INSTALLATION INSTRUCTION

DC switch disconnectors
OTDC315...800F_/OTDC250...600UF_

Exceeds 5 Gauss
Within 15cm / 6 inch

CAUTION
Magnetic field
# Table of contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>Use of symbols</td>
</tr>
<tr>
<td>06</td>
<td>Circuits</td>
</tr>
<tr>
<td>07</td>
<td>Enclosure dimensioning</td>
</tr>
<tr>
<td>08</td>
<td>Mounting OTDC_F_</td>
</tr>
<tr>
<td>09</td>
<td>Busbars and compression lugs</td>
</tr>
<tr>
<td>10</td>
<td>Mechanical lug kit OZXA402</td>
</tr>
<tr>
<td>11</td>
<td>Mechanical lug kit OZXA604</td>
</tr>
<tr>
<td>12</td>
<td>Direct handle kit OTDV400FK_</td>
</tr>
<tr>
<td>13</td>
<td>Phase Barrier kit OTDCB400F/2</td>
</tr>
<tr>
<td>14</td>
<td>Connection bar kit OTDCKIT400/600FS101</td>
</tr>
<tr>
<td>15</td>
<td>Connection bar kit OTDCKIT400/600FS11</td>
</tr>
<tr>
<td>16</td>
<td>Shroud kit OTDCS400FG1, _T1</td>
</tr>
<tr>
<td>17</td>
<td>Auxiliary contacts OA_</td>
</tr>
<tr>
<td>18</td>
<td>Dimension drawings</td>
</tr>
</tbody>
</table>
Use of symbols

Hazardous voltage
Warns about a situation where a hazardous voltage may cause physical injury to a person or damage to equipment.

Caution
Provides important information or warns about a situation that may have a detrimental effect on equipment.

General warning
Warns about a situation where something other than electrical equipment may cause physical injury to a person or damage to equipment.

Information
Provides important information about the equipment.
Receiving, handling and storage

Receiving and handling
Upon receipt, carefully inspect the switch for damage that may have occurred during transit. If damage is evident, or there is visible indication of rough handling, immediately file a damage claim with the transportation company, and notify your local ABB sales office.

Do not remove the shipping package until ready to install the switch.

Storage
If the unit will not be placed into service immediately, store the switch on its original package in a clean, dry location. To prevent condensation, maintain a uniform temperature. Store the unit in a heated building, allowing adequate air circulation and protection from dirt and moisture. Storing the unit outdoors could cause harmful condensation inside the switch enclosure.

HAZARD OF EQUIPMENT OVERTURNING

When moving with a fork lift, do not remove the shipping package until the device is in its final location.

Failure to follow this instruction will result in personal injury or equipment damage.
Read these safety instructions carefully before using this product!

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

• Apply appropriate personal protective equipment and follow safe electrical work practices.
• This equipment must only be installed and serviced by qualified electrical personnel.
• Before performing visual inspections, tests, or maintenance on the equipment, disconnect all sources of electric power. Assume that all circuits are live unless they are completely deenergized, tested, grounded, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
• Turn off switch before removing or making load side connections.
• Always use a properly rated voltage sensing device at all line and load to confirm switch is off.
• Turn off power supplying switch before doing any other work on or inside switch.

Failure to follow these instructions could result in death or serious injury.
Circuits

Circuit 2a, 2b

Circuit 4a, 4c

Circuit 7a, 7e

Circuit 1a

Circuit 3
Enclosure dimensioning
Clearances per UL98 / IEC 60947

mm / in

**Warning**
A minimum distance of 25.4 mm (1 in) from current carried parts to any conductive part.

---

**Minimum clearance to any conductive part**

<table>
<thead>
<tr>
<th>From mechanism</th>
<th>From pole</th>
<th>From terminal blade</th>
<th>From mechanism shaft</th>
<th>From connection bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>C2</td>
<td>C3</td>
<td>C4</td>
<td>C5</td>
</tr>
<tr>
<td>0</td>
<td>35 / 1.38</td>
<td>105 / 4.13</td>
<td>50.8 / 2.00</td>
<td>25.4 / 1.00</td>
</tr>
</tbody>
</table>

---

**Minimum enclosure size or equivalent volume UL98**

<table>
<thead>
<tr>
<th>Switch size</th>
<th>No. of poles</th>
<th>H</th>
<th>W</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTDC250F, OTDC320F, OTDC400F</td>
<td>2</td>
<td>500 / 19</td>
<td>500 / 19</td>
<td>200 / 7.9</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>600 / 24</td>
<td>700 / 27</td>
<td>200 / 7.9</td>
</tr>
<tr>
<td>OTDC600F</td>
<td>2</td>
<td>600 / 24</td>
<td>700 / 27</td>
<td>200 / 7.9</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1000 / 39</td>
<td>800 / 32</td>
<td>330 / 13</td>
</tr>
</tbody>
</table>
Mounting OTDC_F_

Warning
Magnetic field exceeds 5 Gauss within 15 cm / 6 inch of surface. Can erase credit cards. Avoid medical Implant Device proximity.

1.2 Nm
11 lb.in

M5

OH_95J/L12_
OH_125
OH_145
**Busbars and compression lugs**

- **Caution**
  Always use counter torque when tightening terminals!

- **Caution**
  Ensure cable suitability for compression lugs and application requirements. Use max. 2pcs of compression lugs per switch terminal.

- **Caution**
  Phase barrier or shroud is mandatory on all switch types, except OTDC_F_11. Type for package of 2 barriers is OTDCB400F/2.

- **Warning**
  A minimum distance of 25,4 mm (1 in) from current carried parts to any conductive part.

---

**Busbar width**

<table>
<thead>
<tr>
<th></th>
<th>[mm / in]</th>
</tr>
</thead>
<tbody>
<tr>
<td>min-max</td>
<td>25-41 / 1-1.6</td>
</tr>
<tr>
<td>recommendation</td>
<td>25 / 1</td>
</tr>
</tbody>
</table>

**Compression Lug dimensions**

<table>
<thead>
<tr>
<th></th>
<th>[mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A : Maximum height</td>
<td>34</td>
</tr>
<tr>
<td>B : Recommended maximum width</td>
<td>36</td>
</tr>
<tr>
<td>C : Maximum length</td>
<td>105</td>
</tr>
<tr>
<td>D : Recommended bolt slot</td>
<td>10.5...14.3</td>
</tr>
</tbody>
</table>

---

**M10**

- 30...44 Nm / 266-390 lb.in

**M12**

- 50...75 Nm / 443-664 lb.in
Mechanical lug kit OZX402

2x OZX402

Caution
Always use counter torque when tightening terminals!

M10
30...44 Nm
266-390 lb.in

Caution
Phase barrier or shroud is mandatory on all switch types, except OTDC_F_11. Type for package of 2 barriers is OTDCB400F/2.

Warning
A minimum distance of 25.4 mm (1 in) from current carried parts to any conductive part.
**Mechanical lug kit OZXA604**

![Image of OZXA604](image)

**Caution**
Always use counter torque when tightening terminals!

**Warning**
A minimum distance of 25.4 mm (1 in) from current carried parts to any conductive part.

**M10**
30...44 Nm
266-390 lb.in

**Caution**
Phase barrier or shroud is mandatory on all switch types, except OTDC_F_11. Type for package of 2 barriers is OTDCB400F/2.
Direct handle kit OTDV400FK

Information
Use protection against direct contact. For example, see picture above.
Phase Barrier kit OTDCB400F/2

Caution
Phase barrier or shroud is mandatory on all switch types, except OTDC_F_11. Type for package of 2 barriers is OTDCB400F/2.
Connection bar kit
OTDCKIT400/600FS101

<table>
<thead>
<tr>
<th>Connection bar kit</th>
<th>L [mm/in]</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTDCKIT400FS101</td>
<td>35 / 1.38</td>
</tr>
<tr>
<td>OTDCKIT600FS101</td>
<td>150 / 5.91</td>
</tr>
</tbody>
</table>

Caution
Installation only as shown in drawings.

1. OTDC250...400UFS11, _UFSV11
   OTDC250...400UF11, _UFV11 + OTDCKIT400FS101

2. OTDC250...400UFS02, _UFSV02
   OTDC250...400UF02, _UFV02 + OTDCKIT400FS101

3. OTDC600UFS11, _UFSV11
   OTDC600UF11, _UFV11 + OTDCKIT600FS101

4. OTDC600UFS02, _UFSV02
   OTDC600UF02, _UFV02 + OTDCKIT600FS101

30 Nm / 265 lb.in
# Connection bar kit

**OTDCKIT400/600FS11**

![Connection bar kit](image)

**Caution**

Installation only as shown in drawings.

<table>
<thead>
<tr>
<th>L [mm/in]</th>
<th>OTDC250..400UFS(V)22</th>
<th>OTDC600UFS(V)22</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 / 1.97</td>
<td>5 / 0.2</td>
<td>50 / 1.97</td>
</tr>
<tr>
<td>150 / 5.91</td>
<td>5 / 0.2</td>
<td>150 / 5.91</td>
</tr>
</tbody>
</table>

2x OTDCKIT400FS11  
2x OTDCKIT600FS11
Shroud kit OTDCS400FG1, _T1

Information
Shroud suitable with mechanical lugs OZXA402, compression lugs and busbars.
Auxiliary contacts OA_

- Main contact
- Test contact (NO)
- Test indication contact (NO)
- Test contact (NC)
- Test indication contact (NC)

Remove max 2

Test contact max. 4 pcs

0 1 0 Test 0

- Main contact
- Test contact (NO)
- Test indication contact (NO)
- Test contact (NC)
- Test indication contact (NC)

NO: OA1G10
NC: OA3G01

Exceeds 5 Gauss
Within 15 cm / 6 inch of surface.

CAUTION: Magnetic field
### Dimension drawings

**OTDC315...800F_11, OTDC250...600UF_11**

**mm / in**

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Connection bar</td>
<td>OTDCKIT600FS101, OTDC600UF_11 only</td>
</tr>
<tr>
<td>2</td>
<td>Connection bar</td>
<td>OTDCKIT400FS101, OTDC250...400UF_11 only</td>
</tr>
<tr>
<td>3</td>
<td>Terminal shroud</td>
<td>OTDCS400FG1, OTDCS400FT1</td>
</tr>
<tr>
<td>4</td>
<td>Handle</td>
<td>In OTDC315...630F_P and OTDC250...600UF_P types</td>
</tr>
</tbody>
</table>
Dimension drawings
OTDC315...630F_02, OTDC250...600UF_02

mm / in

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Connection bar</td>
<td>OTDCKIT600FS101, OTDC600UF_02 only</td>
</tr>
<tr>
<td>2</td>
<td>Connection bar</td>
<td>OTDCKIT400FS101, OTDC250...400UF_02 only</td>
</tr>
<tr>
<td>3</td>
<td>Terminal shroud</td>
<td>OTDCS400FG1, OTDCS400FT1</td>
</tr>
<tr>
<td>4</td>
<td>Handle</td>
<td>In OTDC315...630F_P and OTDC250...600UF_P types</td>
</tr>
<tr>
<td>5</td>
<td>Phase barrier</td>
<td>OTDCB400F/2</td>
</tr>
</tbody>
</table>
**Dimension drawings**

**OTDC315...630F_22, OTDC250...600UF_22**

**mm / in**

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Connection bar</td>
<td>OTDCKIT600FS11, OTDC600UF_22 only</td>
</tr>
<tr>
<td>2</td>
<td>Connection bar</td>
<td>OTDCKIT400FS11, OTDC250...400UF_22 only</td>
</tr>
<tr>
<td>3</td>
<td>Terminal shroud</td>
<td>OTDCS400FG1, OTDCS400FT1</td>
</tr>
<tr>
<td>4</td>
<td>Handle</td>
<td>In OTDC315...630F_P and OTDC250...600UF_P types</td>
</tr>
<tr>
<td>5</td>
<td>Phase barrier</td>
<td>OTDCB400F/2</td>
</tr>
</tbody>
</table>
Dimension drawings
OTDC315...500F_33

mm / in

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Terminal shroud</td>
<td>OTDCS400FG1, OTDCS400FT1</td>
</tr>
<tr>
<td>4</td>
<td>Handle</td>
<td>In OTDC315...500F_P and OTDC250...600UF_P types</td>
</tr>
<tr>
<td>5</td>
<td>Phase barrier</td>
<td>OTDCB400F/2</td>
</tr>
</tbody>
</table>
Dimension drawings
OTDC315...800F_K, OTDC250...600UF_K

mm / in
Осторожно! Опасное напряжение! Монтаж должен выполняться только специалистом-электриком.
Contact us

ABB Oy
Protection and Connection
P.O. Box 622
FI-65101 Vaasa
Finland

https://new.abb.com/low-voltage