

Installation Instructions

Wall Mount Plate

VLT[®] DriveMotor FCP 106

These installation instructions provide information on how to mount the VLT[®] DriveMotor FCP 106 on a wall.

Only Danfoss authorized, qualified personnel is allowed to install this equipment. The personnel must be familiar with the instructions and safety measures described in the *VLT[®] DriveMotor FCP 106 & FCM 106 Service Guide*.

Items Supplied

- Wall mount plate
- Accessory bag
 - Motor plug
 - Gasket
 - Wall mount plug housing
 - Wall mount plug housing gasket
 - Wall mount cover for plug housing
 - Screws
 - Crimp terminals
 - 134B0497 (1–2.5 mm²) [AWG 17–14], MH1
 - 134B0498 (2.5–4 mm²) [AWG 14–12], MH2 and MH3

| Enclosure size | Ordering number |
|----------------|-----------------|
| MH1 | 134B0341 |
| MH2 | 134B0391 |
| MH3 | 134B0441 |

Table 1.1 Ordering Numbers, Wall Mount Plate

Additional Items Required

- FCP 106 frequency converter.
- Motor cable, suitable for Type 4X.
- Cable gland, suitable for Type 4X.
- Grabber tool, TE ordering number 1-1579007-6.
 - Gripper for all crimp contacts: TE ordering number 539635-1.
 - Crimp die for MH1, 600 V, 3.7 A, 16 AWG: TE ordering number 539733-2.

- Crimp die for MH2, 600 V, 9 A, 14 AWG: TE ordering number 539734-2.
- Crimp die for MH3, 600 V, 15.5 A, 12 AWG: TE ordering number 539734-2

Safety Instructions

For important information about safety precautions for installation, refer to *VLT[®] DriveMotor FCP 106/FCM 106 Operating 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 power 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 duration of waiting time is specified in *Table 1.2*.
- 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 ¹⁾ [kW (hp)] | Minimum waiting time (minutes) |
|-------------|-------------------------------------|--------------------------------|
| 3x400 | 0.55–7.5 (0.75–10) | 4 |

Table 1.2 Discharge Time

¹⁾ Power ratings relate to normal overload, see *VLT[®] DriveMotor FCP 106/FCM 106 Operating Instructions*.

Preparing for Wall Mounting

NOTICE

Improper mounting can result in overheating and reduced performance.

Cooling

To ensure sufficient air flow for the frequency converter, observe the minimum clearances listed in *Table 1.3*.

When air flow is obstructed close to the frequency converter, ensure adequate inlet of cool air and exhaust of hot air from the unit.

| Enclosure | | Power ¹⁾ [kW (hp)] | Clearance at ends [mm (in)] | |
|----------------|-------------------------------|----------------------------------|--------------------------------|-----------------|
| Enclosure size | Protection rating | 3x380–480 V | Terminal end | Cooling fan end |
| | FCP 106 with wall mount plate | | | |
| MH1 | IP66/Type 4X ²⁾ | 0.55–1.5 (0.75–2.0) | 30 (1.2) | 100 (4.0) |
| MH2 | IP66/Type 4X ²⁾ | 2.2–4.0 (3.0–5.0) | 40 (1.6) | 100 (4.0) |
| MH3 | IP66/Type 4X ²⁾ | 5.5–7.5 (7.5–10) | 50 (2.0) | 100 (4.0) |

Table 1.3 Minimum Clearance for Cooling

1) Power ratings relate to NO, see chapter *Electrical Data* in the *VLT® DriveMotor FCP 106/FCM 106 Design Guide*.

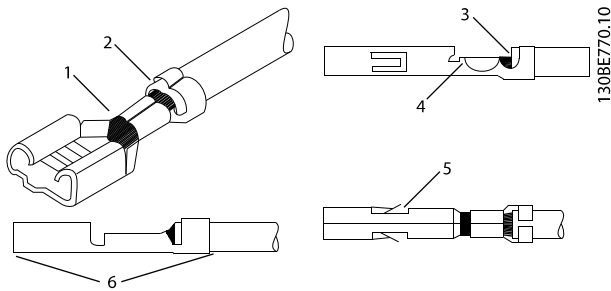
2) The stated IP and Type rating only apply when the FCP 106 is mounted on a wall mount plate. When mounted on a wall mount plate, the standalone frequency converter has enclosure rating IP00 and Open type.

Lifting

- To determine a safe lifting method, check the weight of the unit, see *chapter Specifications* in the *VLT® DriveMotor FCP 106/FCM 106 Design Guide*.
- Ensure that the lifting device is suitable for the task.
- If necessary, plan for a hoist, crane, or forklift with the appropriate rating to move the unit.
- For lifting, use the hoist rings on the unit, when provided.

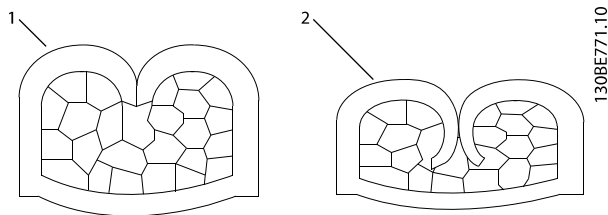
Mounting

1. Ensure that the strength of the mounting location supports the unit weight. The frequency converter allows side-by-side installation.
2. Locate the unit as near to the motor as possible. Keep the motor cables as short as possible.
3. Use the slotted mounting holes on the unit for wall mounting, when provided.
4. Crimp wires according to *Illustration 1.1* to *Illustration 1.4*.



| | |
|---|-----------------------------------------------|
| 1 | Conductor present |
| 2 | Insulation present |
| 3 | Bellmouth must always be present |
| 4 | Bellmouth allowed |
| 5 | Locking lances and terminal body not deformed |
| 6 | Cut-off tabs present |

Illustration 1.1 Correct Selection of Wire, Terminal, and Applicator



| | |
|---|-------------------------------------------------|
| 1 | Crimp barrel closed - legs support each other |
| 2 | Sufficient gap between legs and bottom of crimp |

Illustration 1.2 Correct Wire Crimp

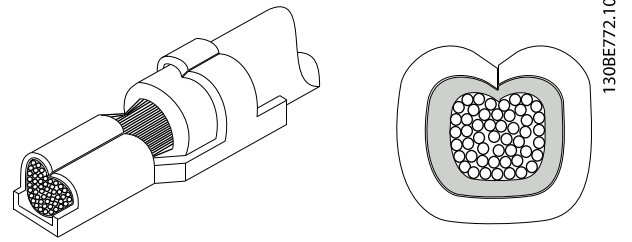


Illustration 1.3 F-crimp - Insulation Securely Held, Crimp Barrel Closed

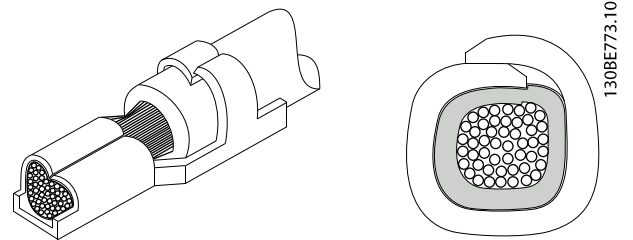
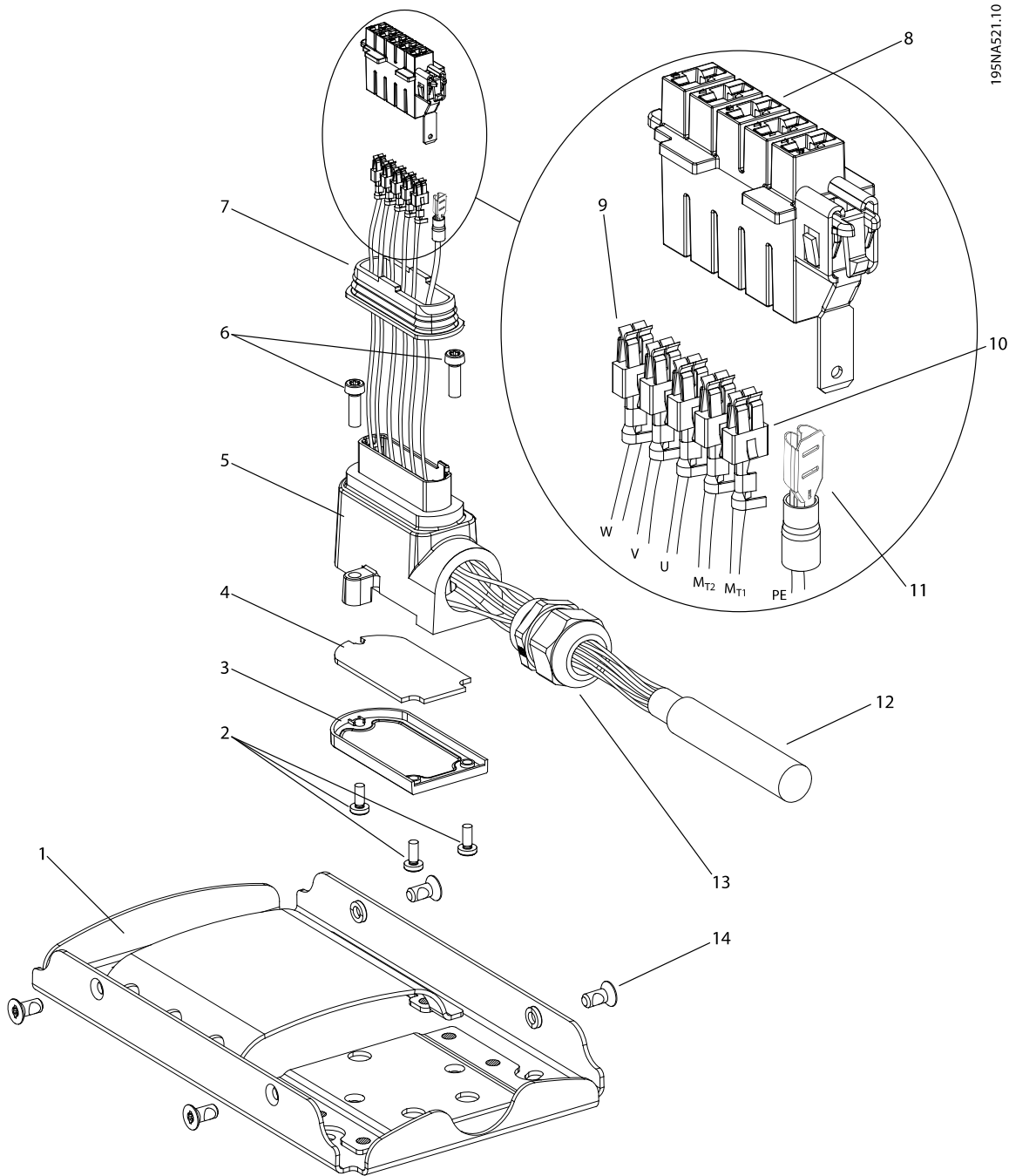


Illustration 1.4 Overlap Crimp - Insulation Securely Held, Legs overlap



195NA521.10

| | | | |
|---|------------------------|----|---------------------------------|
| 1 | Wall mount plate | 8 | Motor connector |
| 2 | Cover screws | 9 | Motor wires and crimp terminals |
| 3 | Plug housing cover | 10 | Motor thermistor wires |
| 4 | Plug cover gasket | 11 | PE wire |
| 5 | Plug housing | 12 | Motor cable |
| 6 | Plug housing screws | 13 | Cable gland |
| 7 | Motor connector gasket | 14 | Wall mount plate screws |

Illustration 1.5 Exploded View

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