

## Protection and Connection

# 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...16mm<sup>2</sup>. 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. Some versions available with M25 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 enclosed switch-disconnectors OTDCP

Switch size		A	OTDCP16	OTDCP25	OTDCP32
Rated insulation voltage	Pollution degree 2	V	1250	1250	1250
	Pollution degree 3	V	1000	1000	1000
Dielectric strength	50 Hz 1 min	kV	6	6	6
Rated impulse withstand voltage		kV	8	8	8
Rated thermal current I <sub>th</sub>	In enclosure 40°C	A	25	32	45
DC-20	In enclosure 60°C	A	25	32	32
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
	2x660 V <sup>5)</sup>	A	10/2	16/2	20/2
Rated short-time withstand current, 1000 V, 1 s					
	R.M.S. -value I <sub>cw</sub>	kA	0.4	0.6	0.8
Power loss / pole	At rated current	W	0.15	0.3	0.5

<sup>5)</sup>1000 V with all the poles connected in series, 600 V with 2 poles in series

## Type designation key

### OTDCP16...32, IEC

OTDC	P	16	S	11	M	D
1	2	3	4	5	6	7

1	Brand
OTDC	ABB DC switch-disconnector brand
2	Enclosure material
P	Plastic
3	Switch size
16...32	16, 25 and 32 Amperes
4	Selector handle color
S	Black
SA	Red-yellow
5	Contact configuration
11, 12, 22	See connection diagrams in pages 16-17

6	Cable entries
M	Threaded knock-out M20
M16	Threaded knock-out M16
M25	Threaded knockout M25
U	Blank cable entries
UM	Black top cable entry and threaded knockout M20 bottom cable entry
M20/M16	Threaded knockouts: M16 top cable entry and M20 bottom cable entry
7	Connection options
—	Single circuit use
D	Double circuit use

# Ordering information

## OTDCP16...32



OTDCP\_SA



OTDCP\_S



OTDCP\_S\_M25

### Plastic enclosed switch-disconnectors OTDCP\_, IEC

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 operat. current [A] DC 21B / 660 V	Type	Order number	Weight/ unit [kg]
Includes red-yellow selector handle (I-0 and ON-OFF indication)				
2	16	OTDCP16SA11M	1SCA125126R1001	0.55
2	25	OTDCP25SA11M	1SCA125127R1001	0.55
2	32	OTDCP32SA11M	1SCA125128R1001	0.55
Includes black selector handle (I-0 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 operat. current [A] DC 21B / 1000 V	Type	Order number	Weight/ unit [kg]
Includes red-yellow selector handle (I-0 and ON-OFF indication)				
3	16	OTDCP16SA12M	1SCA125150R1001	0.55
3	25	OTDCP25SA12M	1SCA125151R1001	0.55
3	32	OTDCP32SA12M	1SCA125152R1001	0.55
Includes black selector handle (I-0 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 or 2x660 VDC<sup>1)</sup>

Number of poles	Rated operat. current [A] DC 21B / 1000 V	Type	Order number	Weight/ unit [kg]
Includes red-yellow selector handle (I-0 and ON-OFF indication). The _M25 versions have M25 threaded knockouts.				
4	16	OTDCP16SA22M	1SCA125094R1001	0.63
4	25	OTDCP25SA22M	1SCA125091R1001	0.63
4	32	OTDCP32SA22M	1SCA125090R1001	0.63
4	16	OTDCP16SA22M25	1SCA144900R1001	0.63
4	25	OTDCP25SA22M25	1SCA144902R1001	0.63
4	32	OTDCP32SA22M25	1SCA144904R1001	0.63
Includes black selector handle (I-0 and ON-OFF indication)				
4	16	OTDCP16S22M	1SCA125095R1001	0.63
4	25	OTDCP25S22M	1SCA125092R1001	0.63
4	32	OTDCP32S22M	1SCA125093R1001	0.63

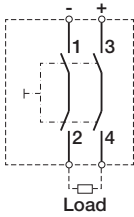
# Ordering information

## OTDCP16...32

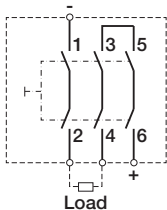
### Double circuit

Number of poles	Rated operat. current [A]		Type	Order number	Weight/ unit [kg]
	DC 21B / 660 V	DC 21B / 1000 V			
Includes red-yellow selector handle (I-0 and ON-OFF indication)					
4	16	10	OTDCP16SA22MD	1SCA131850R1001	0.63
4	25	16	OTDCP25SA22MD	1SCA131851R1001	0.63
4	32	20	OTDCP32SA22MD	1SCA131852R1001	0.63
Includes black selector handle (I-0 and ON-OFF indication)					
4	16	10	OTDCP16S22MD	1SCA131730R1001	0.63
4	25	16	OTDCP25S22MD	1SCA131731R1001	0.63
4	32	20	OTDCP32S22MD	1SCA131732R1001	0.63

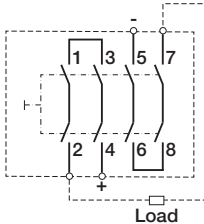
## Circuit diagrams



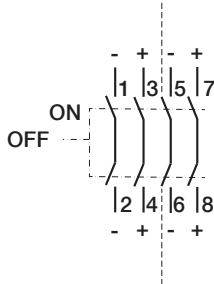
OTDCP\_11\_



OTDCP\_12\_

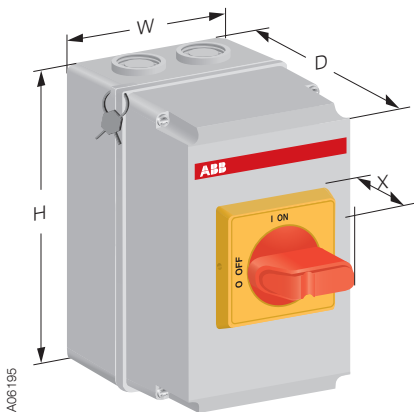


OTDCP\_22\_

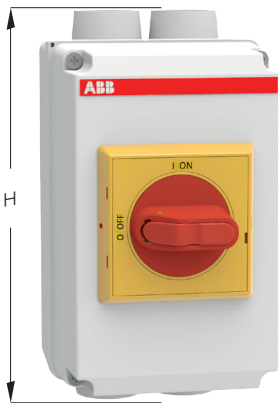


OTDCCP22\_22\_MD

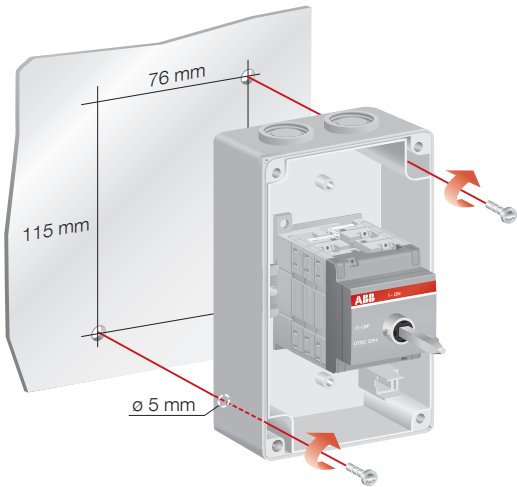
# Dimension drawings



M20/M16



M25



Type	Size [mm]			
Safety switch	H	W	D	E
Enclosure with M25 cable entry				
M25	174	95	95	34.5
Enclosure with M20 and M16 cable entry				
M20/M16	150	95	95	34.5

For more information contact:

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