

INSTALLATION INSTRUCTION

DC switch disconnectors

OTDC315...800F_/OTDC250...630UF_



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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



Warning

HAZARD OF EQUIPMENT OVERTURNING

When moving with a forklift, 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.

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!



Danger

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

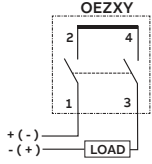
- Apply appropriate personal protective equipment and follow safe electrical work practices.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Before performing visual inspections, tests, or maintenance on the equipment, disconnect all sources of electric power. 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.

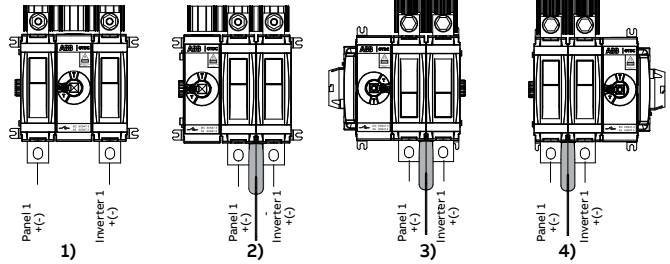
Circuits

Circuit 1a

2-pole, 2-wire, 1-circuit

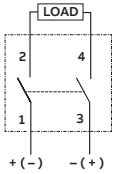


For grounded systems



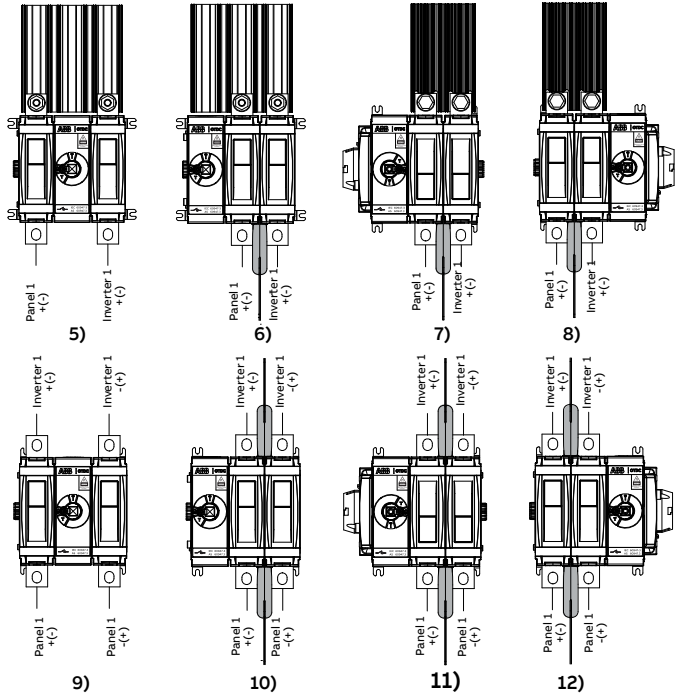
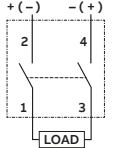
Circuit 2a, 2b

2-pole, 4-wire, 1-circuit



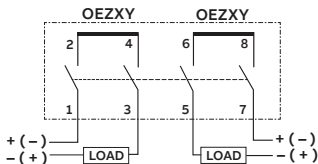
2-pole, 4-wire, 1-circuit

REVERSED SUPPLY

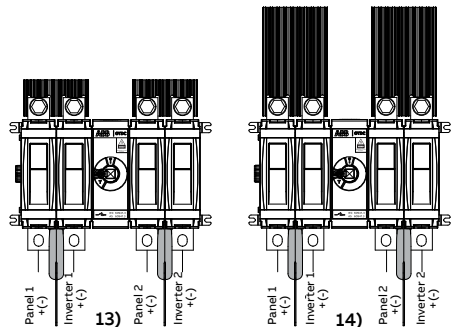


Circuit 3

4-pole, 4-wire, 2-circuit

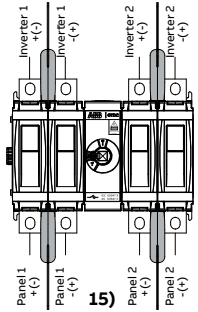
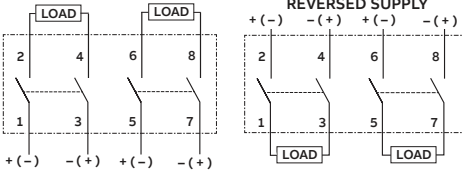


For grounded systems



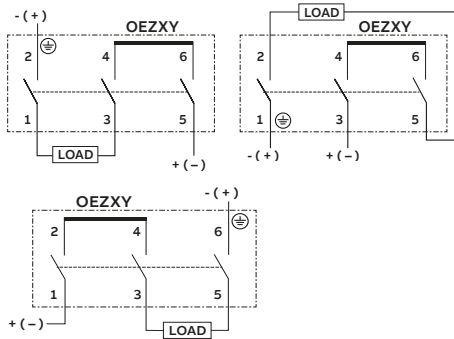
Circuit 4a, 4c

4-pole, 4-wire, 2-circuit 4-pole, 4-wire, 2-circuit

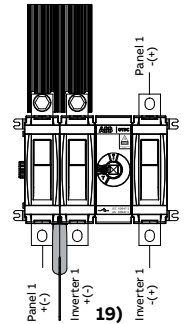
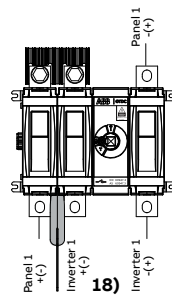
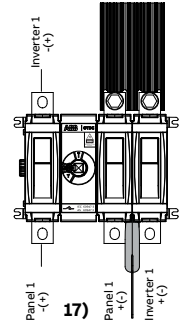
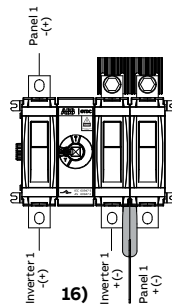


Circuit G5a, G5b, G5c 3-pole, 1500V

3-pole, 4-wire, 1-circuit 3-pole, 4-wire, 1-circuit

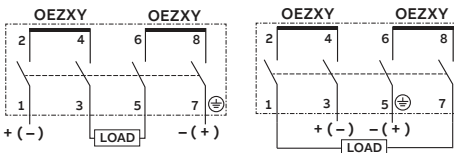


For grounded systems



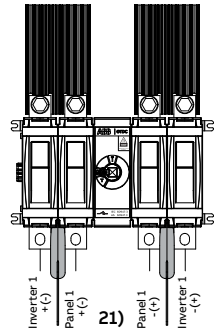
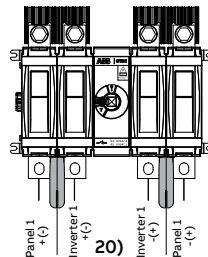
Circuit G6a, G6b

4-pole, 4 wire, 1-circuit 4-pole, 4 wire, 1-circuit



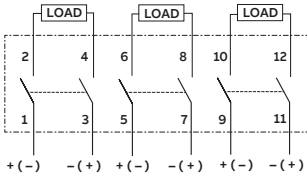
Alternatively Pole 1 can be grounded
For grounded systems

Alternatively Pole 2 can be grounded

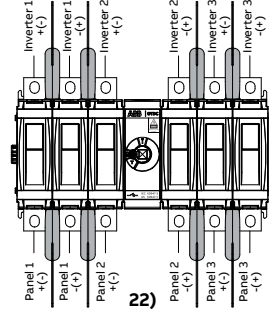
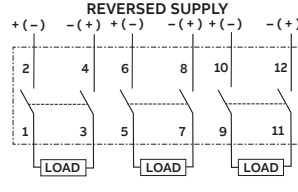


Circuit 7a, 7c

6-pole, 12-wire, 3-circuit

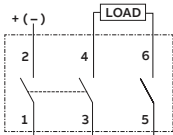


6-pole, 12-wire, 3-circuit

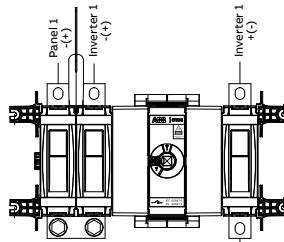


Circuit 3W, 3WA

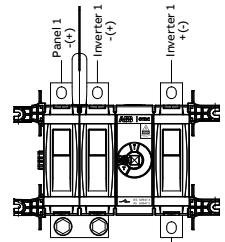
3-pole, 4-wire, 1-circuit



OTDCKIT400UFV - (+)

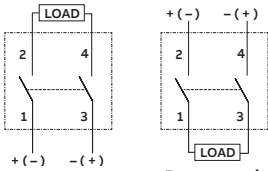


23)

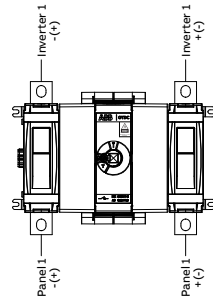


Circuit 2W, 2WA

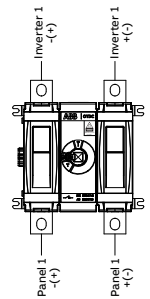
2-pole, 4-wire, 1-circuit



Reversed load



24)



Types	
1	OTDC250...400UFS11, _UFSV11 OTDC250...400UF11, _UFV11 + OTDCKIT400FS101 OTDC315...500F11, _FV11 + OTDCKIT400FS101
2	OTDC250...400UFS02, _UFSV02 OTDC250...400UF02, _UFV02 + OTDCKIT400FS101 OTDC315...500F02, _F20 + OTDCKIT400FS101 OTDC315...500FV02, _FV20 + OTDCKIT400FS101
3	OTDC250...400UFS02S, _UFSV02S OTDC250...400UF02S, _UFV02S + OTDCKIT400FS11 OTDC315...500F02S, _FV02S + OTDCKIT400FS11
4	OTDC250...400UFS20S, _UFSV20S OTDC250...400UF20S, _UFV20S + OTDCKIT400FS11 OTDC315...500F20S, _F20S + OTDCKIT400FS11
5	OTDC600UFS11, _UFSV11 OTDC600UF11, _UFV11 + OTDCKIT600FS101 OTDC630F11, _FV11 + OTDCKIT600FS101
6	OTDC600UFS02, _UFSV02 OTDC600UF02, _UFV02 + OTDCKIT600FS101 OTDC630F20, _F20 + OTDCKIT600FS101 OTDC630FV20, _FV20 + OTDCKIT600FS101
7	OTDC600UFS02S, _UFSV02S OTDC600UF02S, _UFV02S + OTDCKIT600FS11 OTDC630F02S, _FV02S + OTDCKIT600FS11
8	OTDC600UFS20S, _UFSV20S OTDC600UF20S, _UFV20S + OTDCKIT600FS11 OTDC630F22, _FV22 + OTDCKIT600FS11
9	OTDC315...800F11, _FV11 OTDC250...630UF11, _UFV11
10	OTDC315...630F02, _FV02 OTDC250...600UF02, _UFV02
11	OTDC315...630F02S, _FV02S OTDC250...600UF02S, _UFV02S
12	OTDC315...630F20S, _FV20S OTDC250...600UF20S, _UFV20S

Types	
13	OTDC250...400UFS22, _UFSV22 OTDC250...400UF22, _UFV22 + 2 x OTDCKIT400FS11 OTDC315...500F22, _FV22 + OTDC400FS11
14	OTDC600UFS22, _UFSV22 OTDC600UF22, _UFV22 + 2 x OTDCKIT600FS11 OTDC630F22, _FV22 + OTDCKIT400FS11
15	OTDC315...630F22, _FV22 OTDC250...630UF22, _UFV22
16	OTDC315...500F12, _FV12 + OTDCKIT400FS11 OTDC250...400UF12, _UFV12 + OTDCKIT400FS11
17	OTDC630F12, _FV12 + OTDCKIT600FS11 OTDC600UF12, _UFV12 + OTDCKIT600FS11
18	OTDC315...500F21, _FV21 + OTDCKIT400FS11 OTDC250...400UF21, _UFV21 + OTDCKIT400FS11
19	OTDC630F21, _FV21 + OTDCKIT600FS11 OTDC600UF21, _UFV21 + OTDCKIT600FS11
20	OTDC315...500F22, _FV22 + 2 x OTDCKIT400FS11 OTDC250...400UF22, _UFV22 + 2 x OTDCKIT400FS11
21	OTDC630F22, _FV22 + 2 x OTDCKIT600FS11 OTDC600UF22, _UFV22 + 2 x OTDCKIT600FS11
22	OTDC315...500F33, _FV33
23	OTDC400...500(U)FV21-W, OTDC400...(U)FV21-WA
24	OTDC400UFV11-W, OTDC400UFV11-WA

Enclosure dimensioning

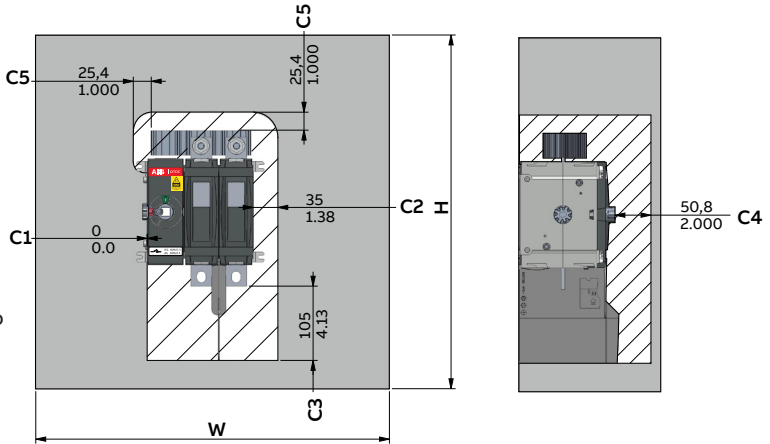
Clearances per UL98 / IEC 60947

mm / in



Warning

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



Dimensions apply to all front operated switch types.

Minimum clearance to any conductive part

From mechanism	From pole	From terminal blade	From mechanism shaft	From connection bar
C1	C2	C3	C4	C5
0	35 / 1.38 ^{*)}	105 / 4.13	50,8 / 2.00	25,4 / 1.00

^{*)} Except OTDC400-500(U)FV21-WA(A) = 40 mm

Minimum enclosure size or equivalent volume UL98

Switch size	No. of poles	H	W	D
OTDC250F, OTDC320F, OTDC400F	2	500 / 19	500 / 19	200 / 7.9
	4	600 / 24	700 / 27	200 / 7.9
OTDC600F, OTDC400UFV11-W(A)	2	600 / 24	700 / 27	200 / 7.9
OTDC600F	4	1000 / 39	800 / 32	330 / 13
OTDC630F	4	600 / 24	700 / 27	200 / 7.9
OTDC400UFV21-W(A)	3	800 / 24	600 / 27	300 / 11.8
OTDC400FV21-W(A), OTDC500FV21-W(A)	3	600 / 24	700 / 27	200 / 7.9

Enclosure dimensioning

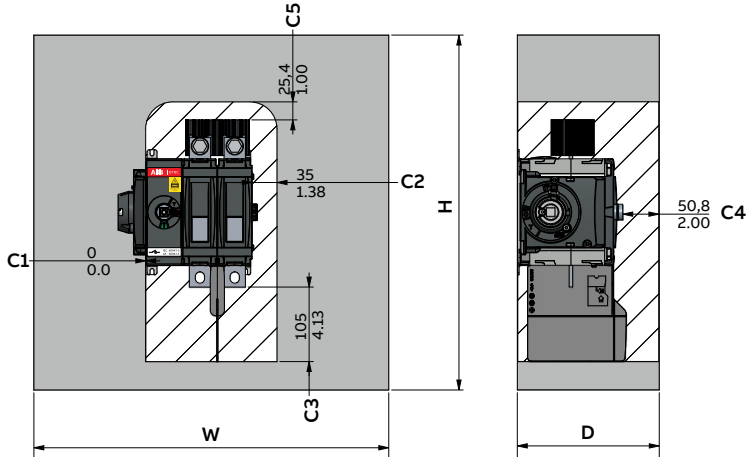
Clearances per UL98 / IEC 60947

mm / in



Warning

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



Dimensions apply to all side operated switch types.

Minimum clearance to any conductive part

From mechanism	From pole	From terminal blade	From mechanism shaft	From connection bar
C1	C2	C3	C4	C5
0	35 / 1.38	105 / 4.13	50,8 / 2.00	25,4 / 1.00

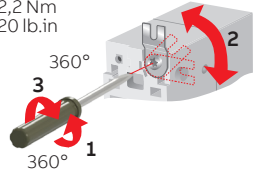
Minimum enclosure size or equivalent volume UL98

Switch size	No. of poles	H	W	D
OTDC250F, OTDC320F, OTDC400F	2	500 / 19	500 / 19	200 / 7.9
OTDC600F	2	600 / 24	700 / 27	200 / 7.9

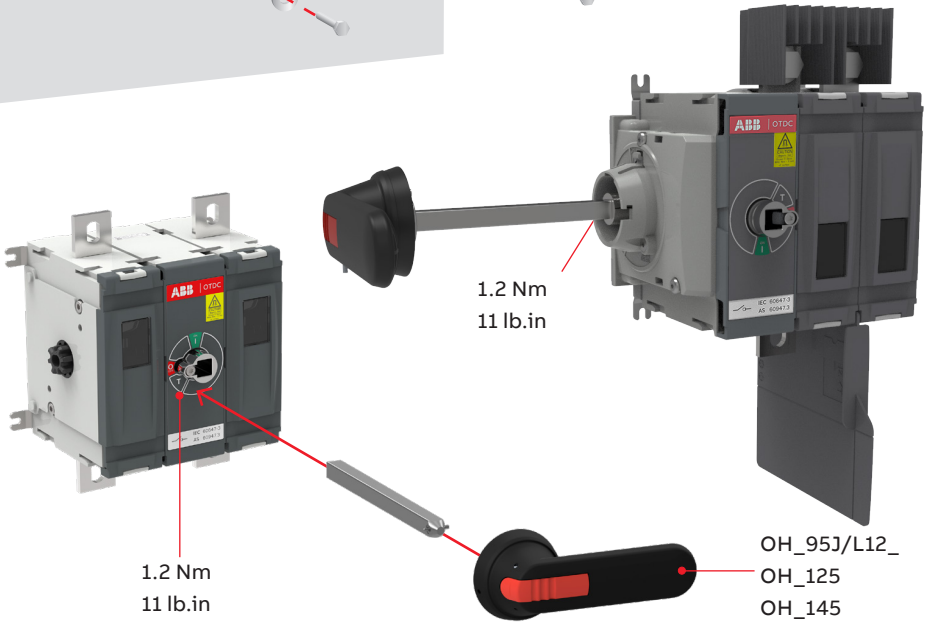
Mounting OTDC_F_



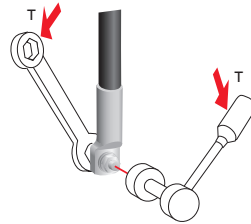
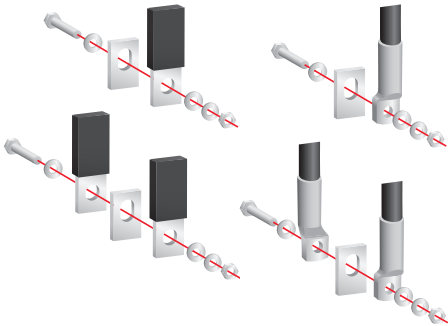
TORX T20
2,2 Nm
20 lb.in



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



Busbars and compression lugs



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

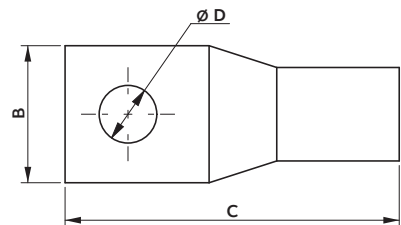
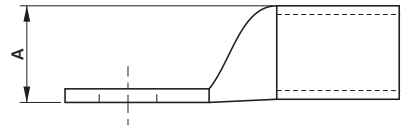


Caution

Always use counter torque when tightening terminals!

Busbar width	[mm / in]
min-max	25-41 / 1-1.6
recommendation	25 / 1

Compression Lug dimensions	[mm]
A: Maximum height	34
B: Recommended maximum width	36
C: Maximum length	105
D: Recommended bolt slot	10,5...14,3



Caution

Ensure cable suitability for compression lugs and application requirements. Use max. 2 pcs 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.

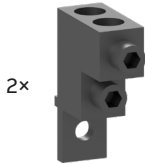


Warning

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

Mechanical lug kit

OZXA402



OZXA402



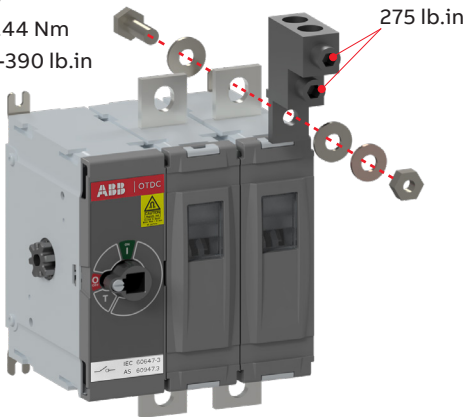
Caution

Always use counter torque when tightening terminals!

M10

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

31 Nm
275 lb.in



Warning

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

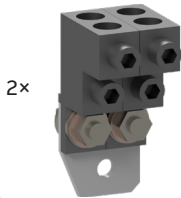


Caution

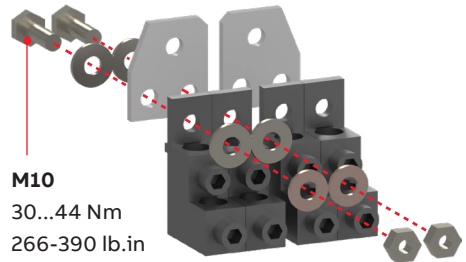
Phase barrier or shroud is mandatory on all switch types, except OTDC_F_11. Type for package of 2 barriers is OTDCB400F/2.

Mechanical lug kit

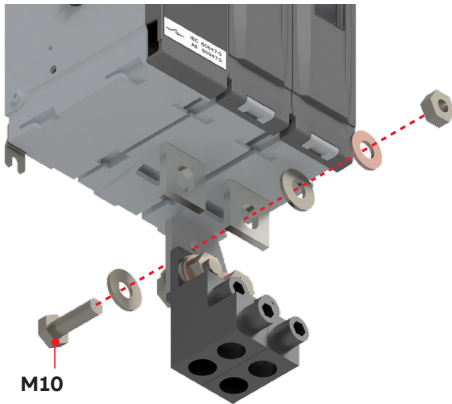
OZXA604



2x

OZXA604**M10**30...44 Nm
266-390 lb.in**Caution**

Always use counter torque when tightening terminals!

**M10**30...44 Nm
266-390 lb.in31 Nm
275 lb.in**Warning**

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

**Caution**

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

**Information**

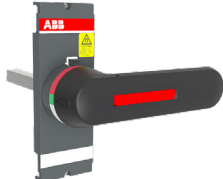
Shroud suitable with mechanical lugs OZXA402, compression lugs and busbars.

Direct handle kit

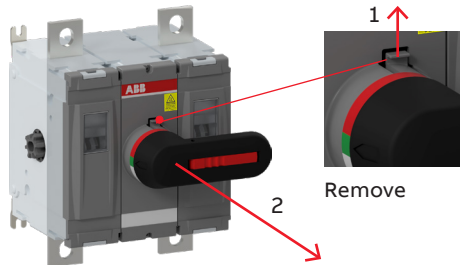
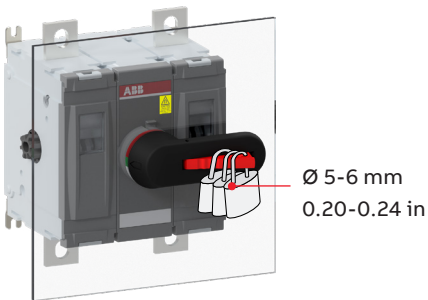
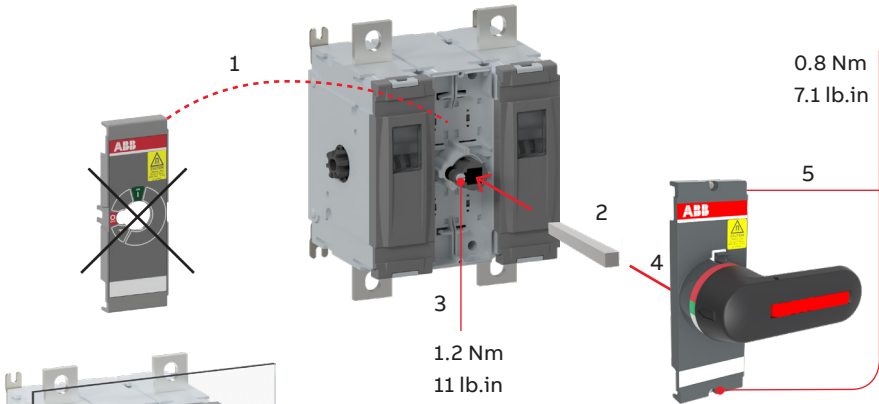
OTDV400FK_



OTDV400FK1



OTDV400FK2



Information

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



Warning

Direct handle kits are not suitable for side operated variants.

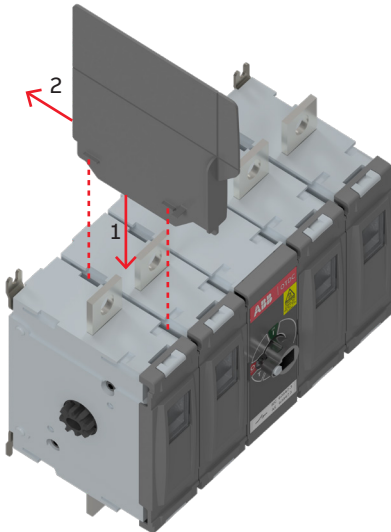
Phase barrier kit

OTDCB400F/2

2x



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.

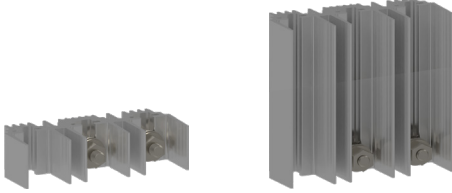
**Caution**

Installation only as shown in drawings.

Connection bar kit

OTDCKIT400/600FS101

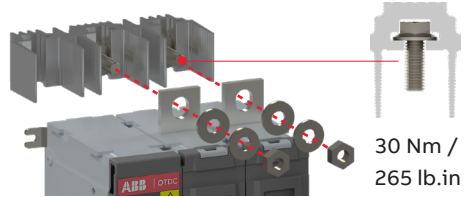
Connection bar kit can be used with IEC and UL types.



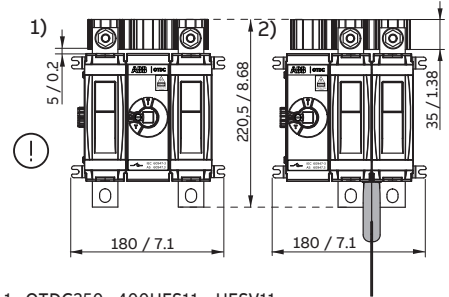
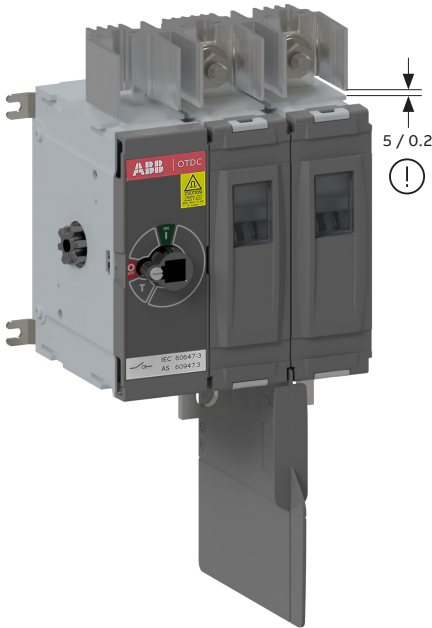
OTDCKIT400FS101

OTDCKIT600FS101

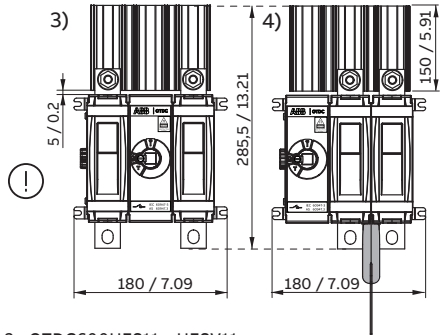
mm / in



30 Nm /
265 lb.in



1. OTDC250...400UFS11, _UFSV11
OTDC250...400UF11, _UFV11 + OTDCKIT400FS101
OTDC315...500F11, FV11 + OTDCKIT400FS101
2. OTDC250...400UFS02, _UFSV02
OTDC250...400UF02, _UFV02 + OTDCKIT400FS101
OTDC315...500F02, _F20_ + OTDCKIT400FS101
OTDC315...500FV02, _FV20_ + OTDCKIT400FS101



3. OTDC600UFS11, _UFSV11
OTDC600UF11, _UFV11 + OTDCKIT600FS101
OTDC630F11, FV11 + OTDCKIT600FS101
4. OTDC600UFS02, _UFSV02
OTDC600UF02, _UFV02 + OTDCKIT600FS101
OTDC630F20, F02 + OTDCKIT600FS101
OTDC630FV20, _FV02_ + OTDCKIT600FS101



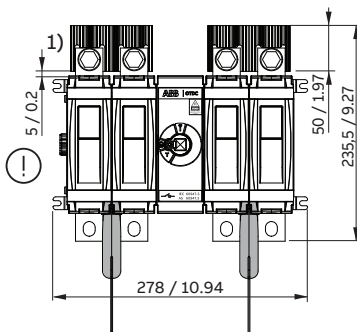
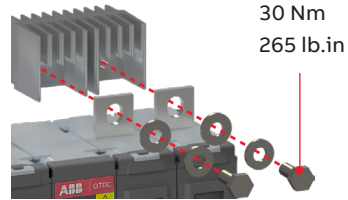
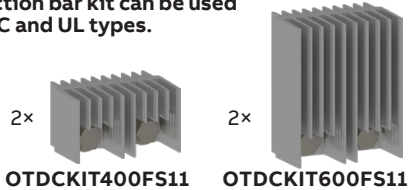
Caution

Installation only as shown in drawings.

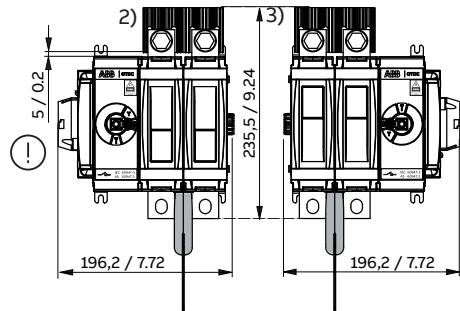
Connection bar kit

OTDCKIT400/600FS11

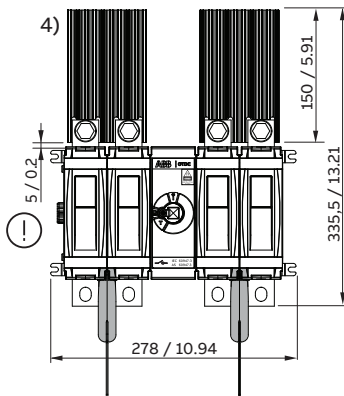
Connection bar kit can be used with IEC and UL types.



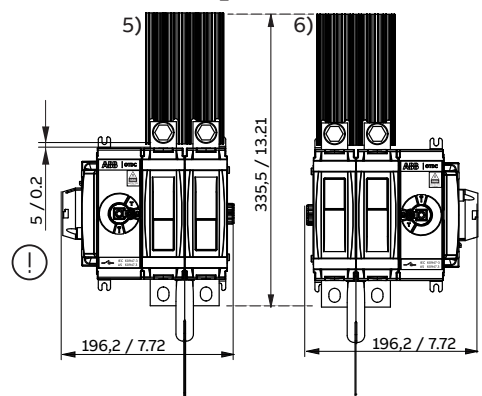
1. OTDC250...400UFS22, _UFSV22
OTDC250...400UF22, _UFV22 + OTDCKIT400FS11
OTDC315-500F22, _FV22 + OTDCKIT400FS11



2. OTDC250...400UFS02S, _UFSV02S
OTDC250...400UF02S, _UFV02S + OTDCKIT400FS11
OTDC315-500F02S, _FV02S + OTDCKIT400FS11
3. OTDC250...400UFS20S, _UFSV20S
OTDC250...400UF20S, _UFV20S + OTDCKIT400FS11
OTDC315-500F20S, _FV02S + OTDCKIT400FS11



4. OTDC600UFS22, _UFSV22
OTDC600UF22, _UFV22 + OTDCKIT600FS11
OTDC630F22, _FV22 + OTDCKIT600FS11



5. OTDC600UFS02S, _UFSV02S
OTDC600UF02S, _UFV02S + OTDCKIT600FS11
OTDC630F02S, _FV02S + OTDCKIT600FS11
6. OTDC600UFS20S, _UFSV20S
OTDC600UF20S, _UFV20S + OTDCKIT600FS11
OTDC630F20S, _FV02S + OTDCKIT600FS11



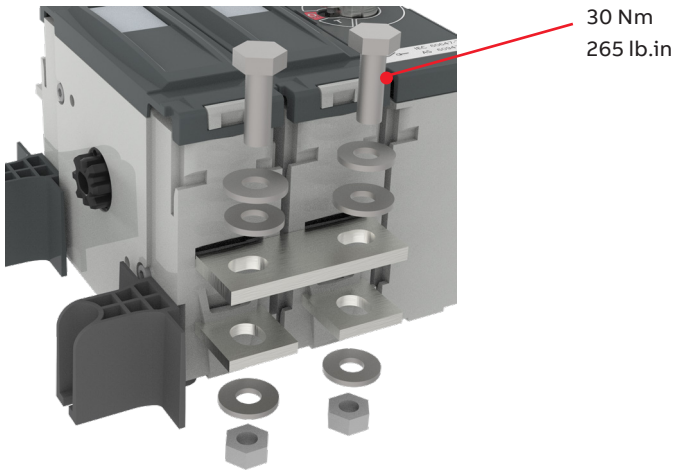
Caution

Installation only as shown in drawings.

Connection bar kit

OTDCKIT400UFV

Kit used with OTDC400UFV21-W, OTDC400UFV21-WA & OTDC500FV21-WA
Included with the product package

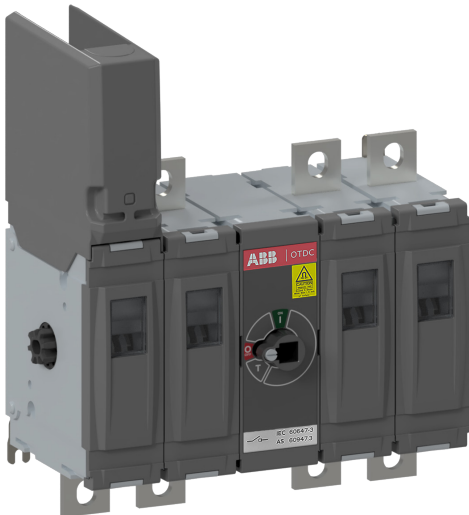
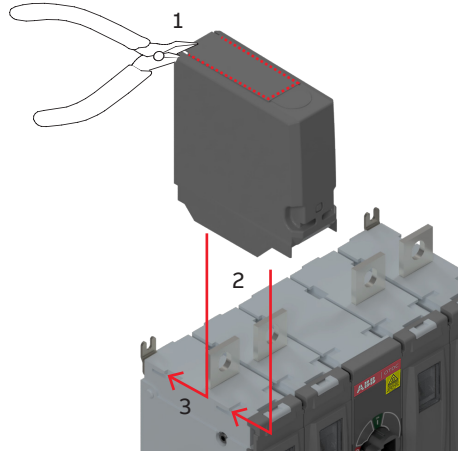


Shroud kit

OTDCS400FG1, _T1



OTDCS400FG1 / OTDCS400FT1



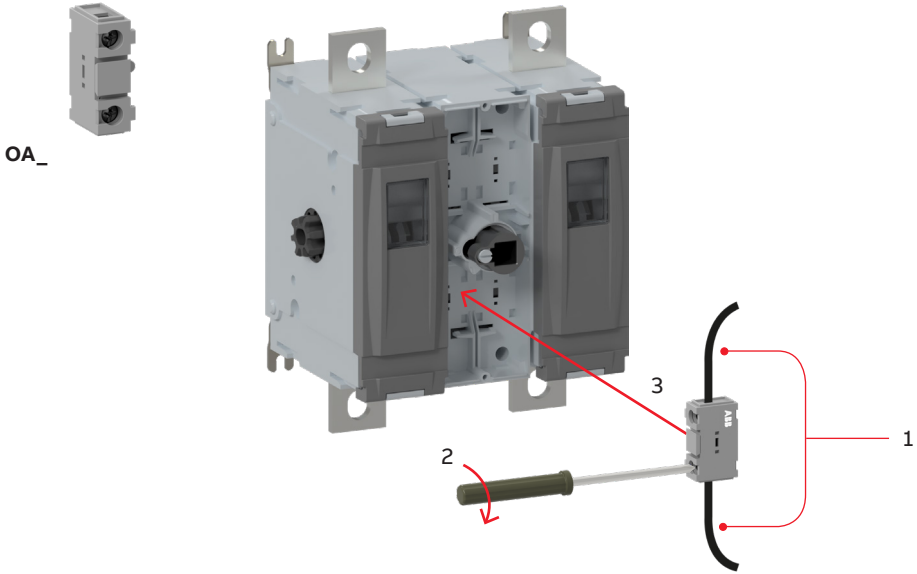
Information

Shroud suitable with mechanical lugs OZXA402, compression lugs and busbars.

Accessory	Description
Grey shroud kit	OTDCS400FG1
Transparent shroud kit	OTDCS400FT1

Auxiliary contacts

OA_



Remove

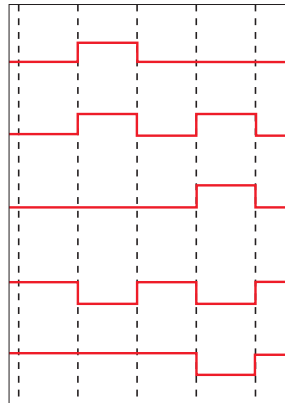
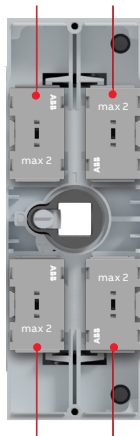
Test contact max. 4 pcs

0 1 0 Test 0



~10°

NO: OA1G10
NC: OA3G01



Main contact

Test contact (NO)

Test indication contact (NO)

Test contact (NC)

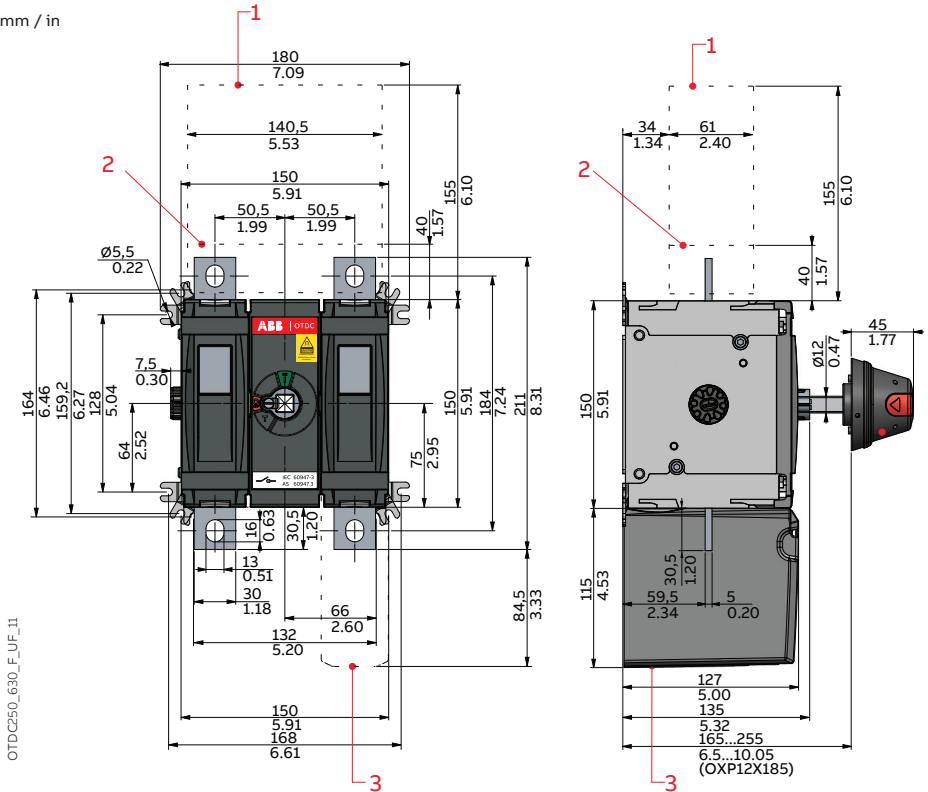
Test indication contact (NC)

Test indication contact
max. 4 pcs

Dimension drawings

OTDC315...800F_11, OTDC250...630UF_11

mm / in



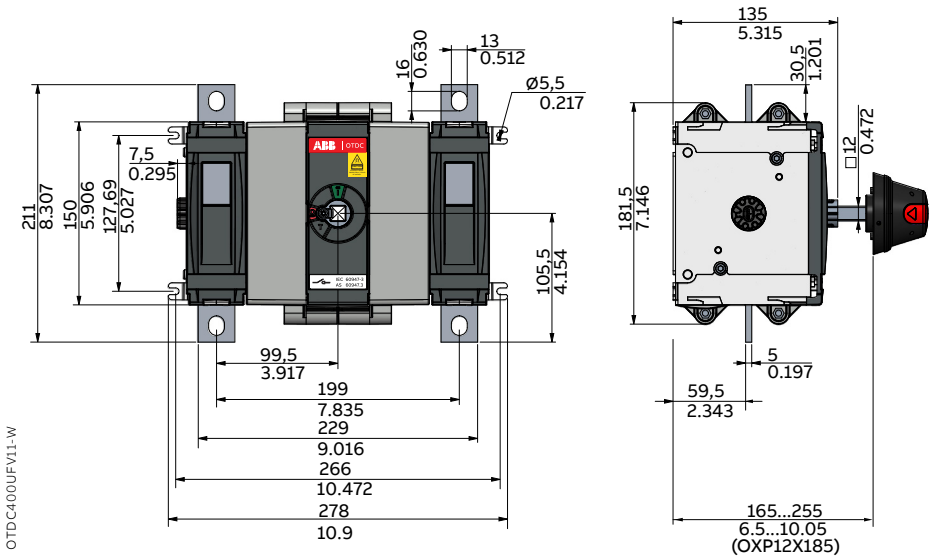
Pos.	Accessory	Description
1	Connection bar	OTDCKIT600FS101, OTDC600UF_11 only
2	Connection bar	OTDCKIT400FS101, OTDC250...400UF_11 only
3	Terminal shroud	OTDCS400FG1, OTDCS400FT1
4	Handle	In OTDC315...630F_P and OTDC250...600UF_P types

Dimension drawings

OTDC400UFV11-W

Adapters coming as factory mounted.

mm / in

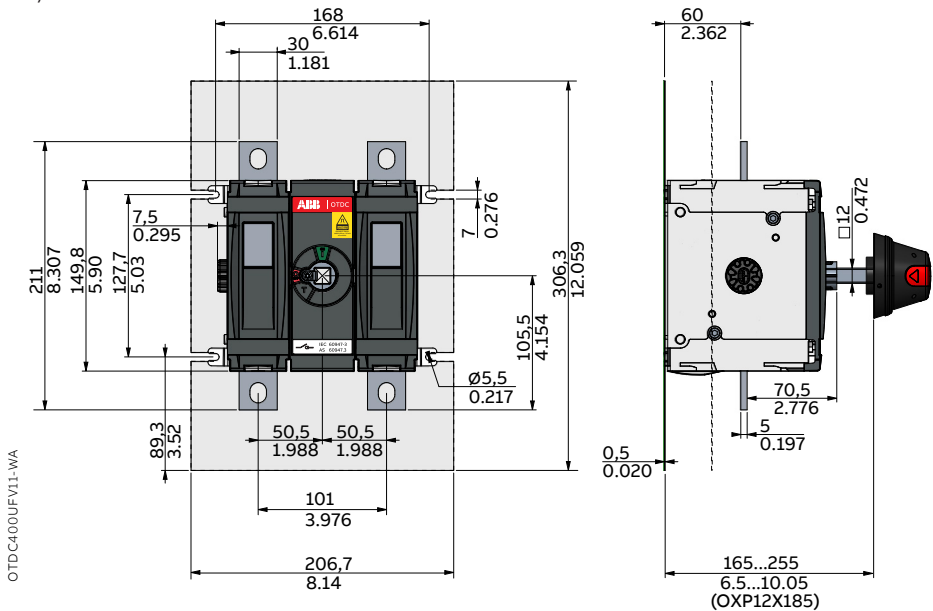


Dimension drawings

OTDC400UFV11-WA

Insulation sheet use is mandatory, included with the product package.
Aux use is forbidden.

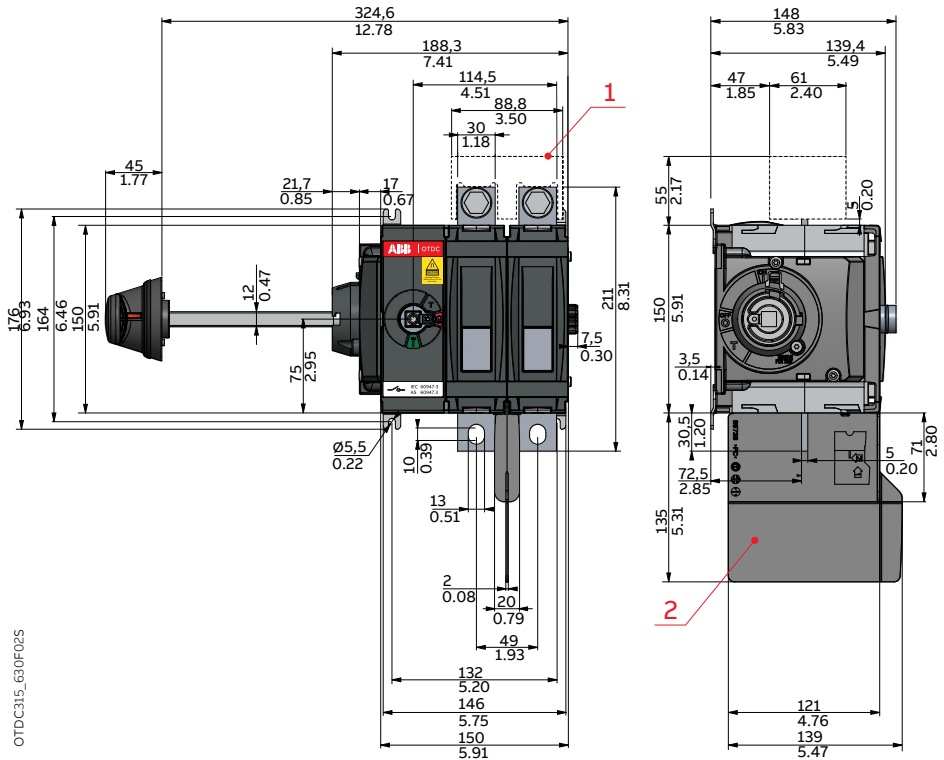
mm / in



Dimension drawings

OTDC315...630F_02S, OTDC315...630F02S

mm / in



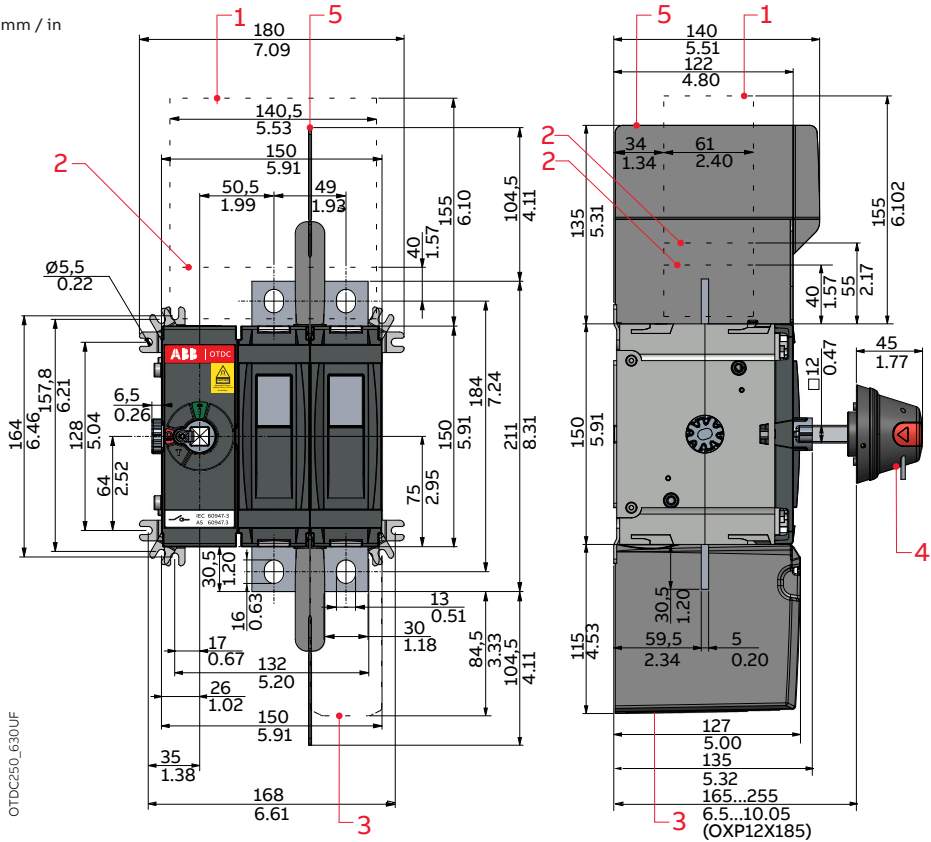
OTDC315_630F02S

Pos.	Accessory	Description
1	Connection bar	OTDCKIT400FS11
2	Phase barrier	OTDCB400F/2

Dimension drawings

OTDC315...630F_02, OTDC250...600UF_02

mm / in



Information

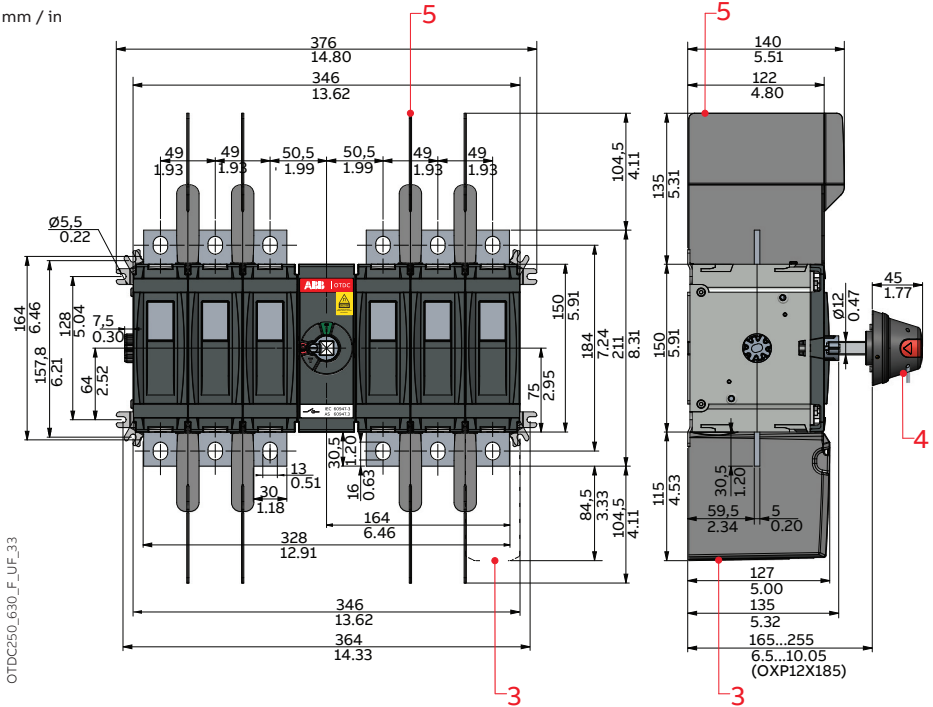
Shroud suitable with mechanical lugs OZXA402, compression lugs and busbars.

Pos.	Accessory	Description
1	Connection bar	OTDCKIT600FS101, OTDC600UF_02 only
2	Connection bar	OTDCKIT400FS101, OTDC250...400UF_02 only
3	Terminal shroud	OTDCS400FG1, OTDCS400FT1
4	Handle	In OTDC315...630F_P and OTDC250...600UF_P types
5	Phase barrier	OTDCB400F/2

Dimension drawings

OTDC315...630F_33

mm / in



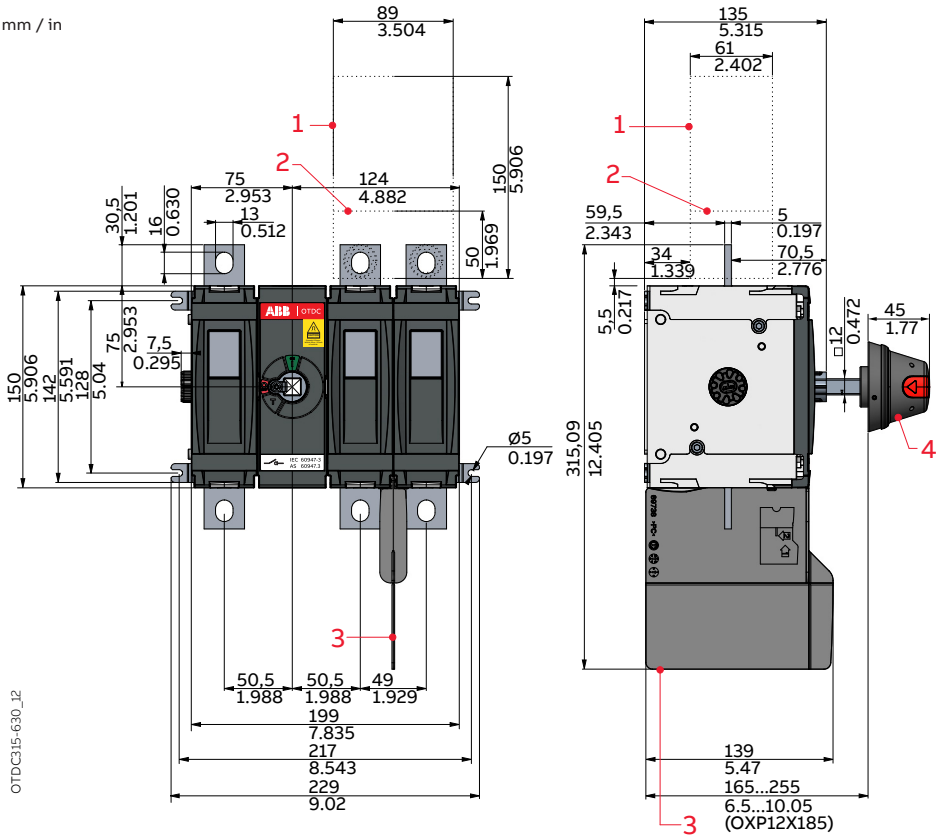
OTDC250_630_F_UF_33

Pos.	Accessory	Description
3	Terminal shroud	OTDCS400FG1, OTDCS400FT1
4	Handle	In OTDC315...630F_P and OTDC250...600UF_P types
5	Phase barrier	OTDCB400F/2

Dimension drawings

OTDC315...630F_12, OTDC250...600UF_12

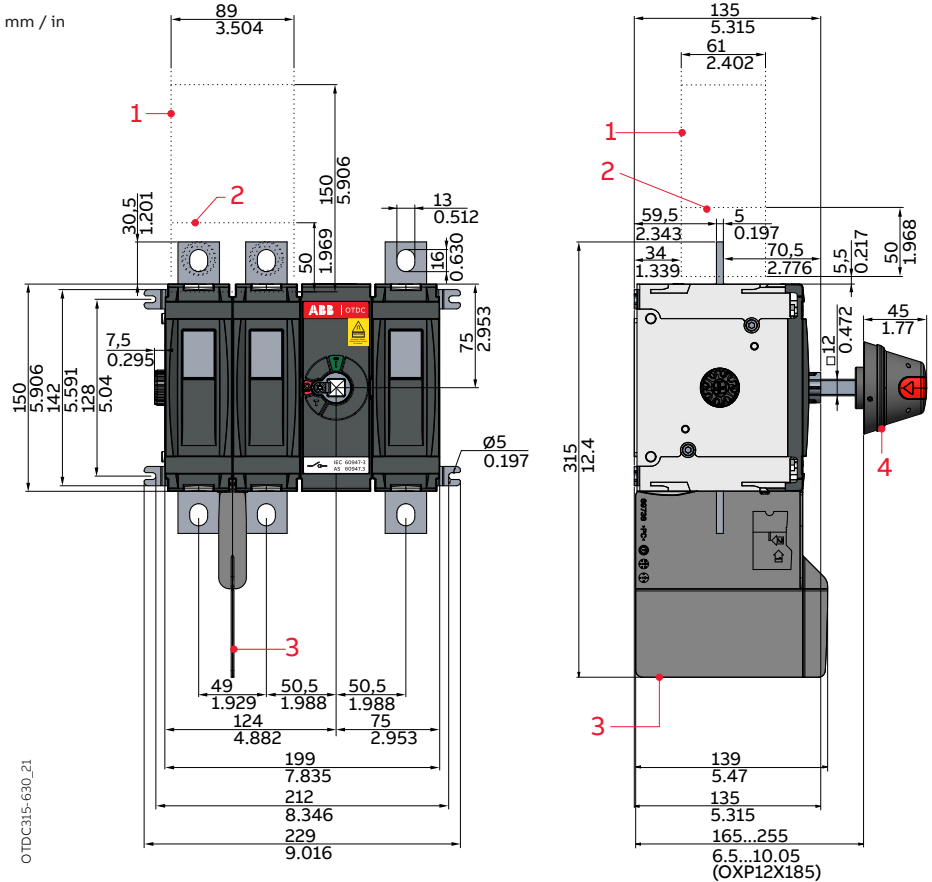
mm / in



Pos.	Accessory	Description
1	Connection bar	OTDCKIT600FS11
2	Connection bar	OTDCKIT400FS11
3	Phase barrier	OTDC400F/2
4	Handle	OH_95_145

Dimension drawings

OTDC315...630F_21, OTDC250...600UF_21



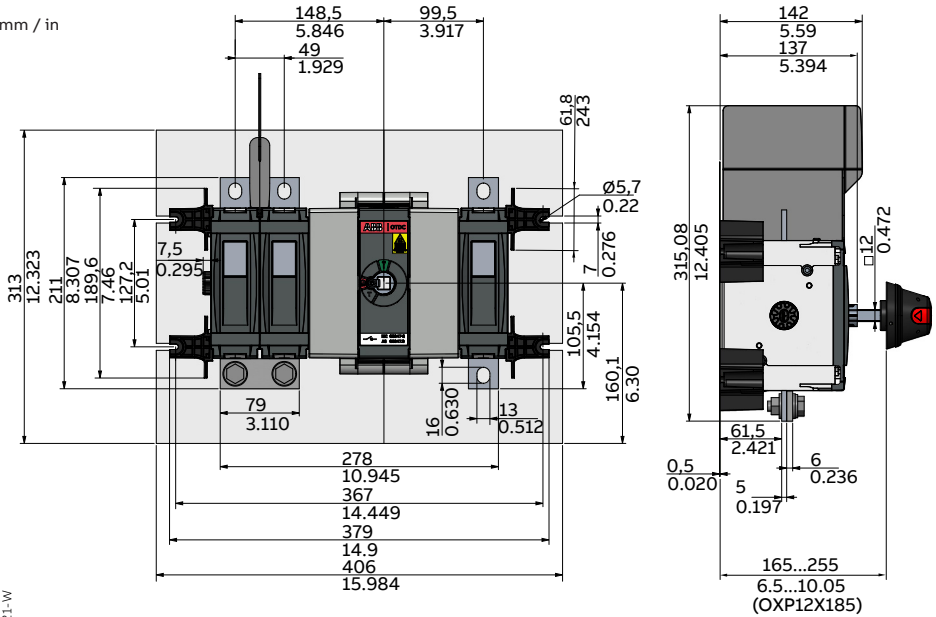
Pos.	Accessory	Description
1	Connection bar	OTDCKIT600FS11
2	Connection bar	OTDCKIT400FS11
3	Phase barrier	OTDCB400F/2
4	Handle	OH_95_145

Dimension drawings

OTDC400...500(U)FV21-W

Insulation sheet use is mandatory, included with the product package.
Adapters coming as factory mounted.

mm / in

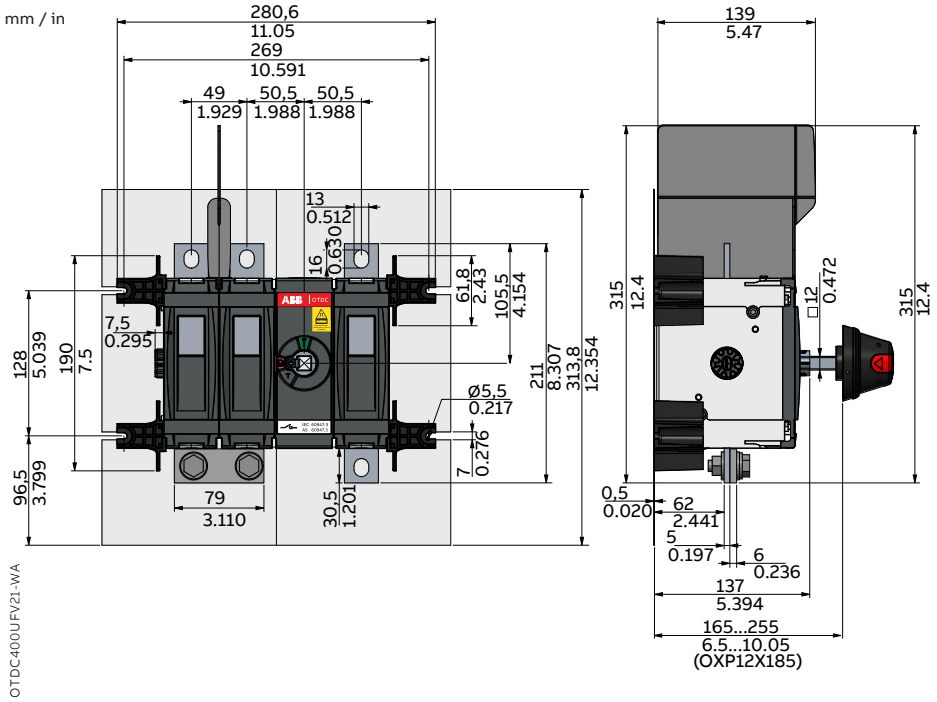


OTDC400UFV21-W

Dimension drawings

OTDC400...500(U)FV21-WA

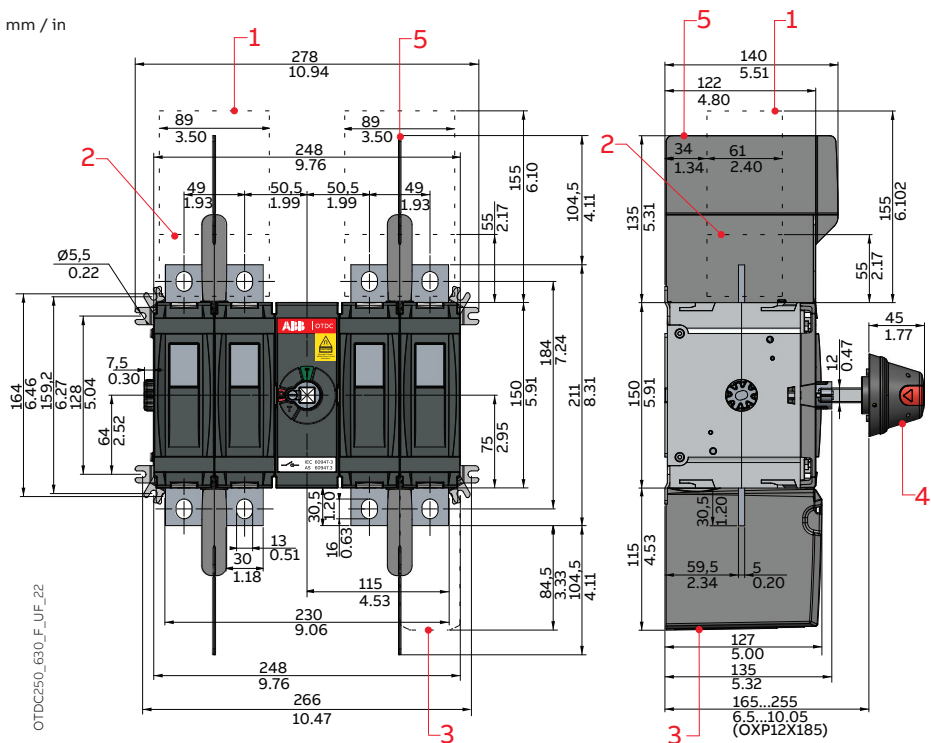
Insulation sheet use is mandatory, included with the product package.
AUX use forbidden.



Dimension drawings

OTDC315...630F_22, OTDC250...630UF_22

mm / in



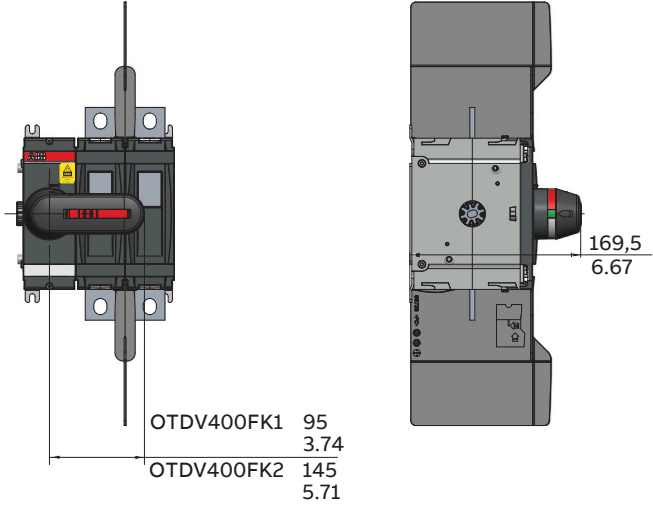
Pos.	Accessory	Description
1	Connection bar	OTDCKIT600FS11, OTDC600UF_22 only
2	Connection bar	OTDCKIT400FS11, OTDC250...400UF_22 only
3	Terminal shroud	OTDCS400FG1, OTDCS400FT1
4	Handle	In OTDC315...630F_P and OTDC250...600UF_P types
5	Phase barrier	OTDCB400F/2

Dimension drawings

OTDC315...630F_K, OTDC250...600UF_K

mm / in

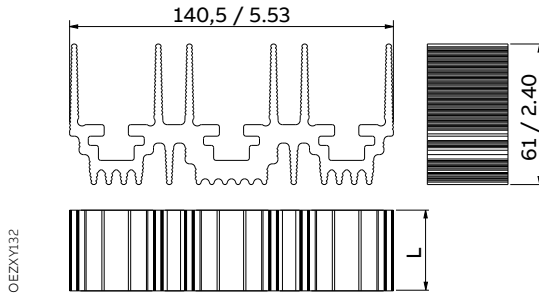
OTDC250_630_F_UF_K



Dimension drawings

OTDCKIT400/600FS101

mm / in



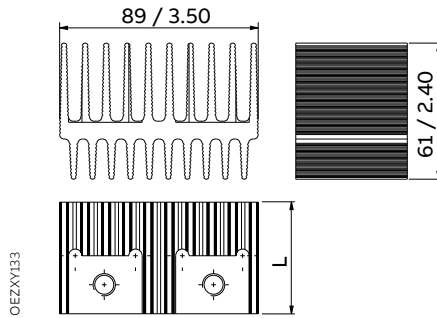
Type	Part number	L measure
OTDCKIT400FS101	OEZXY132-35	35 mm / 1.38 in
OTDCKIT600FS101	OEZXY132-100	100 mm / 5.91 in

Dimension drawings

Connection bar kit

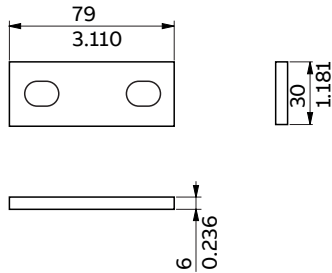
OTDCKIT400/600FS11

mm / in



Type	Part number	L measure
OTDCKIT400FS11	OEZXY133-50	50 mm / 1.97 in
OTDCKIT600FS11	OEZXY133-150	150 mm / 5.91 in

Dimension drawings
Connection bar kit
OTDCKIT400UFV



Type	Part number	L measure
OTDCKIT600UFV	OEZXY158	



BG	Внимание! Опасно напряжение! Да се монтира само от лице с електротехническа квалификация.
CN	警告！电压危险！只能由专业电工进行安装。
CZ	Varování! Nebezpečné napětí! Montáž smí provádět výhradně elektrotechnik!
DA	Advarsel! Farlig elektrisk spænding! Installation må kun foretages af personer med elektroteknisk ekspertise.
DE	Warnung! Gefährliche Spannung! Installation nur durch elektrotechnische Fachkraft.
EL	Προειδοποίηση! Υψηλή τάση! Η εγκατάσταση πρέπει να γίνεται μόνο από εξειδικευμένους ηλεκτροτεχνικούς.
EN	Warning! Hazardous voltage! Installation by person with electrotechnical expertise only.
ES	¡Advertencia! ¡Tensión peligrosa! La instalación deberá ser realizada únicamente por electricistas especializados.
ET	Hoiatus! Ohdlik pinge. Paigaldada võib ainult elektrotehnika-alane ekspert.
FI	Varoitus! Vaarallinen jännite! Asennuksen voi tehdä vain sähköalan ammattihenkilö.
FR	Avertissement! Tension électrique dangereuse! Installation uniquement par des personnes qualifiées en électrotechnique.
HR	Upozorenje! Opasan napon! Postavljati smije samo elektrotehnički stručnjak.
HU	Figyelmeztetés! Veszélyes feszültség! Csak elektrotechnikai tapasztalattal rendelkező szakember helyezheti üzembe.
IE	Rabhadh! Voltas guaiseach! Ba chóir do dhuine ag a bhfuil saineolas leictréicniúil, agus an té sin amháin, é seo a shuiteáil.
IT	Avvertenza! Tensione pericolosa! Fare installare solo da un elettricista qualificato.
LT	Dėmesio! Pavojinga įtampa! Dirbti leidžiama tik elektrotechniko patirties turintiems asmenims.
LV	Uzmanību! Bīstami - elektrība! Montāžas darbus drīkst veikt tikai personas, kurām ir atbilstošas elektrotehnikās zināšanas.
MT	Twissija! Voltagg perikolu! Ghandu jigi installat biss minn persuna b'kompetenza elettroteknika.
NL	Waarschuwing! Gevaarlijke spanning! Mag alleen geïnstalleerd worden door een deskundige elektrotechnicus.
NO	Advarsel! Farlig spenning! Montering skal kun utføres av kvalifiserte personer med elektrokompetanse.
PL	Ostrzeżenie! Niebezpieczne napięcie! Instalacji może dokonać wyłącznie osoba z fachową wiedzą w dziedzinie elektrotechniki.
PT	Aviso! Tensão perigosa! A instalação só deve ser realizada por um electricista especializado.
RO	Avertizare! Tensiune periculoasă! Instalarea trebuie efectuată numai de către o persoană cu experiență în electrotehnică.
RU	Осторожно! Опасное напряжение! Монтаж должен выполняться только специалистом-электриком.
SE	Varning! Farlig spänning! Installation får endast utföras av en elektriker.
SK	Varovanie! Nebezpečné napätie! Montáž môže vykonávať iba skúsený elektrotechnik.
SL	Opozorilo! Nevarna napetost! Vgradnjo lahko opravi le oseba z elektrotehničnim strokovnim znanjem.



Contact us

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