Installation Guide

ENGINEERING
TOMORROW

Power Card Kit for Enclosure Size B3

1 Introduction

1.1 Description

This Installation Guide explains how to mount the extra foil required when replacing the power card in a B3-enclosure drive produced before 02/03/2020.

The extra foil is requried to attain electrical safety insulation from heat sink to pulse transformer.

1.2 Kit Code Numbers

Table 1: Code Numbers

Kit code number	Kit description	Kit code number	Kit description	Kit code number	Kit description
130B1901	Power card, 5.5 kW, 200 V	130B1942	Power card, 18 kW, 500 V	130B1981	Power card, 15 kW, 400 V, H5 filter
130B1902	Power card, 7.5 kW, 200 V	130B1960	Power card, 11 kW, 600 V	130B1982	Power card, 18 kW, 400 V, H5 filter
130B1903	Power card, 11 kW, 200 V	130B1961	Power card, 15 kW, 600 V	130B1985	Power card, 15 kW, 500 V, H5 filter
130B1915	Power card, 11 kW, 400 V FC 102/FC 202 B3	130B1962	Power card, 18 kW, 600 V	130B1986	Power card, 18 kW, 500 V, H5 filter
130B1920	Power card, 11 kW, 400 V B3	130B1975	Power card, 5.5 kW, 200 V, H5 filter	130B1989	Power card, 11 kW, 600 V, H5 filter
130B1921	Power card, 15 kW, 400 V	130B1976	Power card, 7.5 kW, 200 V, H5 filter	130B1990	Power card, 15 kW, 600 V, H5 filter
130B1922	Power card, 18 kW, 400 V	130B1977	Power card, 11 kW, 200 V, H5 filter	130B1992	Power card, 18 kW, 600 V, H5 filter
130B1941	Power card, 15 kW, 500 V	130B1980	Power card, 11 kW, 400 V, H5 filter	–	–

2 Safety Instructions

2.1 Qualified Personnel

Only qualified personnel are allowed to install the parts described in this Installation Guide. Make sure to read and save this guide.

2.2 Safety Precautions

Only Danfoss authorized, qualified personnel is allowed to repair this equipment.

⚠ WARNING ⚠

DISCHARGE TIME

The drive contains DC-link capacitors, which can remain charged even when the drive is not powered. High voltage can be present even when the warning indicator lights are off.

Failure to wait the specified time after power has been removed before performing service or repair work could result in death or serious injury.

- Stop the motor.
- Disconnect AC mains, permanent magnet type motors, and remote DC-link supplies, including battery back-ups, UPS, and DC-link connections to other drives.
- Wait for the capacitors to discharge fully. The minimum waiting time is specified in the table *Discharge time* and is also visible on the nameplate on top of the drive.
- Before performing any service or repair work, use an appropriate voltage measuring device to make sure that the capacitors are fully discharged.

Table 2: Discharge Time, VLT® HVAC Drive FC 102

Voltage [V]	Minimum waiting time (minutes)					
	4	7	15	20	30	40
	[kW (hp)]					
200–240	1.1–3.7 (1.50–5)	–	5.5–45 (7.5–60)	–	–	–
380–480	1.1–7.5 (1.50–10)	–	11–90 (15–121)	–	–	315–1000 (450–1350)
400	–	–	–	90–315 (121–450)	–	–
500	–	–	–	110–355 (150–500)	–	–
525	–	–	–	75–315 (100–450)	–	–
525–600	1.1–7.5 (1.50–10)	–	11–90 (15–121)	–	–	–
690	–	–	–	90–315 (100– 350)	–	–
525–690	–	1.1–7.5 (1.50–10)	11–90 (15–121)	–	400–1400 (500–1550) 450–1400 (600–1550)	–

Table 3: Discharge Time, VLT® Refrigeration Drive FC 103

Voltage [V]	Minimum waiting time (minutes)				
	4	7	15	20	40

Voltage [V]	Minimum waiting time (minutes)				
	[kW (hp)]				
200–240	0.25–3.7 (0.34–5.0)	–	5.5–37 (7.5–50)	–	–
380–480	0.25–7.5 (0.34–10)	–	11–75 (15–100)	110–315 (150–450)	355–450 (500–600) 355–560 (500–750)
525–600	0.75–7.5 (1.0–10)	–	11–75 (15–100)	–	–
525–690	–	1.5–7.5 (2–10)	11–75 (15–100)	55–400 (75–550)	450–630 (600–750) 450–800 (600–1075)

Table 4: Discharge Time, VLT® AQUA Drive FC 202

Voltage [V]	Minimum waiting time (minutes)					
	4	**7**	**15**	**20**	**30**	**40**
	[kW (hp)]					
200–240	0.25–3.7 (0.34–5.0)	–	5.5–37 (7.5–50)	–	–	–
380–480	0.25–7.5 (0.34–10)	–	11–75 (15–100)	110–315 (150–450)	–	315–1000 (450–1350) 355–560 (500–750)
525–600	0.75–7.5 (1–10)	–	11–90 (15–121)	–	400–1400 (550–1550)	–
525–690	–	1.1–7.5 (1.5–10)	11–90 (10–125)	75–400 (100–550)	–	450–800 (600–1075)

Table 5: Discharge Time, VLT® AutomationDrive FC 301/FC 302

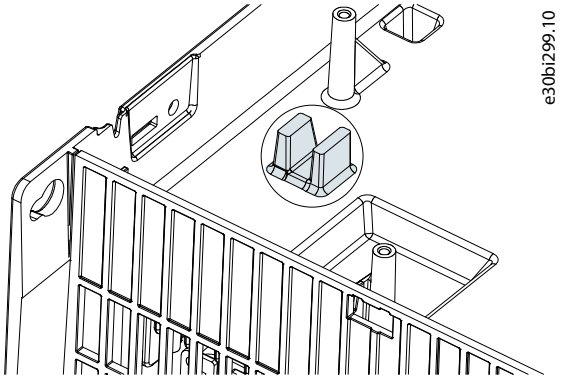
Voltage [V]	Minimum waiting time (minutes)					
	4	**7**	**15**	**20**	**30**	**40**
	[kW (hp)]					
200–240	0.25–3.7 (0.34–5)	–	5.5–37 (7.5–50)	–	–	–
380–500	0.25–7.5 (0.34–10)	–	11–75 (15–100)	90–200 (150–350)	250–500 (450–750)	250–800 (450–1350) 315–500 (500–750)
400	–	–	–	90–315 (125–450)	–	–
500	–	–	–	110–355 (150–450)	–	–
525	–	–	–	55–315 (75–400)	–	–
525–600	0.75–7.5 (1–10)	–	11–75 (15–100)	–	–	–

Voltage [V]	Minimum waiting time (minutes)					
525–690	–	1.5–7.5 (2–10)	11–75 (15–100)	37–315 (50–450)	355–1200 (450–1550)	355–2000 (450–2050) 355–710 (400–950)
690	–	–	–	55–315 (75–400)	–	–

3 Installation

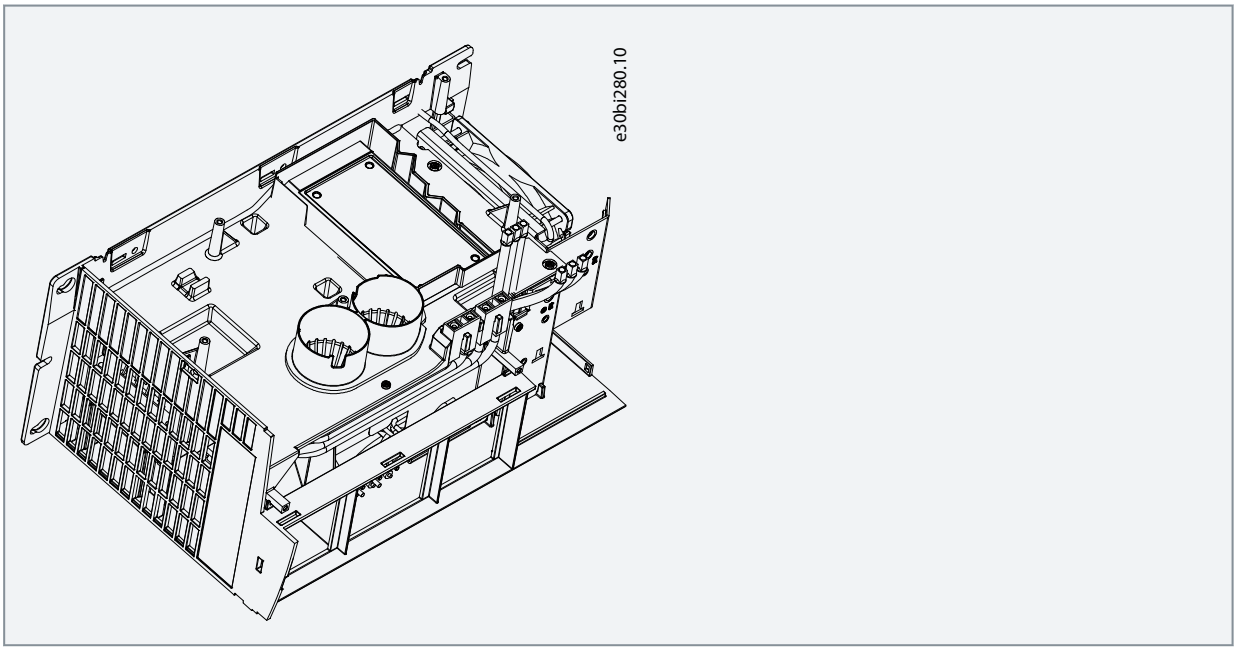
3.1 Mounting the Foil

The foil with code number 134B7292 is only to be mounted when the heat sink looks as in Illustration 1.

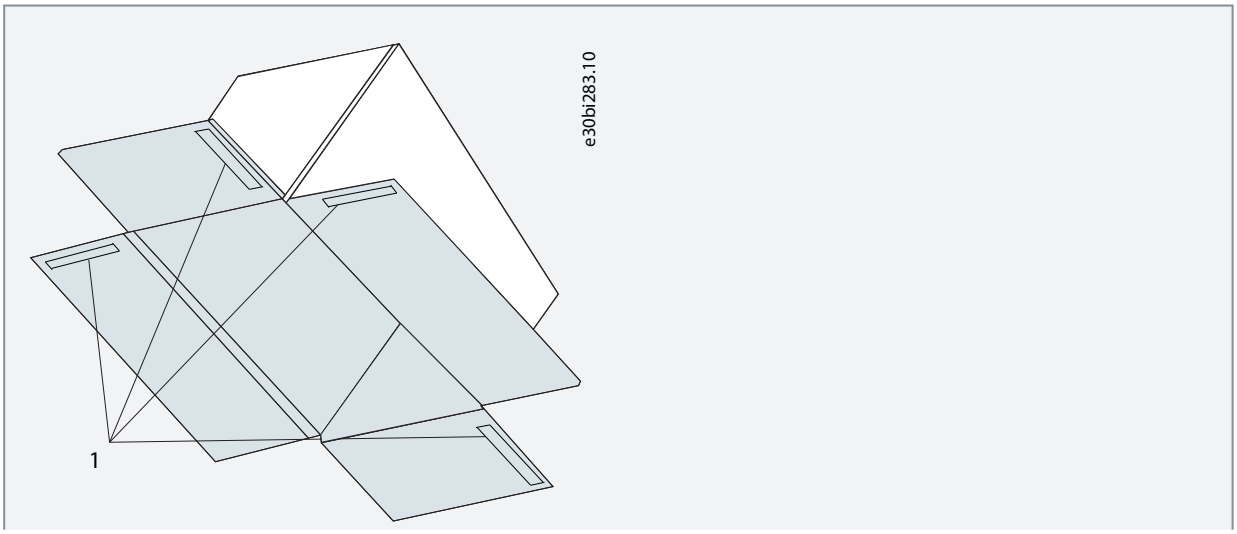


Procedure

1. Disassemble the power card.

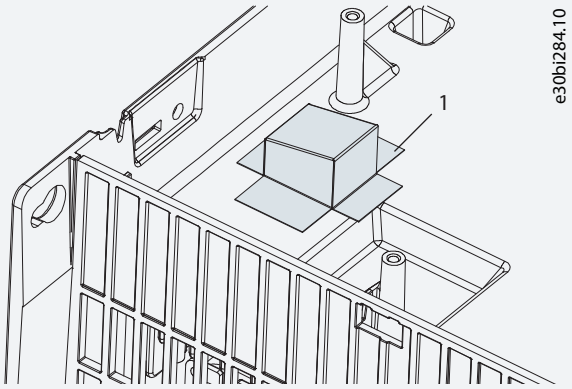


2. Remove the peel-off sheet from the double-sided tape of the foil.



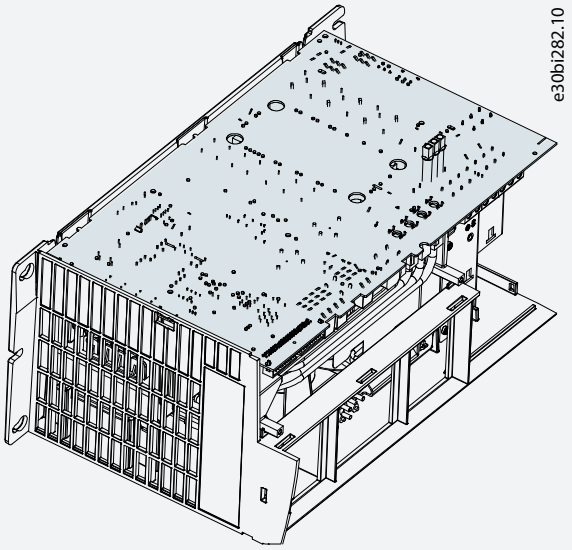
1	Double-sided tape

3. Fix the foil on top of the heat sink, over the 2 flanges, and make sure that the foil sticks firmly to the heat sink.



1	Foil mounted correctly

4. Mount the new power card.



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