

Low Voltage Switches

# Switches

## DC rated switch-disconnectors

### OTDC 16...32 Amperes

Power and productivity  
for a better world™



# DC rated switch-disconnectors OTDC

## From 16 to 32 Amperes

### Simply efficient



#### Brings reliability to higher voltages

OTDC switch-disconnectors for 16 to 32 Amperes have various DC voltage ratings with the same footprint area. The switches are specifically designed for DC use. Despite its compact size OTDC's insulation voltage ratings are very generous. Thanks to its modular design the rated operational voltage can be scaled according to your needs, all the way up to 1200 V. This ensures safe and reliable PV systems at a wide voltage range.

- ▶ With rising PV system voltages OTDC scales itself to the future

#### Thermal excellence – It's quite cool

OTDC meets the standard's thermal requirements even in elevated temperatures. Thanks to this OTDC is suitable for warm locations. Low resistive losses minimize the waste of energy, which helps in maximizing total energy efficiency of your PV system.

- ▶ Keeps your application cool and energy efficient

#### Simplicity in installation

The DC rated switch-disconnectors are suited for screw or DIN rail mounting. Tunnel terminals capture fine stranded wires and they are wide enough to allow wires up to 16 mm<sup>2</sup>. Short-circuit bars as standard.

- ▶ Perfect and fast installations every time

#### ABB's complete offering

Always ready to meet any new demand from the market, ABB has developed a whole range of reliable products dedicated to photovoltaic applications and is therefore able to meet all installation requirements, from the strings on the direct current side to the alternate current grid connection point.

ABB's product range includes circuit breakers, switch-disconnectors, fuse disconnectors and fuses, residual current-operated circuit-breakers, grid connection relays, metering devices, surge arresters, consumer units and enclosures suitable for outdoor installation, all specially designed for these applications.

ABB can also provide a series of "plug & play" solutions, i.e. finished, wired and certified string boxes able to suit the requirements of a vast range of installations: from individual strings for residential applications to large photovoltaic plants.

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# Technical data

## OTDC16...32

### Technical data according to IEC 60947 for OTDC16...32 switch-disconnectors

Switch size		A	OTDC16	OTDC25	OTDC32
Rated insulation voltage	Pollution degree 2	V	1250	1250	1250
	Pollution degree 3	V	1000	1000	1000
Dielectric strength	50 Hz 1min.	kV			
Rated impulse withstand voltage		kV	8	8	8
Rated thermal current, DC-20 <sup>1)</sup>	In open air,	A	20	30	40
	normal conditions <sup>2)</sup>				
	In enclosure 40°C	A	20	30	40
	In enclosure 60°C	A	-	-	-
...with minimum cable or bar cross section	Cu	mm <sup>2</sup>	4	6	10
Rated operational current / poles in series DC-21	660 V	A	16/2	25/2	32/2
	1000 V	A	16/3	25/3	32/3
	1200 V	A	16/4	25/4	32/4
Rated short-time					
withstand current, 1000 V, 1 s	R.M.S. -value /I <sub>sw</sub>	kA	1	1	1
Power loss / pole	At rated current	W			
Mechanical endurance	Divide by two for operation cycles	Operations	20,000	20,000	20,000

<sup>1)</sup> Thermal current ratings of OT16...160 apply up to 4-pole versions.

<sup>2)</sup> Normal conditions defined in IEC 60947-1-6.1

# Ordering information

## OTDC16...32

OTDC16...32F2  
S07111



OTDC16...32F3  
S07110



OTDC16...32F4  
S07109



### Switch-disconnectors OTDC\_

Types OTDC16...32 include protected terminal clamps, IP 20. Shafts and handles need to be ordered separately. The type and the ordering numbers are for one piece.

#### Up to 660 VDC

Number of poles	$I_{th}$ (open) [A]	Rated operat. current [A] DC 21 / 660 V	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
2	20	16	OTDC16F2	1SCA121454R1001	10	0.15
2	30	25	OTDC25F2	1SCA121455R1001	10	0.15
2	40	32	OTDC32F2	1SCA121456R1001	10	0.15

#### Up to 1000 VDC

Number of poles	$I_{th}$ (open) [A]	Rated operat. current [A] DC 21 / 1000 V	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
3	20	16	OTDC16F3	1SCA121457R1001	10	0.20
3	30	25	OTDC25F3	1SCA121458R1001	10	0.20
3	40	32	OTDC32F3	1SCA121459R1001	10	0.20

#### Up to 1200 VDC

Number of poles	$I_{th}$ (open) [A]	Rated operat. current [A] DC 21 / 1200 V	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
4	20	16	OTDC16F4	1SCA121461R1001	10	0.25
4	30	25	OTDC25F4	1SCA121462R1001	10	0.25
4	40	32	OTDC32F4	1SCA121463R1001	10	0.25



# Ordering information

## Optional handles

OHBS1\_  
S00684A



OHRS2\_  
S01368A



OHRS3\_  
S01369A



### Handle knobs

Mounting directly to the switch, no shaft needed.  
Padlockable with one padlock with bail diameter 5 mm, see the table below.

Colour	Handle length [mm]	Description	Type	Order number	Units/ Weight/ type unit	
					[pcs]	[kg]
Black	31	Non-padlockable	OHBS1	1SCA109087R1001	10	
Black	31	Non-padlockable	OHBS1/1	1SCA109088R1001	1	
Red	31	Non-padlockable	OHRS1	1SCA109095R1001	10	
Red	31	Non-padlockable	OHRS1/1	1SCA109096R1001	1	
Black	40	Padlockable	OHBS2	1SCA109089R1001	10	
Black	40	Padlockable	OHBS2/1	1SCA109090R1001	1	
Red	40	Padlockable	OHRS2	1SCA108598R1001	10	
Red	40	Padlockable	OHRS2/1	1SCA108599R1001	1	
Black	39	Non-padlockable	OHBS3	1SCA108320R1001	10	
Black	39	Non-padlockable	OHBS3/1	1SCA108319R1001	1	
Red	39	Non-padlockable	OHRS3	1SCA108667R1001	10	
Red	39	Non-padlockable	OHRS3/1	1SCA108688R1001	1	

Handle type	Shaft through the handle	45 mm cut-out enable <sup>*)</sup>
OHBS1_ , OHRS1_	No	Yes
OHBS2_ , OHRS2_	No	Yes
OHBS3_ , OHRS3_	No	Yes

\*) in I-position the handle shall remain within the cut-out height

OZ331\_B



OZ331\_RY



OZ371PB



### Round padlockable handles

#### One hole mounting handles

Padlockable in 0-position, max 3 padlocks with max 8 mm hasp diameter, size 66x66.

		Suitable for			Delivery Weight/ batch unit
Colour		switches	Type	Order number	[pcs] [kg]
IP65, NEMA 4X outdoor					
Black	OTDC16...32, OT16...40F		OZ331SPB	1SCA112983R1001	10 0.05
Red-yellow	OTDC16...32, OT16...40F		OZ331SPRY	1SCA113097R1001	10 0.05
IP67, IP69K, NEMA 4X					
Black	OTDC16...32, OT16...40F		OZ331P67B	1SCA111427R1001	10 0.04
Red-yellow	OTDC16...32, OT16...40F		OZ331P67RY	1SCA111429R1001	10 0.04
Handles with door coupling in ON-position, not defeatable IP65, NEMA 4X					
Black	OTDC16...32, OT16...40F		OZ371PB	1SCA111684R1001	10 0.05
Red-yellow	OTDC16...32, OT16...40F		OZ371PRY	1SCA111685R1001	10 0.05

# Ordering information

## Optional handles

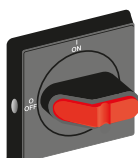
OH\_1\_  
S00395A



OH\_3\_  
S00687A



OH\_2\_  
S00396A



OHBS2\_AJEH



### Selector type handles

Indication I-O and ON-OFF, for shaft diameter 6 mm, door drilling 22.5 mm.  
The type and the ordering numbers are for one piece.

Colour	Type	Order number	Delivery batch [pcs]
<b>IP 54 handles, NEMA 1, suitable for switches OTDC16...32, OT16...40F</b>			
Black	OHBS1AH	1SCA102680R1001	150
Yellow-red	OHYS1AH	1SCA105290R1001	150
Silver	OHSS1AH	1SCA105274R1001	150
Grey	OHGS1AH	1SCA105261R1001	150
Door interlock in ON-position.			
Black	OHBS1AH1	1SCA105210R1001	150
Yellow-red	OHYS1AH1	1SCA105291R1001	150
Silver	OHSS1AH1	1SCA105275R1001	150
Grey	OHGS1AH1	1SCA105262R1001	150
Padlockable with one padlock with bail diameter 5...6.3 mm.			
Black	OHBS3AH	1SCA105234R1001	150
Yellow-red	OHYS3AH	1SCA105325R1001	150
Silver	OHSS3AH	1SCA105283R1001	150
Grey	OHGS3AH	1SCA105270R1001	150
Padlockable with one padlock with bail diameter 5...6.3 mm, door interlock in ON-position.			
Black	OHBS3AH1	1SCA105235R1001	150
Yellow-red	OHYS3AH1	1SCA105326R1001	150
Silver	OHSS3AH1	1SCA105284R1001	150
Grey	OHGS3AH1	1SCA105271R1001	150
<b>IP 65 handles, NEMA 1, 3R, 12, suitable for switches OTDC16...32, OT16...40F</b>			
Padlockable with max. 3 padlocks with bail diameter 5...8 mm, door interlock in ON-position, defeatable.			
Black	OHBS2AJ	1SCA105213R1001	120
Yellow-red	OHYS2AJ	1SCA105296R1001	120
Silver	OHSS2AJ	1SCA105278R1001	120
Grey	OHGS2AJ	1SCA105265R1001	120
Padlockable with max. 3 padlocks with bail diameter 5...8 mm, door interlock in ON-position.			
Black	OHBS2AJ1	1SCA105215R1001	120
Yellow-red	OHYS2AJ1	1SCA105297R1001	120
Silver	OHSS2AJ1	1SCA105279R1001	120
Grey	OHGS2AJ1	1SCA105266R1001	120

### Selector type handle with metal hasp

#### IP65 handles, NEMA 1, 3R, 12, suitable for switches OTDC16...32, OT16...40F

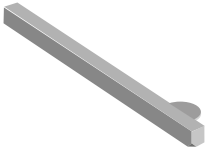
Padlockable with max. 3 padlocks, door interlock in the ON-position, defeatable.

Black	OHBS2AJEH	1SCA108230R1001	120
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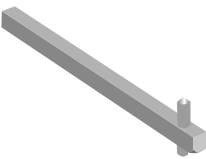
# Ordering information

## Extended shafts

OXS6X\_  
S01026A



OSP6X\_  
S00050A



### Extended shafts

The type and ordering numbers are for one piece. Shaft diameter 6mm

Shaft length [mm]	Type	Order number	Delivery Weight/	
			batch	unit
			[pcs]	[kg]

#### For selector type handles

85	OXS6X85	1SCA101647R1001	10	0.02
105	OXS6X105	1SCA108043R1001	10	0.02
120	OXS6X120	1SCA101654R1001	10	0.03
130	OXS6X130	1SCA101655R1001	10	0.03
160	OXS6X160	1SCA101656R1001	10	0.04

#### For round padlockable type handles

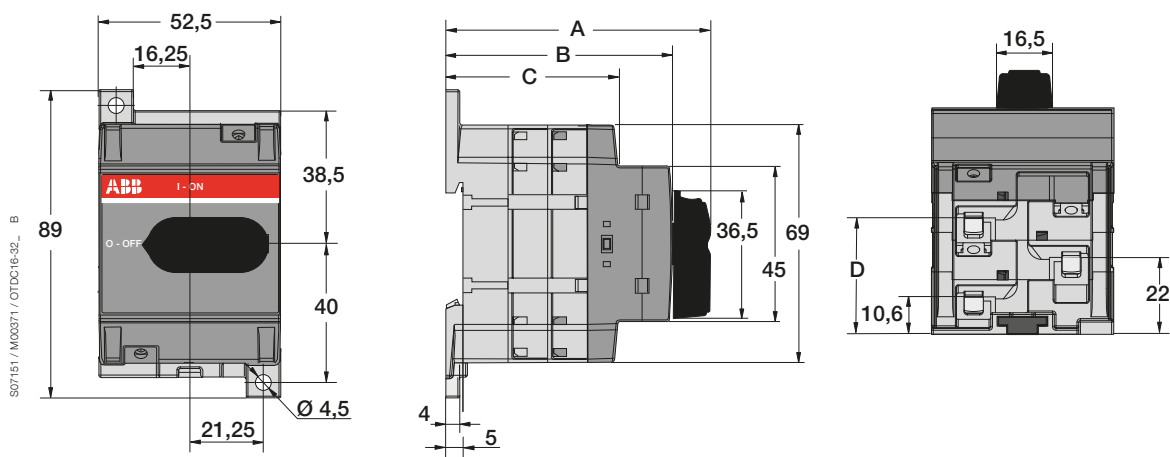
60	OX6X60	1SCA111459R1001	10	0.02
85	OX6X85	1SCA111274R1001	10	0.02
105	OX6X105	1SCA111930R1001	10	0.02
115	OX6X115	1SCA111931R1001	10	0.03
130	OX6X130	1SCA111460R1001	10	0.03
155	OX6X155	1SCA111275R1001	10	0.04



# Dimension drawings

## OTDC16...32

OTDC16...32 switch-disconnector



OTDC16...32				
Dimension [mm]				
Number of poles	A	B	C	D
2	66,2	54,1	38,3	22
3	77,6	65,5	49,7	33,4
4	89	76,9	61,1	44,8

# Notes



# Contact us

## ABB Oy

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