Installation Guide

AC Fuse Replacement for E1h-E4h Drives
VLT® FC Series FC 102, FC 103, FC 202, FC 302

1 Overview

1.1 Description

E1h–E4h drives are available with 3 optional AC fuses. This kit contains all components required to install 1 AC fuse.

1.2 Kit Numbers

For drives manufactured **before October 29, 2018,** use the kits listed in table 1.

Table 1: Kit Numbers for AC Fuse Replacement Kits (Before October 29, 2018)

Kit number	Kit description	Product	Voltage range	Power rating
176F6639	Fuse, T5 P4001	FC 102/FC 103/FC 202/FC 302	380–480/500 V	All
176F6640	Fuse, T7 P4001	FC 102/FC 103/FC 202/FC 302	525–690 V	All

For drives manufactured **on or after October 29, 2018**, use the kits listed in table 2.

Table 2: Kit Numbers for the AC Fuse Replacement Kits (On or After October 29, 2018)

Kit number	Kit description	Product	Voltage range	Power rating
176F3858	Fuse 1000 A 700 V Square Body	FC 102/FC 103/FC 202	380–480 V	N355, N400
		FC 302	380–500 V	N315, N355
176F6639	Fuse, T5 P4001	FC 102/FC 103/FC 202	380–480 V	N450, N500, N560
		FC 302	380–500 V	N400, N450, N500
176F6640	Fuse, T7 P4001	FC 102/FC 103/FC 202/FC 302	525–690 V	All

1.3 Items Supplied

AC fuse replacement kit for E1h–E4h enclosure sizes contains the following items.

Table 3: Items Supplied in AC Fuse Replacement Kit

Item	Quantity
Fuse	1
Installation instructions	1

2 Installation

2.1 Safety Information

NOTICE

QUALIFIED PERSONNEL

Only qualified, Danfoss authorized personnel are allowed to install the parts described in these installation instructions.

- Disassembly and reassembly of the drive must be done in accordance with the corresponding service manual.

⚠ WARNING ⚠

ELECTRICAL SHOCK HAZARD

VLT® series drives contain dangerous voltages when connected to mains voltage. Improper installation, and installing or servicing with power connected, can cause death, serious injury, or equipment failure.

- Only use qualified electricians for the installation.
- Disconnect the drive from all power sources before installation or service.
- Treat the drive as live whenever the mains voltage is connected.
- Follow the guidelines in these instructions and local electrical safety codes.

⚠ WARNING ⚠

DISCHARGE TIME (40 MINUTES)

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 40 minutes after power has been removed before performing service or repair work can 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 40 minutes for the capacitors to discharge fully before performing any service or repair work.
- Measure the voltage level to verify full discharge.

⚠ CAUTION ⚠

ELECTROSTATIC DISCHARGE

Electrostatic discharge can damage components.

- Ensure discharge before touching the safety option, for example by touching a grounded, conductive surface or by wearing a grounded armband.

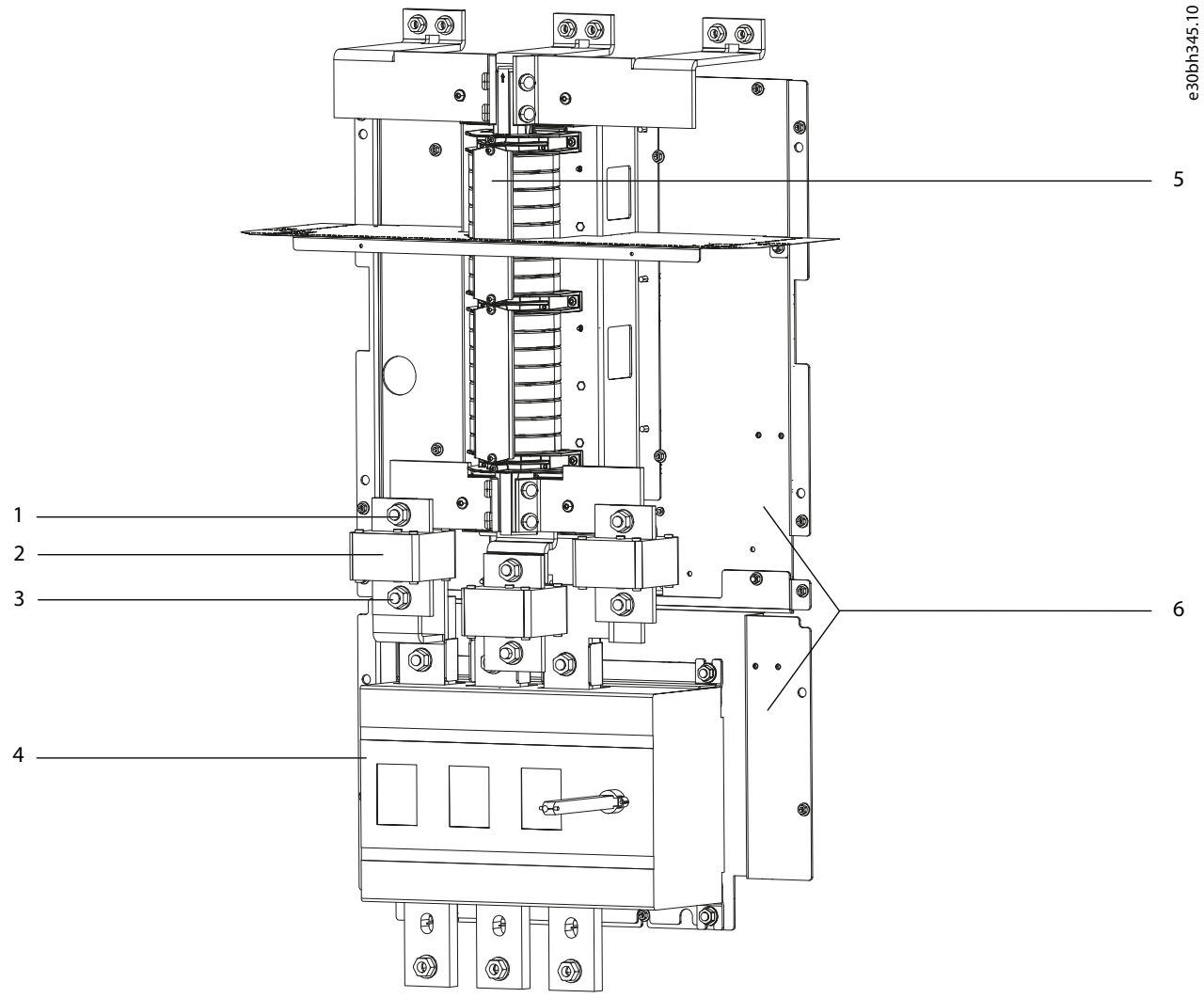
2.2 Removing the AC Fuse

Context:

To remove an AC fuse, use the following steps. See illustration 1. Based on the input options present, the drive configuration can vary from the illustration.

Procedure

1. Open the enclosure door or remove the front cover.
2. Remove 1 nut (17 mm) and bolt from the bottom of the AC fuse. In some drives, the fastener is a stud, not a bolt.
3. Remove 1 nut (17 mm) from the top of the AC fuse.



1	Nut (17 mm)	**2**	AC fuse
3	Nut (17 mm)	**4**	Disconnect (optional)
5	RFI filter (optional)	**6**	Upper and lower input plates

Illustration 1: AC Fuse Removal in E1h–E4h Drives

2.3 Installing the AC Fuse

Context:

To install the AC fuse, use the following steps.

Procedure

1. Position the new fuse in the drive.
2. Secure 1 nut (17 mm) at the top of the AC fuse.
3. Secure 1 nut (17 mm) and bolt at the bottom of the AC fuse. In some drives, the fastener is a stud, not a bolt.
4. Replace the front cover or close the cabinet door.

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