

## Installation Instructions

# VLT<sup>®</sup> 24 V DC Supply MCB 106

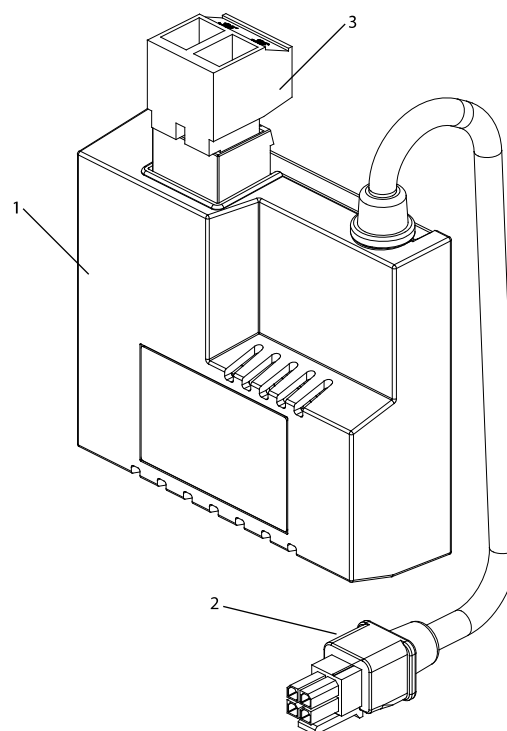
# VLT<sup>®</sup> Midi Drive FC 280

The instructions provide information about installing the VLT<sup>®</sup> 24 V DC Supply MCB 106 on VLT<sup>®</sup> Midi Drive FC 280.

VLT<sup>®</sup> 24 V DC Supply MCB 106 is a low voltage supply to the control card. The intended use case is to keep the fieldbus communication of the control card active at all time during a mains power loss or power cycle. It does not enable full operation of the LCP (including the parameter settings) without connection to mains. The specifications of VLT<sup>®</sup> 24 V DC Supply MCB 106 are described in *Table 1.1*.

Input voltage	24 V DC $\pm 15\%$ (Maximum 37 V in 10 s)
Reversed voltage input protection	Yes
Output voltage	19.9 $\pm 0.6$ V
Output power	Minimum 10 W
Input capacitance load	$\leq 110$ $\mu$ F
Power up delay	$< 0.6$ s

Table 1.1 VLT<sup>®</sup> 24 V DC Supply MCB 106 Specifications



130BE851.10

1	VLT <sup>®</sup> 24 V DC Supply MCB 106
2	Cable
3	Plug

Illustration 1.1 VLT<sup>®</sup> 24 V DC Supply MCB 106 Overview

### **NOTICE**

VLT<sup>®</sup> 24 V DC Supply MCB 106 only supports CANopen<sup>®</sup>, PROFIBUS, PROFINET, and EtherNet/IP<sup>™</sup> variant of VLT<sup>®</sup> Midi Drive FC 280.

CANopen<sup>®</sup> is a registered trademark for CAN IN AUTOMATION international users and manufacturers group e. V.

EtherNet/IP<sup>™</sup> is a trademark of ODVA, Inc.

Only Danfoss authorized, qualified personnel is allowed to use this equipment. The personnel must be familiar with the instructions and safety measures described in the VLT<sup>®</sup> Midi Drive FC 280 Operating Guide.

### Items Supplied

- VLT® 24 V DC Supply MCB 106.
- Plug (2 poles).
- M3x6 screws (2).

Description	Ordering number
VLT® 24 V DC Supply MCB 106	132B0368

Table 1.2 Ordering Numbers

### Tools Required

- Torx 10 or slot screwdriver

### Safety Instructions

#### **⚠ WARNING**

##### DISCHARGE TIME

The frequency converter contains DC-link capacitors which can remain charged even when the frequency converter is not powered. High voltage can be present even when the warning LED indicator lights are off. Failure to wait the specified time after power has been removed before performing service or repair work can result in death or serious injury.

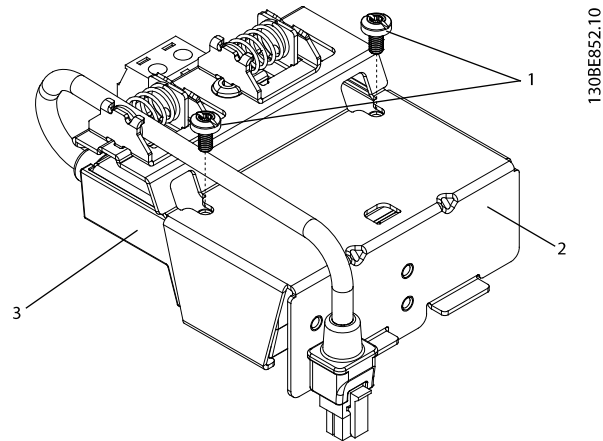
- Stop the motor.
- Disconnect AC mains and remote DC-link supplies, including battery back-ups, UPS, and DC-link connections to other frequency converters.
- Disconnect or lock PM motor.
- Wait for the capacitors to discharge fully. The minimum waiting time is specified in *Table 1.3*.
- Before performing any service or repair work, use an appropriate voltage measuring device to make sure that the capacitors are fully discharged.

Voltage [V]	Power range [kW (hp)]	Minimum waiting time (minutes)
200–240	0.37–3.7 (0.5–5)	4
380–480	0.37–7.5 (0.5–10)	4
	11–22 (15–30)	15

Table 1.3 Discharge Time

### Installation

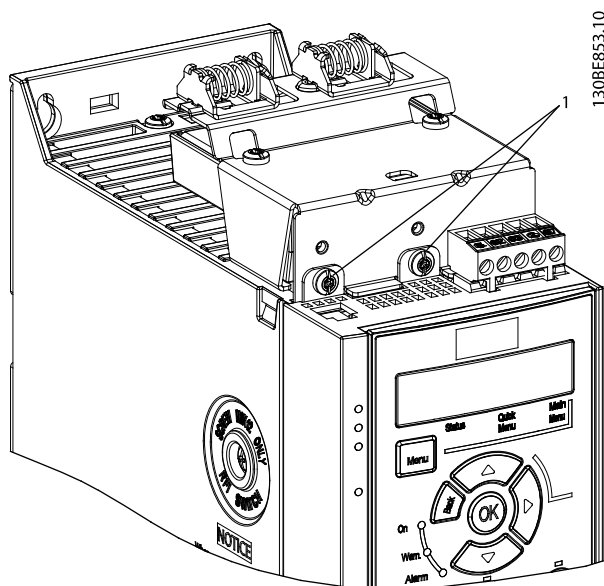
1. Stop the motor and the frequency converter, and wait until the capacitors discharge completely. The discharge time is specified in *Table 1.3*.
2. Mount the VLT® 24 V DC Supply MCB 106 with the bus decoupling kit (supplied with VLT® Midi Drive FC 280).
3. Fasten with 2 M3x6 screws (supplied with VLT® Midi Drive FC 280).
4. Tighten the screws to 0.5–0.7 Nm (4.4–6.2 in-lb).



1	M3x6 screws supplied with VLT® Midi Drive FC 280
2	Bus decoupling kit
3	VLT® 24 V DC Supply MCB 106

Illustration 1.2 Mounting MCB 106 with Bus Decoupling Kit

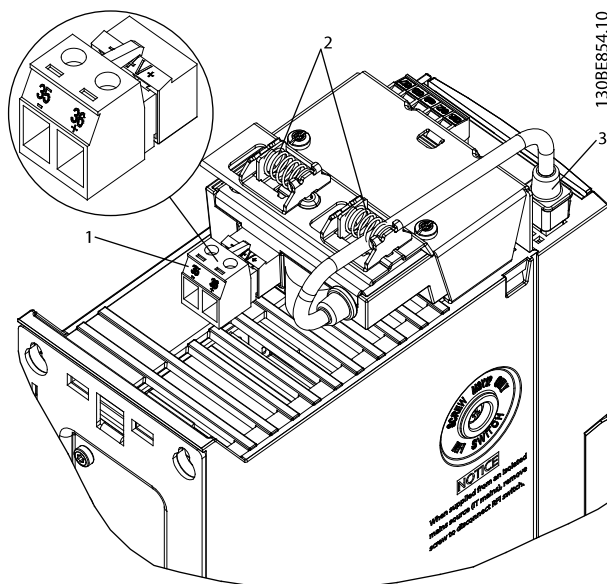
5. Mount the VLT® 24 V DC Supply MCB 106 and the bus decoupling kit assembly on the frequency converter.
6. Fasten with 2 M3x6 screws (supplied with VLT® 24 V DC Supply MCB 106).
7. Tighten the screws to 0.5–0.7 Nm (4.4–6.2 in-lb).



1	M3x6 screws supplied with VLT® 24 V DC Supply MCB 106
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Illustration 1.3 Mounting MCB 106 and Bus Decoupling Kit Assembly on the Frequency Converter

8. Connect the cable to the frequency converter, and fix the cable with the spring.
9. Connect the external 24 V power supply cable to the terminal 35 and 36 of the plug.



1	Plug
2	Springs
3	Cable

Illustration 1.4 Connecting Cables

Terminal number	Power supply
Terminal 35	- external 24 V DC supply
Terminal 36	+ external 24 V DC supply

Table 1.4 24 V Back-up Option

### NOTICE

If IP21/Type 1 Conversion Kit is installed on the frequency converter, install the external 24 V power supply cable through the slot as shown in *Illustration 1.5*.

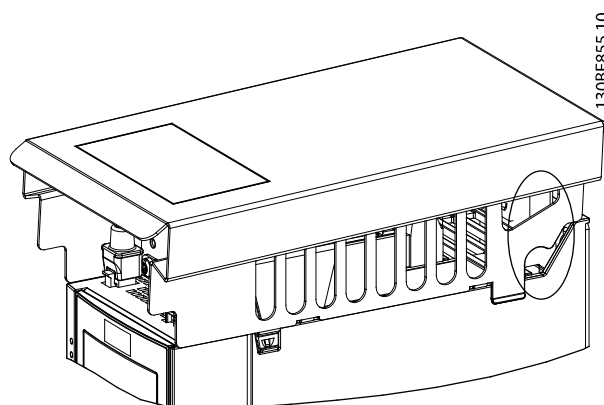


Illustration 1.5 Frequency Converter with IP21/Type 1 Conversion Kit

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