INSTALLATION INSTRUCTION

DC switch disconnectors
OTDC800...1000F_/OTDC800...1000UF_
# Table of contents

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>Use of symbols</td>
</tr>
<tr>
<td>04</td>
<td>Receiving, handling and storage</td>
</tr>
<tr>
<td>05</td>
<td>Read this safety instructions carefully before using this product</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 – 010</td>
<td>Busbars and compression lugs</td>
</tr>
<tr>
<td>011</td>
<td>Connection bar kit OTDCKIT800FS11</td>
</tr>
<tr>
<td>012</td>
<td>Mechanical lug kit OZXA804</td>
</tr>
<tr>
<td>013</td>
<td>Direct handle kit OTDV400FK_</td>
</tr>
<tr>
<td>014</td>
<td>Auxiliary contacts OA_</td>
</tr>
<tr>
<td>015 – 016</td>
<td>Dimension drawings</td>
</tr>
<tr>
<td>019</td>
<td>Warning sheet</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.

⚠️ **General warning**
Warns about a situation where something other than electrical equipment 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.

ℹ️ **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.
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 6c, 6g

4-pole, 4-wire 1-circuit SUPPLY

+ (−)  − (+)

1 OEZXY 3

2 OEZXY 4

5 OEZXY 7

6 OEZXY 8

LOAD

4-pole, 4-wire 1-circuit REVERSED SUPPLY

+ (−)  − (+)

1 OEZXY 3

2 OEZXY 4

5 OEZXY 7

6 OEZXY 8

LOAD

Panel 1

+ (−)

− (+)

Inverter 1

+ (−)

− (+)

Panel 1

OTDC800...1000F22, _FV22 + OTDCKIT800FS11

OTDC800...1000UF22, _UFV22 + OTDCKIT800FS11
Enclosure dimensioning
Clearances per UL98 / IEC 60947

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

Dimensions apply to all switch types.

Minimum clearance to any conductive part

<table>
<thead>
<tr>
<th>From pole</th>
<th>From terminal blade</th>
<th>From mechanism shaft</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>C2</td>
<td>C3</td>
</tr>
<tr>
<td>35 / 1.38</td>
<td>141.9 / 5.59</td>
<td>50.8 / 2.00</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>OTDC800F, OTDC1000</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

OH_95J/L12_
OH_125
OH_145
Busbars and compression lugs

Caution
Always use counter torque when tightening terminals!

Max. width of busbar  76,2  3.00

Max. thickness of busbar in front  10  0.39

Max. thickness of busbar in back  5  0.20

M10  30...44 Nm  /  266-390 lb.in
M12  50...75 Nm  /  443-664 lb.in
Busbars and compression lugs

<table>
<thead>
<tr>
<th>Busbar width</th>
<th>[mm / in]</th>
<th>max</th>
<th>76,2 / 3</th>
</tr>
</thead>
</table>

**Minimum Busbar cross-section acc. to UL98B**

<table>
<thead>
<tr>
<th>Current (A)</th>
<th>Cross-section [mm²]</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 A</td>
<td>520</td>
</tr>
<tr>
<td>1000 A</td>
<td>640</td>
</tr>
</tbody>
</table>

**Compression Lug dimensions**

<table>
<thead>
<tr>
<th>Dimension</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>

---

**Caution**

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

**Warning**

A minimum distance of 25,4 mm (1 in) from current carried parts to any conductive part.
Connection bar kit
OTDCKIT800FS11

M12 50...75 Nm
443-664 lb.in

Circuit 6c, 6g
OTDC800F22
OTDC800FV22
OTDC800UF22
OTDC800UFV22
OTDC1000F22
OTDC1000FV22
OTDC1000UF22
OTDC1000UFV22

Caution
Installation only as shown in drawings.
**Mechanical lug kit**

**OZXA804**

---

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

**M12x25**
- 54,2 Nm
- 480 lb.in

---

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

**Caution**
Installation only as shown in drawings.

---

Single lug cable cross section 2 x AWG 2-600 MCM.
Direct handle kit
OTDV400FK_

Information
Use protection against direct contact. For example, see picture above.
Auxiliary contacts

OA_

Remove

Test contact max. 4 pcs

NO: OA1G10
NC: OA3G01

~10°

Test indication contact max. 4 pcs

Main contact
Test contact (NO)
Test indication contact (NO)
Test contact (NC)
Test indication contact (NC)
## Dimension drawings

**OTDC800-1000_F_22**

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Connection bar</td>
<td>OTDCKIT800FS11</td>
</tr>
</tbody>
</table>
Connection bar kit
OTDCKIT800FS11
DC SWITCH DISCONNECTORS
Contact us

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

abb.com/lowvoltage