IR11	3800	14	73	PC73UD12C900TF	1200	900
iC7-60SAIN07-4130E00		4130			PC73UD12C900TF	1200	900
iC7-60SAIN07-4400E00	8 x IM11/8 x IR11	4400	16	73	PC73UD12C900TF	1200	900
iC7-60SAIN07-4720E00		4720			PC73UD12C900TF	1200	900

1) Available as option +AKFX

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