

Enclosed DC rated switch-disconnectors OTDCP from 16 to 32 Amperes



Enclosed OTDC switches from 16 to 32 Amperes meet the demanding requirements of photovoltaic applications. Enclosed OTDC switches expand ABB's offering of reliable products for photovoltaic applications needed from the strings on the direct current side to the alternate current grid connection point.

Reliability at higher voltages

Enclosed OTDC switch-disconnectors from 16 to 32 Amperes have extensive DC voltage ratings with the same footprint area. The switches are specifically designed for DC use up to 1000 V. They are available in 2-, 3- and 4-pole versions.

- ▶ Safe and reliable PV systems at a wide voltage range.

Thermal excellence

Enclosed OTDC switches meet the standard's thermal requirements even in exceptionally high operating ambient temperatures.

- ▶ Thanks to thermal characteristics enclosed OTDC switches are suitable for warm locations.

Low power losses minimize the waste of energy

- ▶ Maximum energy efficiency of PV systems.

Simplicity in installation

The switch has tunnel terminals suitable for a wide range of stranded Cu wires 2.5...16mm². Connection bars and terminal numbering are factory-mounted.

- ▶ Fast and perfect installation every time.

Designed for safety

- Padlockable in the OFF-position
- If the contacts are welded together, the handle does not reach the OFF-position, maintaining the cover interlock and preventing padlocking.
- Cover interlock in the ON-position. The cover interlock can be defeated by skilled personnel.

- Provision for cover sealing
- Mounting screws isolated from enclosure interior.
- Enclosure with a high degree of protection (IP65)
 - ▶ Personnel and equipment are protected

Features

- One compact enclosure size for whole range
- Plastic enclosure:
 - Glass reinforced polycarbonate, PC f1
 - Suitable for outdoor use with respect to exposure to ultra violet light, water exposure and immersion in accordance with UL746C.
- Cable outlets M20 sized threaded knock-outs
- Cable outlets M16 sized threaded knock-outs and blank cable entries available on request
- Red-yellow or black handle
- Neutral link and PE-terminal available as optional extra

Technical data

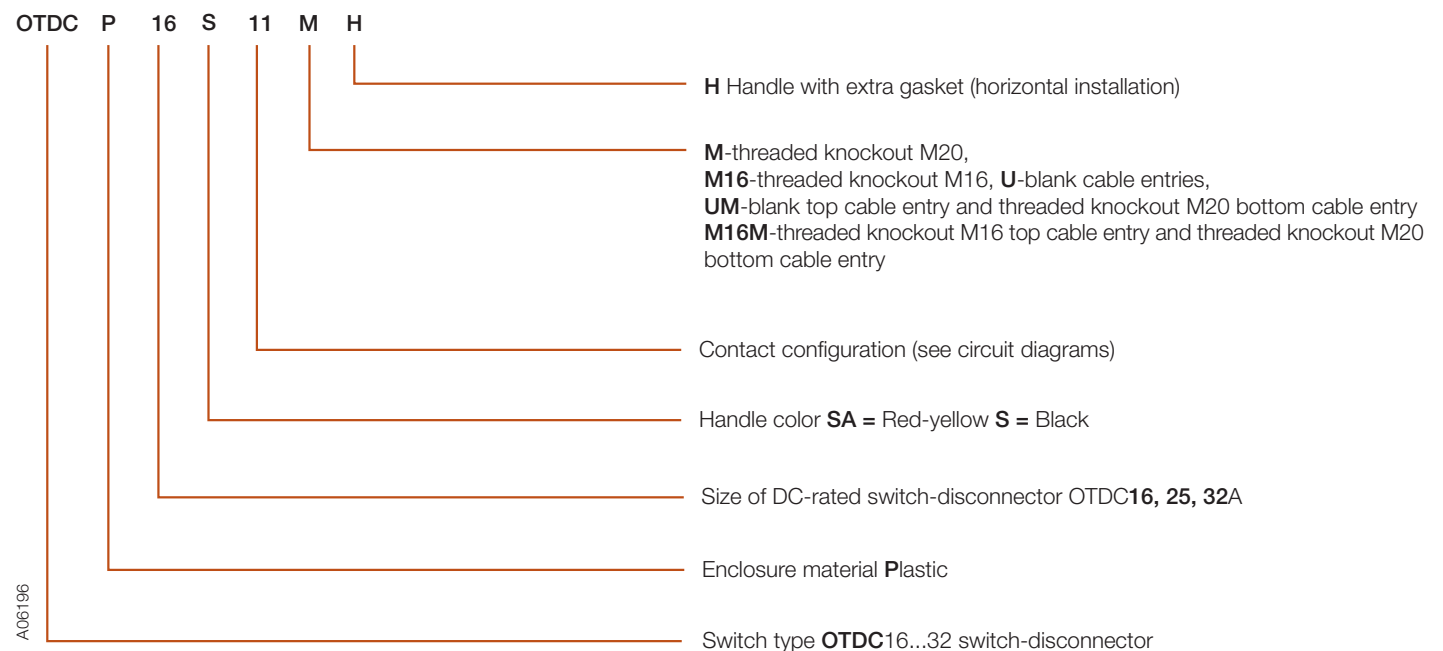
OTDCP16...32

Technical data according to IEC 60947 for OTDCP16...32 switch-disconnectors

| Switch size | | A | OTDCP16 | OTDCP25 | OTDCP32 |
|---|----------------------------------|-----------------|----------|----------|----------|
| Rated insulation voltage U_i | Pollution degree 2 | V | 1250 | 1250 | 1250 |
| | Pollution degree 3 | V | 1000 | 1000 | 1000 |
| Rated thermal current I_{th} DC-20 | enclosure 40°C | A | 25 | 32 | 45 |
| | enclosure 60°C | A | 25 | 32 | 32 |
| ...with minimum cable cross section | Cu | mm ² | 4 | 6 | 10 |
| Suitable wire size | Cu | mm ² | 2.5...16 | 2.5...16 | 2.5...16 |
| Rated operational current / poles in series DC-21B | 660 V | A | 16/2 | 25/2 | 32/2 |
| | 1000 V | A | 16/3 | 25/3 | 32/3 |
| | 1000 V / 2 X 660 V ¹⁾ | A | 16/4 | 25/4 | 32/4 |
| Rated short-time withstand current, 1000 V, 1 s | R.M.S. -value /lcw | A | 400 | 600 | 800 |
| Power loss / pole at rated current | 2 pole | W | 0.3 | 0.6 | 1 |
| | 3 pole | W | 0.45 | 0.9 | 1.5 |
| | 4 pole | W | 0.6 | 1.2 | 2 |
| Mechanical endurance | | Operations | 4000 | 4000 | 4000 |

¹⁾ 1000 with all the poles in series, 660 V with two poles in series

Type designation key



Ordering information

OTDCP16...32

OTDCP_SA



OTDCP_S



DC rated switch-disconnectors

M20 threaded knock-outs, compression glands have to be ordered separately. M16 threaded knock-outs available on request.

Up to 660 VDC

| Number of poles | Rated operational current [A] DC-21B / 660V | Type | Order number | Weight [kg] |
|--|--|--------------|-----------------|-------------|
| Includes selector type red-yellow handle (I-O and ON-OFF indication) | | | | |
| 2 | 16 | OTDCP16SA11M | 1SCA125126R1001 | 0.55 |
| 2 | 25 | OTDCP25SA11M | 1SCA125127R1001 | 0.55 |
| 2 | 32 | OTDCP32SA11M | 1SCA125128R1001 | 0.55 |
| Includes selector type black handle (I-O and ON-OFF indication) | | | | |
| 2 | 16 | OTDCP16S11M | 1SCA125129R1001 | 0.55 |
| 2 | 25 | OTDCP25S11M | 1SCA125130R1001 | 0.55 |
| 2 | 32 | OTDCP32S11M | 1SCA125131R1001 | 0.55 |

Up to 1000 VDC

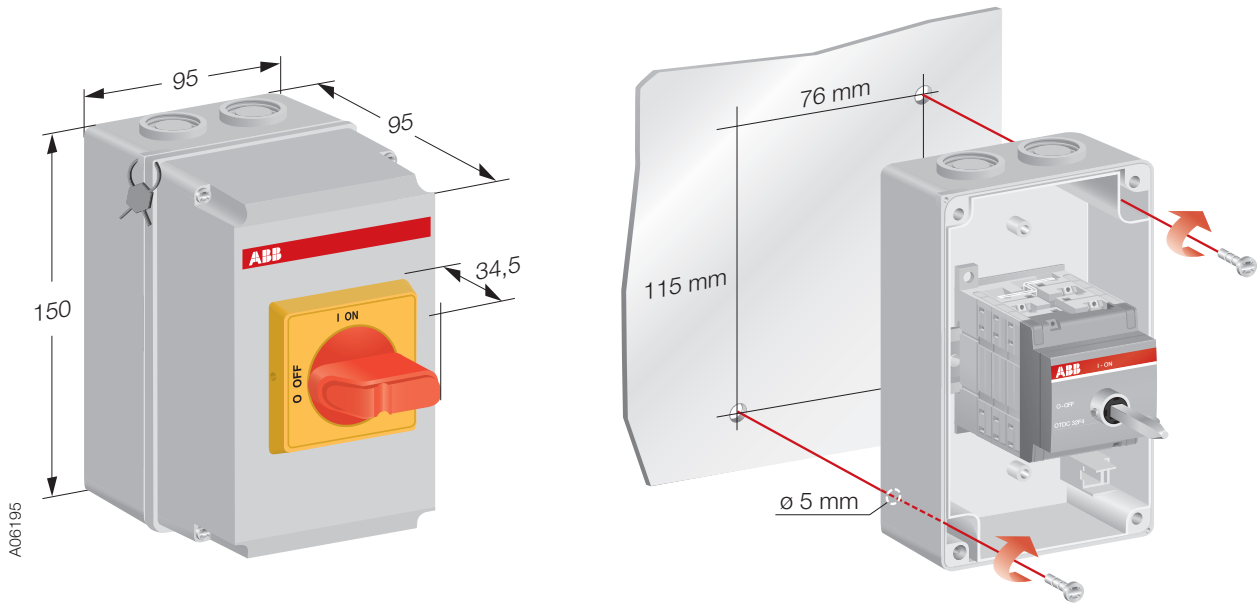
| Number of poles | Rated operational current [A] DC-21B / 1000V | Type | Order number | Weight [kg] |
|--|---|--------------|-----------------|-------------|
| Includes selector type red-yellow handle (I-O and ON-OFF indication) | | | | |
| 3 | 16 | OTDCP16SA12M | 1SCA125150R1001 | 0.59 |
| 3 | 25 | OTDCP25SA12M | 1SCA125151R1001 | 0.59 |
| 3 | 32 | OTDCP32SA12M | 1SCA125152R1001 | 0.59 |
| Includes selector type black handle (I-O and ON-OFF indication) | | | | |
| 3 | 16 | OTDCP16S12M | 1SCA125153R1001 | 0.59 |
| 3 | 25 | OTDCP25S12M | 1SCA125154R1001 | 0.59 |
| 3 | 32 | OTDCP32S12M | 1SCA125155R1001 | 0.59 |

Up to 1000 VDC ¹⁾

| Number of poles | Rated operational current [A] DC-21B / 1000V | Type | Order number | Weight [kg] |
|--|---|--------------|-----------------|-------------|
| Includes selector type red-yellow handle (I-O and ON-OFF indication) | | | | |
| 4 | 16 | OTDCP16SA22M | 1SCA125094R1001 | 0.63 |
| 4 | 25 | OTDCP25SA22M | 1SCA125091R1001 | 0.63 |
| 4 | 32 | OTDCP32SA22M | 1SCA125090R1001 | 0.63 |
| Includes selector type black handle (I-O and ON-OFF indication) | | | | |
| 4 | 16 | OTDCP16S22M | 1SCA125095R1001 | 0.63 |
| 4 | 25 | OTDCP25S22M | 1SCA125092R1001 | 0.63 |
| 4 | 32 | OTDCP32S22M | 1SCA125093R1001 | 0.63 |

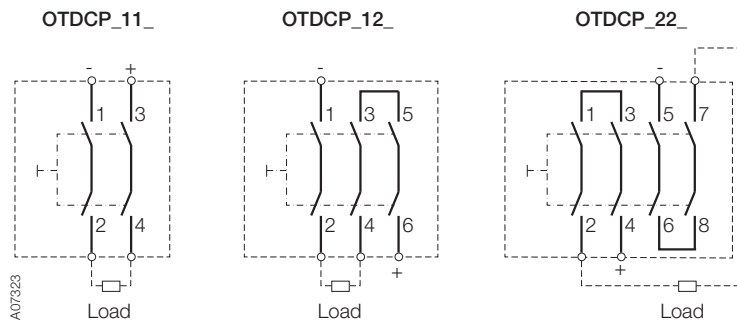
¹⁾ 1000 with all the poles in series, 660 V with two poles in series

Dimension drawings



OTDCP10GB 12-02, 1SCC34201B0201

Circuit diagrams



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