

# Installation Instructions

## VLT® Decentral Drive FCD 300

### Installation Box (175X0318/0320/0329)

## 1 Items Supplied

Depending on the ordering number, the following is supplied:

### Installation box, small size with switch (175X0318)

For use with FCD 302-315.

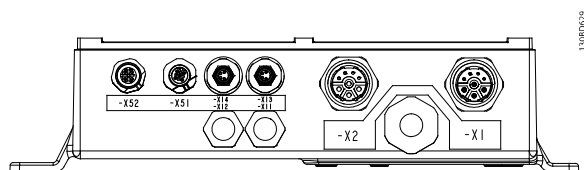


Illustration 1.1 Installation Box, Small Size with Switch (175X0318)

### Installation box, small size without switch (175X0329)

For use with FCD 302-315.

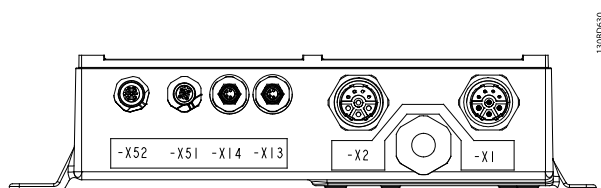


Illustration 1.2 Installation Box, Small Size without Switch (175X0329)

The functionality and design of the installation box without switch is identical to the installation box with switch.

### Installation box, large size with switch (175X0320)

For use with FCD 322-335.

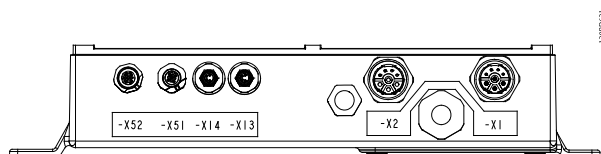


Illustration 1.3 Installation Box, Large Size with Switch (175X0320)

The dimensions of the boxes are:

- Small size: 300 x 192 x 145 mm
- Large size: 367 x 258 x 154 mm

There are 6 plugs on the side of the installation box. The plugs have the same functionality for all 3 types.

## NOTICE

See the VLT® Decentral Drive FCD 300 Design Guide for further information.

## 2 Safety Instructions

### WARNING

#### DISCHARGE TIME

The frequency converter contains DC-link capacitors, which can remain charged even when the frequency converter is not powered. Failure to wait the specified time after power has been removed before performing service or repair work, could result in death or serious injury.

1. Stop motor.
2. Disconnect AC mains, permanent magnet type motors, and remote DC-link power supplies, including battery back-ups, UPS, and DC-link connections to other frequency converters.
3. Wait for the capacitors to discharge fully, before performing any service or repair work. The duration of waiting time is specified in *Table 2.1*.

Voltage [V]	Power Range [kW]	Minimum waiting time (min)
3 x 400	0.55–7.5	4
3 x 400	11–22	15
High voltage can be present even when the warning LED indicator lights are off.		

Table 2.1 Discharge Time

## 3 Plugs

### 3.1 Overview

The 6 plugs on the installation box have the following functionality:

X52	Profibus M12 female	X13	Photocell M8 female
X51	Profibus M12 male	X2	Motor connection M23 (in M25) female
X14	Photocell M8 female	X1	Mains in M23 (in M25) male

Table 3.1 Plugs

### 3.2 X1 Mains in M23 Male

#### General ratings

- Pins 1, 2, 3 and 4: 480 V AC, max. 15 A
- Pins C and D: 30 V DC, max. 3 A
- Front/screw mounting IP66, UL type 4
- Tightening torque: 1.5–2.0 Nm

Pin	Label	Wire mm <sup>2</sup> /AWG
1	L1	2.5/14
2	PE	
3	L3	
4	L2	
D	35	2.75/18
C	36	

Table 3.2 Wire/Connector Assignment for Plug X1

Mating part: Mains X1 (female)  
Phoenix order No.: KK-0885/XX,XX  
XX,XX is the cable length in [m, cm]

### 3.3 X2 Motor Connection M23 Female

#### General ratings

- Sockets 1, 2, 3 and 4: 480 V AC, max. 15 A
- Sockets A and B: 30 V DC, max. 1 A
- Sockets C and D: 240 V DC, max. 2 A
- Front/screw mounting IP66, UL type 4
- Tightening torque: 1.5–2.0 Nm

Socket	Label	Wire mm <sup>2</sup> /AWG
1	U	2.5/14
4	V	
3	W	
2	PE	
A	31A	2.75/18
B	31B	
C	122	
D	123	

Table 3.3 Wire/Connector Assignment for Plug X2

Mating part: Motor X2 (male)  
Phoenix order No.: KCX-K0341/XX,XX  
XX,XX is the cable length in [m, cm]

### 3.4 X13/X14 Photocell M8 Female

For non-used connectors. Keep blind plugs installed to connectors at all times to keep the enclosure tight.

#### General ratings

- 30 V DC, max. 1 A
- Front/screw mounting IP66, UL type 4
- Tightening torque: 0.1–0.2 Nm

Pin	Label
1	Brown
2	White
3	Blue
4	Black

Table 3.4 Wire/Connector Assignment for Plug X13/X14

Mating part: Sensor X13 og X14 (male)  
Phoenix order No.: SAC-4P-M 8MS/XX,XX-PUR/M8FS 34CP  
XX,XX is the cable length in [m, cm]

### 3.5 X51 Profibus M12 Male

#### General ratings

- 30 V DC, max. 1 A
- Front/screw mounting IP66, UL type 4
- Tightening torque: 0.2–0.3 Nm

Pin	Label
1	Brown
2	White
3	Blue
4	Black

Table 3.5 Wire/Connector Assignment for Plug X51

Mating part: Profibus X52 and X51 (female/male)  
Phoenix order No.: SAC-2P-MSB/ XX,XX-910/FSB SCO CT  
XX,XX is the cable length in [m, cm]

### 3.6 X52 Profibus M12 Female

For non-used connectors. Keep blind plugs installed to connectors at all times to keep the enclosure tight.

#### General ratings

- 30 V DC, max. 1 A
- Front/screw mounting IP66, UL type 4
- Tightening torque: 0.2–0.3 Nm.

Pin	Label
1	Brown
2	White
3	Blue
4	Black

Table 3.6 Wire/Connector Assignment for Plug X52

Mating part: Profibus X52 and X51 (female/male)  
Phoenix order No.: SAC-2P-MSB/ XX,XX-910/FSB SCO CT  
XX,XX is the cable length in [m, cm]

### 3.7 LCP Connector

The LCP cable is only used during installation/commissioning.  
The plug on the LCP connector must be mounted after use.  
The Danfoss part number for the LCP cable is: 175N0162.

## 4 Installation



#### HIGH VOLTAGE

Potentially lethal voltage is present on the installation box.

- **Mount the correct branch circuit protection fuses and the inverter before connecting the installation box to the mains.**
1. Mount the installation box on a flat, solid surface.
  2. Connect the PE terminal to ground.
  3. Connect the motor cable to plug X2 on the installation box.
  4. Connect the mains cable to plug X1 on the installation box.

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