

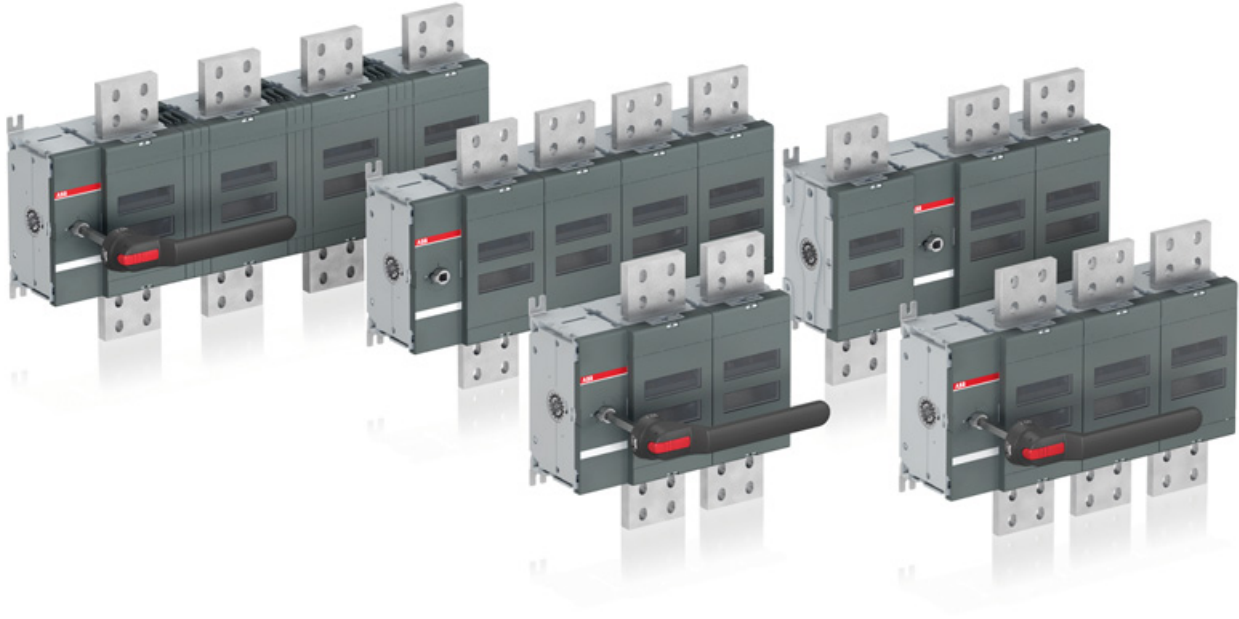
Breakers and Switches

# Switches

## Switch-disconnectors

### OT3200...4000 Amperes

# Switch-disconnectors OT3200...4000 Amperes



## Optimal size

ABB's switch-disconnectors from 3200...4000 Amperes extend the existing OT range. With only a 9 % increase in width, the range is extended from 2500 up to 4000 Amperes.

- A higher performance is achieved while optimizing the use of space.

## Outstanding performance

OT3200...4000 has the best short circuit performance available in the market for this current range, according to IEC 60947-3 standard. Thanks to optimized terminal design, the power losses are very low.

## Enhanced safety

OT3200...4000 is the only switch with visible contacts available in the market.

Each pole has open/closed indication. Labels for switch and pole markings are included.

- All-time reliable position indication

## Flexible installation

Two, three and four pole versions are available. Types with wide phase distance available. OT3200...4000 uses many of the same accessories as the existing OT2000...2500.

Thanks to optimized terminal design, it is easy to cable the switch to other equipment.

- ABB's switch-disconnectors from 3200 to 4000 Amperes are suitable for diverse installations

With OT3200...4000 ABB can now offer switch-disconnectors from 16 to 4000 Amperes suitable for diverse applications such as machinery, power distribution, switchboards, motor control centers or photovoltaic installations. – High performance in minimal footprint!



# Technical data

## OT3200...4000 Amperes

### Technical data according to IEC 60947-3

Switch size			A	3200	4000
Rated insulation voltage	Pollution degree 3		V	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10
Rated impulse withstand voltage			kV	12	12
Rated thermal current in ambient 35 °C and temporarily 40 °C	In open air		A	3 200	4 000 / 3 800 <sup>1)</sup>
...with minimum cable or bar cross section		Cu	mm <sup>2</sup>	4 × 1 000	5 × 1 000
Rated operational voltage AC-20 and DC-20			V	1 000	1 000
Rated operational current, AC-21B		up to 415 V	A	3 200	4 000 / 3 800 <sup>2)</sup>
Rated operational current, AC-22B		up to 415 V	A	3 200	4 000 / 3 800 <sup>2)</sup>
Rated short-time withstand current		690 V 1s	kA	60	60
Rated short-time making capacity	Peak value I <sub>cm</sub>	690 V	kA	176	176
	Max. distance from switch frame to nearest busbar / cable support		mm	150	150
			mm	150	150
Power loss / pole	With rated current		W	95	130 / 120 <sup>3)</sup>
Mechanical endurance	Divide by two for operation cycles		Oper.	5 000	5 000
Weight without accessories	3-pole switch		kg	24.7	28.9
	4-pole switch		kg	32.1	37.7
Standard shaft and mounting depth	Square dimension × length of shaft		mm	12 × 280	12 × 280
	Corresponding mounting depth		mm	251 - 380	251 - 380
Standard handle			Type	OHB 274J12	OHB 274J12
Terminal tightening torque	Counter torque required		Nm	50 - 75	50 - 75
Operating torque	Typical for 3 and 4-pole switches		Nm	65	65

<sup>1)</sup> The rated thermal current for wide phase distance types, OT\_W\_ is 4000 Amperes. The rated thermal current for OT\_ types without wide phase distance is 3800 Amperes.

<sup>2)</sup> The rated operational current for wide phase distance types, OT\_W\_ is 4000 Amperes. The rated operational current for OT\_ types without wide phase distance is 3800 Amperes.

<sup>3)</sup> Power loss per pole for wide phase distance types, OT\_W\_ is 130 W. Power loss per pole for OT\_ types without wide phase distance is 120 W.

# Ordering information

## Front operated switch-disconnectors



OT3200...4000E02P



OT3200...4000E03P



OT3200...4000E04P

### Switch-disconnectors, base mounting

Including terminal bolt kit. In OT\_P -types a black ON-OFF plastic handle and shaft as standard. The handle is IP65 protected, padlockable in the OFF-position and with door interlock in the ON-position. The shaft is adjustable for a range of installation depths.

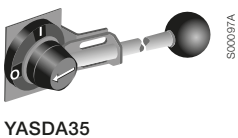
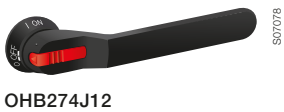
Number of poles	$I_{th}$ (open) [A]	Rated operat. currents AC21B/AC22B 415V [A/A]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
Handle and shaft have to be ordered separately						
2	3200	3200/3200	OT3200E02	1SCA128579R1001	1	22.3
3	3200	3200/3200	OT3200E03	1SCA128480R1001	1	29.7
4	3200	3200/3200	OT3200E04	1SCA128479R1001	1	37.1
2	3800	3800/3800	OT4000E02	1SCA128596R1001	1	25.4
3	3800	3800/3800	OT4000E03	1SCA124847R1001	1	33.9
4	3800	3800/3800	OT4000E04	1SCA124855R1001	1	42.7
Delivery includes handle and shaft						
2	3200	3200/3200	OT3200E02P	1SCA128581R1001	1	23.0
3	3200	3200/3200	OT3200E03P	1SCA128481R1001	1	30.7
4	3200	3200/3200	OT3200E04P	1SCA128482R1001	1	38.1
2	3800	3800/3800	OT4000E02P	1SCA128595R1001	1	26.0
3	3800	3800/3800	OT4000E03P	1SCA124848R1001	1	34.9
4	3800	3800/3800	OT4000E04P	1SCA124856R1001	1	43.7

### Shafts and handles included as standard

Suitable for switches	Included shaft	Included handle	Included terminal bolts
OT3200...4000E02...04	-	-	M12×60
OT3200...4000E02...04P	OXp12X280	OHB274J12	M12×60

# Ordering information

## Accessories



### Pistol type handles, for base mounted switches

IP65, NEMA 1, 3R, 12, padlockable with three padlocks in OFF-position, door interlock in ON-position. Screw fixing from the back side of the handle. No screws on the front ensures double insulation. The type and the ordering numbers are for one piece. NEMA 4, 4x pistol handles available on request. Handles padlockable in all positions available on request.

Colour	Handle length [mm]	Suitable for switches	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
For shaft diameter 12 mm, indication OHB and OHY: I-O, ON-OFF, in types OHG: I-O						
Black	274	OT3200...4000	OHB274J12	1SCA115920R1001	25	0.54
Red-yellow	274	OT3200...4000	OHY274J12	1SCA115919R1001	25	0.54
Black	330	OT3200...4000	OHB330J12	1SCA115922R1001	25	0.58
Red-yellow	330	OT3200...4000	OHY330J12	1SCA115921R1001	25	0.58
For shaft diameter 12 mm, indication: Test-OFF-ON/Test-O-I						
Black	274	OT3200...4000	OHB274J12T	1SCA120250R1001	25	0.54
Black	330	OT3200...4000	OHB330J12T	1SCA120252R1001	25	0.58

### Direct mounting handles, for base mounted switches

Includes a shaft and a mechanism cover. Indication Test-OFF-ON/Test-O-I. Padlockable with three padlocks in OFF-position.

Colour	Handle length [mm]	Suitable for switches	Type	Order number	Units/type [pcs]	Weight/unit [kg]
Black	274	OT3200...4000	OTV1000EK	1SCA106608R1001	1	0.75

### Metallic handles, for base mounted switches

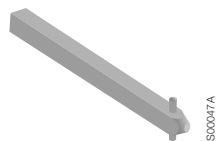
Colour	Handle length [mm]	Suitable for switches	Type	Order number	Units/type [pcs]	Weight/unit [kg]
For shaft diameter 12 mm, IP65, NEMA 1, 3R, 4, 4x, 12						
Indication I-O, padlockable with 3 padlocks in OFF-position, door interlock in ON-position.						
Black	320	OT3200...4000	YASDA35	1SCA104400R1001	1	0.80

Door interlocking in ON-position means that the door can not be opened, when the handle is in ON-position. This can be defeated in IP65 types to allow authorized personnel access for inspection.



# Ordering information

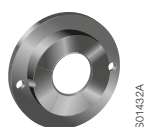
## Accessories



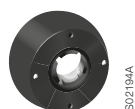
OXP12X\_



OXP12X\_-45



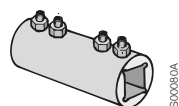
OHZX10



OHZX14



OXT20X210X



OETLZX95

### Shafts

Wide versions OT3200...4000\_W\_: with shafts over 325 mm, shaft tube OXT20X210X must be used.

Shaft length [mm]	H [mm]	Suitable for switches	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
<b>Shaft diameter 12 mm</b>						
280	251...380	OT3200...4000	OXP12X280	1SCA022137R5140	1	0.30
325	296...425	OT3200...4000	OXP12X325	1SCA022042R5810	1	0.36
395	366...495	OT3200...4000	OXP12X395	1SCA022042R5990	1	0.43
465	436...565	OT3200...4000	OXP12X465	1SCA022042R6020	1	0.51
535	506...635	OT3200...4000	OXP12X535	1SCA022042R6110	1	0.59
<b>Twisted shafts, diameter 12 mm, the shaft position is rotated 45 degrees</b>						
280	256...385	OT3200...4000	OXP12X280-45	1SCA022382R0800	1	0.30
325	301...430	OT3200...4000	OXP12X325-45	1SCA022304R4450	1	0.36
395	371...500	OT3200...4000	OXP12X395-45	1SCA022749R0640	1	0.43
465	441...570	OT3200...4000	OXP12X465-45	1SCA022423R1770	1	0.51
535	511...640	OT3200...4000	OXP12X535-45	1SCA022723R2940	1	0.59

### Shaft alignment ring

Improves the handle operation if a handle and a shaft have been poorly aligned. The type and the ordering numbers are for one piece.

Colour	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
<b>For pistol type handles OH_274J12</b>				
Black	OHZX10	1SCA022661R3610	10	0.23

### Extension ring for pistol type handles

Improves the handle operation, if a handle and a shaft have been poorly aligned.

Colour	Suitable for handle	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
Black	OHXB_	OHZX14	1SCA022851R6590	1	0.06

### Shaft support for long shafts

Suitable for switches	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
<b>Shaft tube</b>				
For switch-disconnectors with wide phase distance (140 mm or 185 mm). Supporting 12 mm shafts longer than 325 mm.				
OT3200...4000	OXT20X210X	1SCA103684R1001	1	1.50

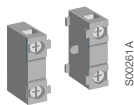
### Shaft extension socket

For extending the shaft of combination attachment.

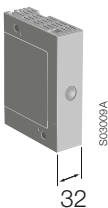
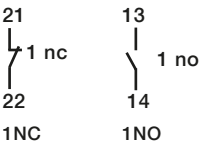
Shaft diameter [mm]	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
12	OETLZX95	1SCA022083R5620	1	0.04

# Ordering information

## Accessories



OA1G10\_, OA3G01\_



OEA28

### Auxiliary contact blocks, IP20

Contact numbering according to EN 50013. The type and the ordering numbers are for one piece.

Suitable for switches	Function	Type	Order number	Delivery batch <sup>2)</sup> [pcs]	Weight/unit [kg]
OT3200...4000	1NO	OA1G10	1SCA022353R4970	10	0.03
OT3200...4000	1NO	OA1G10AU <sup>1)</sup>	1SCA022436R7910	10	0.03
OT3200...4000	1NC	OA3G01	1SCA022456R7410	10	0.03
OT3200...4000	1NC	OA3G01AU <sup>1)</sup>	1SCA022819R5260	10	0.03

### Mounting under the mechanism cover

Max 4 test indication contacts + 6 test contacts + 2 early operation test contacts.

The "test" contacts operate in ON- and OFF-positions as well as when the handle is turned to TEST-position = 45 degrees over the OFF-position. The "test indication" contacts operate only when the handle is turned to TEST-position. See the function table below. The OA1G10 (N.O.) or OA3G01 (N.C.) auxiliary contact blocks can be used as standard auxiliary contacts, "test" or "test indication" contacts. The desired functions are achieved when an auxiliary contact block is installed in a specific place shown in the mounting instruction. In order to activate the "test" and "test indication" features a handle with test function is required. See the "Handles". The test contacts can be used as standard auxiliary contacts as well.

### Function table of OT3200...4000 auxiliary contacts:

Handle position	Main contacts	Aux. / Test contacts N.O.	Test indication contact N.O.
Test	open	closed	closed
0	open	open	open
I	closed	closed	open

### Mounting on the left side of the switch

Max. 8 auxiliary contact blocks with the OEA28 module.

### Module for auxiliary contacts

Screw mounting to the left side of the switch

Suitable for switches	Type	Order number	Units/type [pcs]	Weight/unit [kg]
OT32000...4000	OEA28	1SCA022714R8810	1	0.04

### Performance data of auxiliary contacts according to IEC 60947-5-1

For OA1G_, OA3G_							For OA1G_, OA2G_, OA3G_	
U <sub>e</sub> /[V]	AC15		DC12		DC13		U <sub>i</sub> /[V]	690
	I <sub>e</sub> /[A]	U <sub>e</sub> /[V]	I <sub>e</sub> /[A]	P/[W]	I <sub>e</sub> /[A]	P/[W]	U <sub>imp</sub> /[kV]	4
230	6	24	10	240	2	50	Pollution degree	3
400	4	72	4	290	0.8	60	I <sub>th</sub> /[A]	16
415	4	125	2	250	0.55	70	Cable size	1...2 × 0.75...2.5 mm <sup>2</sup>
690	2	250	0.55	140	0.27	70	Maximum fuse	16A / gG
		440	0.1	44			NEMA	A600, R300, wire size: 18 - 14 AWG, 1(2)

<sup>1)</sup> Types \_AU are gold plated for extremely difficult circumstances and low voltages.

<sup>2)</sup> Auxiliary contacts OA1G10 are available in larger packing as well. A bulk package includes 50 switches.

Type number: OA1G01/B50.

Early break type auxiliary contacts means that in the switches, the NO aux.contacts break before the main contacts open.

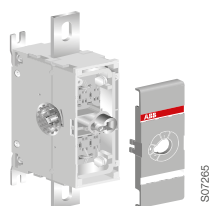


# Ordering information

## Accessories



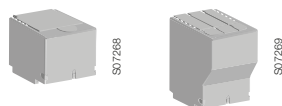
OTZ4000E



OXN1250T



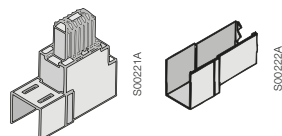
OESAZX160



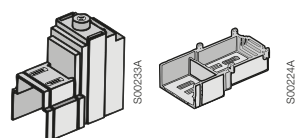
OTS4000G1\_



OZXB3K



OZXB4K



OZXB5K

### Fourth poles

Mountable on the side of the switch. The type and the ordering numbers are for one piece.

Suitable for switches	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
<b>Simultaneous function with the main contacts</b>				
OT3200...4000	OTZ4000E	1SCA128807R1001	1	8.4

### Neutral links

Suitable for switches	$I_{th}$ [A]	Type	Order number	Units/type [pcs]	Weight/unit [kg]
<b>Detachable, mountable separately to the base plate</b>					
OT3200...4000	1250	OXN1250T	1SCA104162R1001	1	2.2
<b>Mountable separately to the base plate</b>					
	1000	OESAZX160	1SCA022186R3960	1	1.0

### Terminal shrouds

Snap-on mounting, grey plastic. Pack of single pole shrouds, IP3X. Transparent shrouds available on request.

Suitable for switches	Description	Type	Order number	Units/type [pcs]	Weight/unit [kg]
<b>For 3-pole switches</b>					
OT3200...4000	Long type	OTS4000G1L/3	1SCA129042R1001	3	1.0
OT3200...4000	Short type	OTS4000G1S/3	1SCA129044R1001	3	1.2
<b>For 4-pole switches</b>					
OT3200...4000	Long type	OTS4000G1L/4	1SCA129043R1001	4	1.4
OT3200...4000	Short type	OTS4000G1S/4	1SCA129045R1001	4	1.6

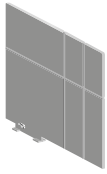
### Terminal shrouds for terminal clamps

Snap-on mounting, transparent plastic, IP2X.

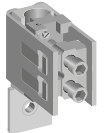
Suitable for terminal clamps	Type	Order number	Units/type [pcs]	Weight/unit [kg]
OZXB3, 4	OZXB3K	1SCA022264R0440	3	0.20
OZXB5, 6	OZXB4K	1SCA022199R2850	3	0.24
OZXB7L	OZXB5K	1SCA022283R8040	3	0.13

# Ordering information

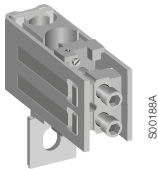
## Accessories



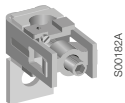
OTB4000/6



OZXB3, 5



OZXB4, 6



OZXB7L



OETLZW15

### Phase separators

Grey plastic plate for maintaining 1" clearance between the phases without terminal shrouds.  
Snap-on mounting.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ type [kg]
OT3200...4000, 3- and 4-pole	OTB4000/6	1SCA129040R1001	6	0.80

### Terminal clamps

Terminal clamp sets for Al- and Cu-cables.

Suitable for switches	Cable cross section [mm²]	Suitable shroud	Type	Order number	Units/ type [pcs]	Delivery batch [pcs]	Weight/ unit [kg]
<b>OZXB type Al/Cu connectors made of stainless steel</b>							
OT3200...4000	95...185	OTS4000_L	OZXB3	1SCA022136R8100	3	1	1.28
OT3200...4000	95...185	OTS4000_L	OZXB3/1	1SCA022194R0620	1	20	0.13
OT3200...4000	2x(95...185)	OTS4000_L	OZXB4	1SCA022137R4760	3	1	0.43
OT3200...4000	2x(95...185)	OTS4000_L	OZXB4/1	1SCA022194R0890	1	20	0.60
OT3200...4000	120...300	OTS4000_L	OZXB5	1SCA022137R2470	3	1	2.22
OT3200...4000	120...300	OTS4000_L	OZXB5/1	1SCA022194R1010	1	20	0.80
OT3200...4000	2x(120...300)	OTS4000_L	OZXB6	1SCA022137R4920	3	1	3.03
OT3200...4000	2x(120...300)	OTS4000_L	OZXB6/1	1SCA022194R1270	1	20	1.00
OT3200...4000	120...240	OTS4000_L	OZXB7L	1SCA022185R7130	3	1	1.20
OT3200...4000	120...240	OTS4000_L	OZXB7L/1	1SCA022194R1600	1	20	0.39

Included bolt sets:

OT3200...4000, OZXE14, M12x60, 24 pcs/package

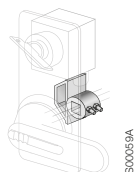
### Conversion kits / Mechanical interlock mechanism

Prevents one switch from moving to ON-position, if the other is not in OFF-position. When mounted upside down, prevents one switch from moving to OFF-position, if the other is not in ON-position. (UPS-usage, make-before-break). The standard handle and shaft of one of the combined switches can be used.

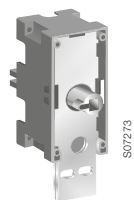
Suitable for switches	Shaft distance [mm]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT3200...4000	500	OETLZW15	1SCA022081R9340	1	1.24

# Ordering information

## Accessories



OETLZW5



OTZT4\_

### Cam attachment for Castell, Lowe & Fletcher and Ronis interlock

Cam attachment for Castell, Lowe & Fletcher or Ronis interlock. Lock, handle or shaft not included. Mounting to OXP-shaft, works together with OH-door handle and a shaft. This accessory is mounted to the operating shaft of the switch and therefore only compatible with external handles.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT3200...4000	OETLZW5	1SCA022052R3900	1	0.14

### Mechanism interlock kits and electrical interlocks

OT3200...4000 switch-disconnectors can be interlocked in the OFF-position using padlocks or a mechanical interlock kit mounted on the mechanism. The diameter of the lock bail can be max dia. 8 mm.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
<b>Interlocking in the OFF-position</b>				
OT3200...4000	OTZT4A	1SCA106526R1001	1	1.15
<b>Interlocking in the OFF- and ON-positions</b>				
OT3200...4000	OTZT4L	1SCA106531R1001	1	1.15

# Ordering information

## Accessories



PDAL2\_

### Coils for OTZT4\_ electrical interlocks

By installing a coil inside the housing of the interlock kit the switch can be interlocked electrically in the OFF-position or both in the OFF- and ON-positions. The electrical interlock works using the “closed circuit principle”, meaning that when the control voltage is not connected to the coil. The switches provided with A-type interlocks cannot be turned to the ON-position and switches with L-type interlocks cannot be turned to the ON- or OFF- positions.

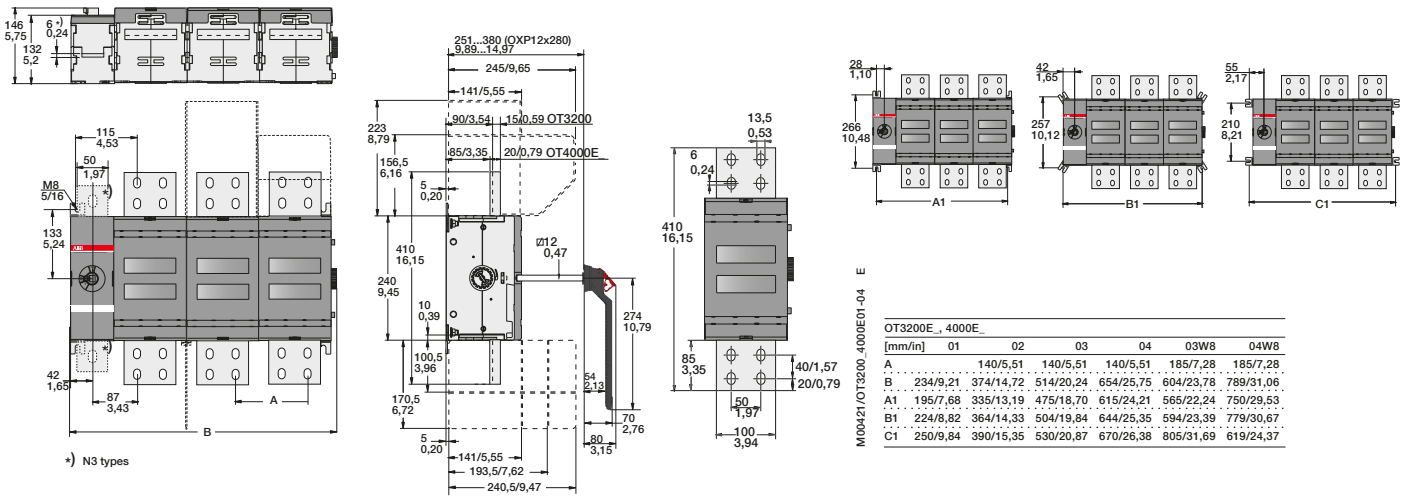
Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
AC coils				
24 VAC, 60Hz	PDAL2/24AC60Hz	1SCA111350R1001	1	0.15
110 VAC, 50Hz	PDAL2/110AC50Hz	1SCA106543R1001	1	0.15
110 VAC, 60Hz	PDAL2/110AC60Hz	1SCA107100R1001	1	0.15
120 VAC, 60 Hz	PDAL2/120AC60Hz	1SCA111353R1001	1	0.15
208 VAC, 60Hz	PDAL2/208AC60Hz	1SCA107101R1001	1	0.15
230 VAC, 50Hz	PDAL2/230AC50Hz	1SCA107102R1001	1	0.15
240 VAC, 60Hz	PDAL2/240AC60Hz	1SCA111356R1001	1	0.15
DC coils				
24 VDC	PDAL2/24DC	1SCA106542R1001	1	0.15
48 VDC	PDAL2/48DC	1SCA107103R1001	1	0.15
60 VDC	PDAL2/60DC	1SCA107104R1001	1	0.15
110 VDC	PDAL2/110DC	1SCA107105R1001	1	0.15
125 VDC	PDAL2/125DC	1SCA111338R1001	1	0.15
220 VDC	PDAL2/220DC	1SCA112503R1001	1	0.15

### Technical data for the coil

Operating voltage		$U = 0.7...1.1 \times U_n$
Operating ambient temperature		-40°C...+65°C
Power consumption	with AC	6.5 W
	with DC	9 VA

# Dimension drawings

## OT3200\_4000E01-04









# Contact us

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**> Low Voltage Products and Systems**

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