Protection and Connection

Transfer, change-over and bypass switches
Securing your power to perform

Power and productivity
for a better world™

Videos

Promotional video:

With ABB transfer switches, you are never left in the dark

Installation of accessories – How to?

Motorized transfer switches OTM 40…125 A

Motorized transfer switches OTM 160…800 A

Motorized transfer switches OTM 1000…3200 A

Additional information

Manual change-over switches
Ordering information for OT16...OT125_C

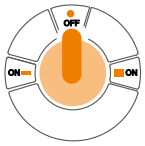
OT16...40F3C

OT63...80F3C

OT100...125F3C

Open transition

Simple I-O-II –operation where the handle is padlockable in O-position and door interlock available in the I- and II-positions (and when padlocked). Din-rail or base mounting.



Manual change-over switches, open transition, OT16...OT125_C
Handle and shaft not included. See recommended accessories.

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
3	16	11	16/7.5	OT16F3C	1SCA104816R1001	0.25
4	16	11	16/7.5	OT16F4C	1SCA104831R1001	0.31
3	25	17	20/9	OT25F3C	1SCA104863R1001	0.25
4	25	17	20/9	OT25F4C	1SCA104877R1001	0.31
3	40	27	23/11	OT40F3C	1SCA104913R1001	0.25
4	40	27	23/11	OT40F4C	1SCA104934R1001	0.31
3	63	43	45/22	OT63F3C	1SCA105338R1001	0.64
4	63	43	45/22	OT63F4C	1SCA105369R1001	0.70
3	80	55	75/37	OT80F3C	1SCA105402R1001	0.64
4	80	55	75/37	OT80F4C	1SCA105418R1001	0.70
3	100	70	80/37	OT100F3C	1SCA105008R1001	0.90
4	100	70	80/37	OT100F4C	1SCA105019R1001	1.18
3	125	86	90/45	OT125F3C	1SCA105037R1001	0.90
4	125	86	90/45	OT125F4C	1SCA105054R1001	1.18

Cable cross section of the change-over switches

Suitable for switches	Cable cross section [mm²]
OT16...40F_C	0.75 … 10
OT63...80F_C	1.5 … 35
OT100...125F_C	10 … 70

Direct operation:

OHBS3

OHBS9

External operation:

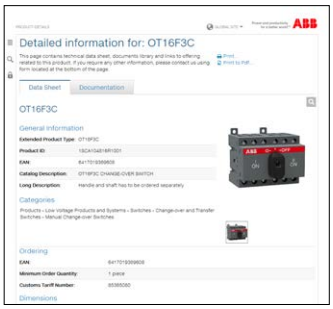
OHBS2AJE011

OHB45J6E311

Recommended accessories: Handles and shafts

Suitable for switches	Operating type	Handle type	Order number	Shaft type	Order number
OT16…40F_C	Direct operation	OHBS3	1SCA108320R1001	–	–
OT63…125F_C	Direct operation	OHBS9	1SCA108665R1001	–	–
OT16…125F_C	Selector handle (external)	OHBS2AJE011	1SCA105220R1001	OXS6X120	1SCA101654R1001
OT16…125F_C	Pistol handle (external)	OHB45J6E311	1SCA022817R2130	OXP6X170	1SCA108224R1001

1 Roll over the picture to zoom in.



2 Click on the product order code to obtain detailed information and agreements.

Transfer, change-over and bypass switches
Securing your power to perform

A secure power supply is essential to any application relying on electricity. We offer a full range of smart, safe and reliable change-over switches for your critical applications.

Comprehensive offering

ABB offers a wide variety of switches to cover all your needs. A complete range from 16 to 3200 Amperes in manual, remote and automatic switches is further enhanced by vast amounts of additional accessories ranging from advanced controllers to auxiliary contacts.

Reliable performance

ABB change-over, bypass and transfer switches are designed, built and tested for the best possible performance. Switches are designed to be virtually maintenance free across their entire extended lifespan and offer reliable performance in any and all possible circumstances. Durability has been ensured by testing switches against the IEC 60947-6-1 standard.

Smart and compact design

All switches by have been designed for easy and cost-efficient installation, maintenance and use. Their modular design and smaller dimensions enable installation into smaller enclosures saving precious space and significantly reducing material, handling and installation costs. The simple design also makes use easy even without previous experience or training.

Safe operations

ABB change-over, bypass and transfer switches come equipped with a comprehensive range of inbuilt safety features such as mechanical interlock. All motorized and automatic switches can also be operated manually in emergency situations, but can also be padlocked when the handle is removed to prevent unwanted manual or remote operations or enable safe maintenance work.

ABB product support

All our switches have been built to the highest standards and are always supported by our dedicated and skilled worldwide service network. If you ever find yourself in need of immediate service or assistance, don't hesitate to get in touch with us. With a product by ABB you are never alone.

A smooth and safe transition from one power source to another is of the utmost importance. In case of power source failure, whether planned or unplanned, a rapid switch to back-up power is often crucial.

To meet any and all of your change-over, bypass and transfer needs, we offer a wide variety of switches ranging from 16 to 3200 Amperes. ABB's range includes switches that allow you to transfer from one source to another manually, remotely or automatically.

ABB Change-over Switches for applications in all walks of life

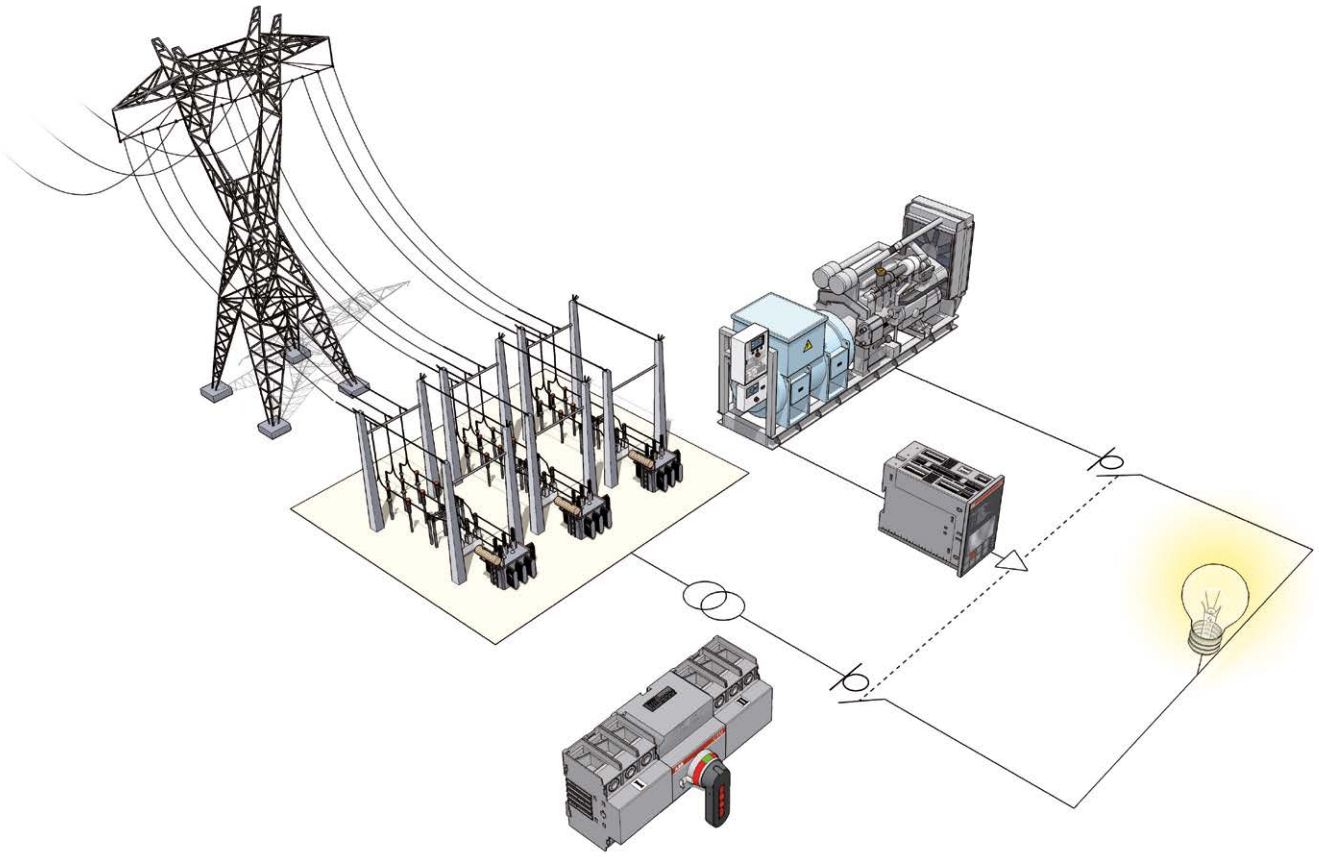
Back up power for industrial applications
- Power plants
- Data centers
- Production plants
- Farming facilities

Critical lighting and air conditioning for mass transportation hubs
- Airport runways
- Underground railways
- Car parks

Ensured continuity of public services
- Water pumping stations
- Sewage treatment plants
- Telecommunications

Buildings (back up power, lighting, sprinklers, elevators etc.)
- Hospitals
- Shops and malls
- Hotels and restaurants
- Sport stadiums and arenas
- Private residences

Ensuring a constant power supply is critical in typical change-over switch applications

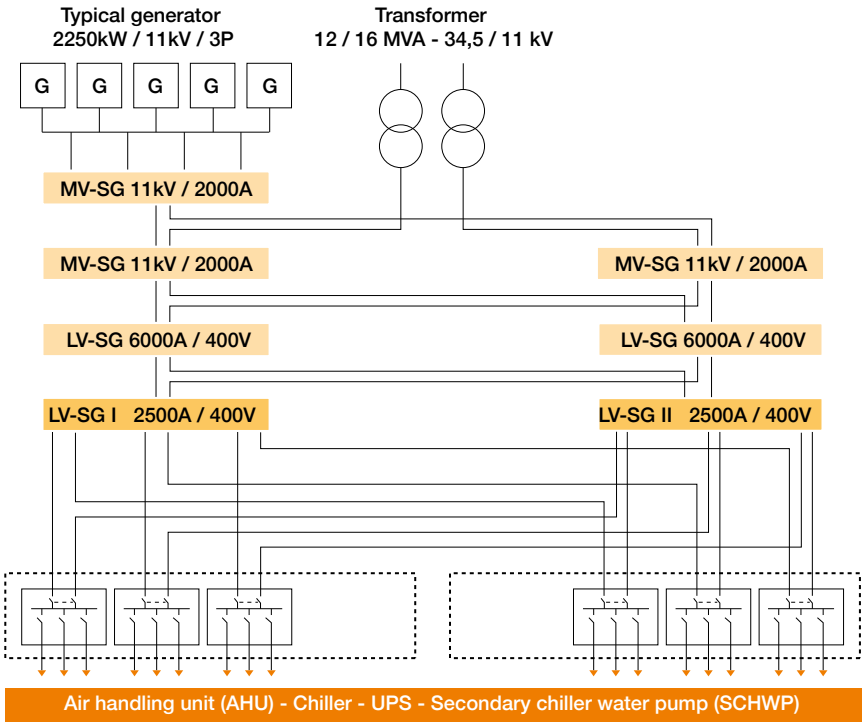


Use in critical applications

The most typical application for change-over switches is utility and stand-by generating set applications where change-over switches commutate between two sources. Often the back-up power source is a stand-by generator set. These generator sets (Gen-sets) are a fundamental part of many Critical Power applications where a constant and reliable source of electrical energy is required.

Ensuring back-up power

Change-over switches are used to switch from the grid to the back-up in case of a failure in the primary energy source. They are typically dedicated switching devices, consisting of two mechanically interlocked switch-disconnectors and a motor operator for electrical operation. The switching device may also have an integrated automatic control unit, enabling fully automatic operations.



Applications for change-over switches are not always between utility and generating set.
They are also used to provide secondary supply for e.g. air handling units, chillers and water pumps.

Manual change-over switches
Open, fast and closed transition from 16 to 3200 Amperes

ABB’s manual change-over switches provide high performance in a compact package, even in the most heavy duty applications.

Manual change-over switches
The growing importance of a secure power supply

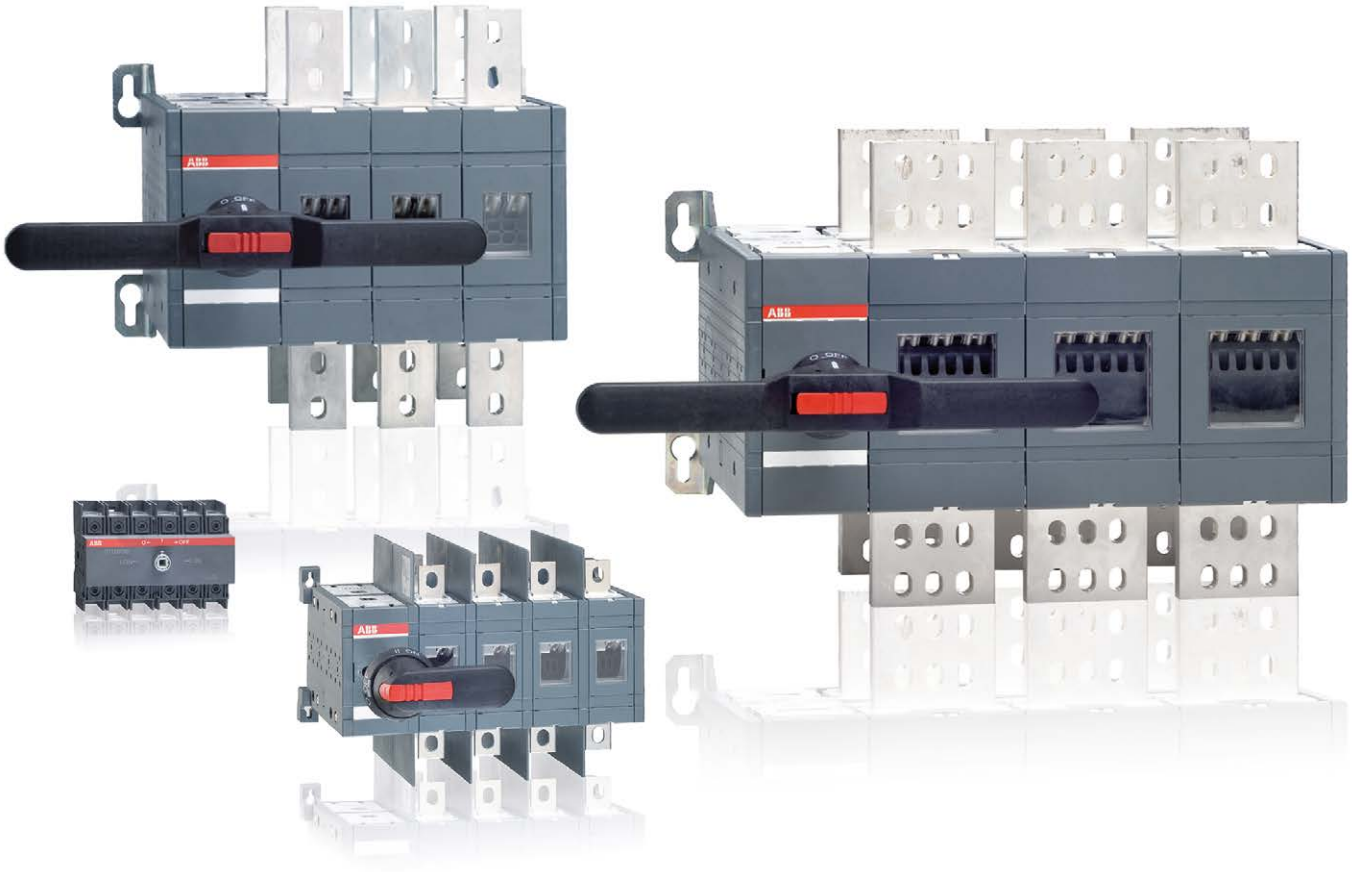


ABB offers a wide variety of manual change-over switches, from 16 to 3200 Amperes in range. Manual change-over switches are available with three different transition types; Open, fast or closed.

Heavy duty performance
Change-over switches by ABB are extremely well suited for heavy duty applications. They are equipped with CTI (comparative tracking index) of over 600 V, making them great for use in tropical environments.

Real one pole construction
Our switches come with a real one pole construction in even higher ratings (one line per power line), creating savings in terms of energy consumption by reducing power loss. A single terminal per pole across the entire range also eliminates the need to use additional fixing sets to do connections.

Modular and flexible
The modular and flexible construction, which can even include an adjustable periscopic shaft,allows for different arrangements of the poles and handle, providing you with the opportunity to create unique space saving solutions for your customers.

UL/CSA certified performance
To complement our wide range of manual change-over switches, we also offer open transition manual change-over switches designed according to UL/CSA certification standards in a power range from 30 to 800 Amperes.

Manual change-over switches
From 16 to 3200 Amperes



Manual operation, change-over switches 16-125A							
Types	OT16 _C			OT63 _C		OT100 _C	
	OT25 _C			OT80 _C		OT125 _C	
	OT40 _C						
I_{th} /A	**25**	**32**	**40**	**63**	**80**	**115**	**125**
I_e /AC-22A, < 415V	16	25	40	63	80	100	125
I_e /AC-23A, < 415V	16	20	23	45	75	80	90




Manual operation, change-over switches 160-800A										
Types	OT160 _C			OT160_W _C			OT315 _C		OT630 _C	
	OT200 _C			OT200_W _C			OT400 _C		OT800 _C	
	OT250 _C			OT250_W _C						
I_{th} /A	**160**	**200**	**250**	**160**	**200**	**250**	**315**	**400**	**630**	**800**
I_e /AC-22A, < 415V	160	200	250	160	200	250	315	400	630	800
I_e /AC-23A, < 415V	160	200	250	160	200	250	315	400	630	800
I_e /AC-31B, < 415V	160	200	250	160	200	250	315	400	630	800




Manual operation, change-over switches 1000-3200A						
Types	OT1000 _C		OT1600 _C	OT2000 _C		OT3200 _C
	OT1250 _C			OT2500 _C		
I_{th} /A	**1000**	**1250**	**1600**	**2000**	**2500**	**3200**
I_e /AC-22A, < 415V	1000	1250	1600			
I_e /AC-23A, < 415V	1000	1250	1250			
I_e /AC-21B, < 415V				2000	2500	3200
I_e /AC-31B, < 415V	1000	1250	1600	2000	2000	







UL/CSA manual change-over switches, 30-800 A							
Types	OT30_C	OT60_C	OT100_C	OT200_C	OT400_C	OT600_C	OT800_C
Current, general use	**30**	**60**	**100**	**200**	**400**	**600**	**800**
UL98, 600 V	30	60	100	200	400	600	800
I_e /AC-22A, < 415V	40	63	100	250	400	800	800

Manual change-over switches
Type codes and pole configuration table

Type codes

Understanding the type code keys below will help you quickly identify the correct product for your needs. The simple naming system allows you to see the products type, Ampere rating, standard classification and number of poles, all in one glance.

Explanation of the types OT16..125_C

Option:	OT40	F	3	C
Position:	1	2	3	4

1	Brand and Switch size / Ampere rating
2	IEC
3	Number of the poles
	3: 3-poles
	4: 4-poles
4	Change over switch
	C: I-0-II -operation

Explanation of the types OT160...3200_C

Option:	OT250	E	03	C	-	P
Position:	1	2	3	4	5	6

1	Brand and Switch size / Ampere rating
2	Standard
	E: IEC
	U: UL
3	Number of the poles
	03: 12
	04: 13
	22: 33
4	Change-over switch
5	Operation type
	Standard change-over switch I-0-II
	L: Closed transition change-over switch I-I+II-II
	F: Fast transition change-over swithc I-0-II
6	Included handle
	_(blank): Handle + shaft not included
	P: Pistol handle + shaft
	K: Direct mounted handle

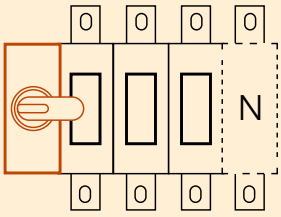
Pole configuration table

The various placing options of the operating mechanism in relation to the 3 or 4 poles is illustrated below. The operating mechanism may be placed at the end of the switch or between poles.

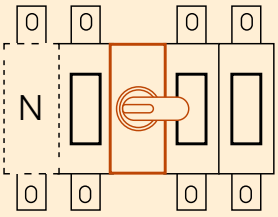
For example:

03: (Without N) 3-poles, operating mechanism at the left end of the switch*
04: (Including N) 4-poles, operating mechanism at the left end of the switch*
12: (Without N) 3-poles, operating mechanism between the poles**
22: (Including N) 4-poles, operating mechanism between the poles**
30: 3-poles, operating mechanism at the right end of the switch
40: 4-poles, operating mechanism at the right end of the switch

***Configuration 03 & 04:**



****Configuration 12 & 22:**



Manual change-over switches
Technical data for OT40...125_C

Manual change-over switches

Data according to IEC 60947-3				Switch size OT16_	OT25_	OT40_	OT63_	OT80_	OT100_	OT125_
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V	750	750	750	750	750	750	750
Dielectric strength		50 Hz 1min.	kV	6	6	6	6	6	6	6
Rated impulse withstand voltage			kV	8	8	8	8	8	8	8
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	25	32	40	63	80	115	125
	/ ambient 40°C	In enclosure	A	25	32	40	63	80	115	125
	/ ambient 60°C	In enclosure	A	20	25	32	50	63	80	100
..with minimum conductor cross section		Cu	mm^2	4	6	10	16	25	35	50
Rated operational current, AC-21A		up to 500 V	A	16	25	40	63	80	100	125
		690 V	A	16	25	40	63	80	100	125
Rated operational current, AC-22A		up to 500 V	A	16	25	40	63	80	100	125
		690 V	A	16	25	40	63	80	100	125
Rated operational current, AC-23A		up to 415 V	A	16	20	23	45	75	80	90
		440 V	A	16	20	23	45	65	65	78
		500 V	A	16	20	23	45	58	60	70
		690 V	A	10	11	12	20	20	40	50
Rated operational current / poles in series, DC-21A		up to 48 V[1]	A	16/1	25/1	32/1	63/1	80/1	100/1	125/1
		110 V	A	16/2	25/2	32/2	63/2	80/2	100/2	125/2
		220 V	A	16/3	25/3	32/3	63/4	63/4	100/4	100/4
		440 V	A	16/4	16/4	16/4	16/4	16/4		
		500 V	A	16/4	16/4	16/4	16/4	16/4		
Rated operational current / poles in series, DC-22A		up to 48 V[1]	A	16/1	25/1	32/1	63/1	80/1	100/1	125/1
		110 V	A	16/2	25/2	32/2	63/2	80/2	100/2	125/2
		220 V	A	16/3	25/3	32/4	45/4	45/4	63/4	80/4
		440 V	A	10/4	10/4	10/4	10/4	10/4		
Rated operational current / poles in series, DC-23A		up to 48 V[1]	A	16/1	25/1	32/1	63/1	80/1	100/1	125/1
		110 V	A	16/2	25/2	32/2	63/2	80/2	100/2	125/2
		220 V	A	16/4	25/4	32/4	45/4	45/4	63/4	63/4
		440 V	A	10/4	10/4	10/4	10/4	10/4		
Rated operational power, AC-23A[2] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V	kW	3	4	5,5	11	22	22	22
		400 V	kW	7.5	9	11	22	37	37	45
		415 V	kW	7.5	9	11	22	37	37	45
		500 V	kW	7.5	9	11	22	37	37	45
		690 V	kW	7.5	9	11	15	18.5	37	45
Rated breaking capacity in category AC-23		up to 415 V	A	128	160	184	360	640	640	720
		500 V	A	128	160	184	360	464	480	560
		690 V	A	80	88	96	160	160	320	400
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 50 kA, 415 V	$\hat{i}_c$ (peak)	kA	6.5	6.5	6.5	13	13	16.5	16.5
	Max. OFA_ fuse size	gG/aM	A/A	40/32	40/32	40/32	100/80	100/80	125/125	125/125
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA				17	17		
	Max. OFA_ fuse size	gG/aM	A				100/80	100/80		
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 1s	kA	0.5	0.5	0.5	1	1.5	2.5	2.5
Rated short-time making capacity[3]	I_{cm} (peak)	690 V	kA	0.7	0.7	0.7	1.4	2.1	3.6	3.6
Power loss / pole	With rated current		W	0.3	0.6	1.6	2.8	4.5	4.0	6.3
Mechanical endurance	Number of oper. cycles[4]		Cycles	10 000	10 000	10 000	10 000	10 000	10 000	10 000
Cable size	Cu-wire size suitable for terminal clamps		mm^2	0.75-10	0.75-10	0.75-10	1.5-35	1.5-35	10-70	10-70
			AWG	18-8	18-8	18-8	14-4	14-4	8-00	8-00
Terminal tightening torque	Counter torque required		Nm	0.8	0.8	0.8	2	2	6	6
Operating torque	Typical for 3-pole switches		Nm	1	1	1	1.2	1.2	2	2
Weight without accessories	3-pole switch		kg	0.25	0.25	0.25	0.64	0.64	0.90	0.90
	4-pole switch		kg	0.31	0.31	0.31	0.70	0.70	1.18	1.18
Data according to UL508 (Listed)										
Current			A	16	25	40	60	80		
Horsepower, 3-phase		200 V	HP	3	7.5	10	15	20		
		208 V	HP	3	7.5	10	15	20		
		240 V	HP	5	7.5	10	15	20		
		480 V	HP	10	15	20	30	40		
		600 V	HP	10	20	25	30	40		

[1] Below 48 V, two poles in parallel up to OT80 are recommended particularly in polluted atmosphere
[2] These values are given for guidance and may vary according to the motor manufacturer
[3] Short circuit duration >50ms, without fuse protection
[4] Operating cycle: O - I - O - II - O

Manual change-over switches
Technical data for OT160...800_C

Manual change-over switches

				Switch size						
Data according to IEC 60947-3				**OT_160_**	**OT_200_**	**OT_250_**	**OT_315_**	**OT_400_**	**OT_630_**	**OT_800_**
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V	1 000	1 000	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10	10	10
Rated impulse withstand voltage			kV	12	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	160	200	250	315	400	630	800
	/ ambient 40°C	In enclosure	A	160	200	250	315	400	630	800
..with minimum conductor cross section		Cu	mm^2	70	95	120	185	240	2x185	2x240
Rated operational current, AC-21A		up to 500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current, AC-22A		up to 500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current, AC-23A		up to 415 V	A	160	200	250	315	400	630	800
		440 V	A	160	200	250	315	400	630	800
		500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current / poles in series, DC-21A[6]		≤ 110 V	A	160/2	200/2	250/2	315/1[1]	400/1[1]	630/1	800/1
		220 V	A	160/2	200/2	250/2	315/2[1]	400/2[1]	630/1	800/1
		440 V	A	160/3	200/3	230/3	315/3	360/3	630/2	720/2
		660 V	A	160/4	200/4	200/4	315/4	315/4	630/4[1]	630/4[1]
Rated operational power, AC-23A[2]		230 V	kW	45	60	75	100	132	200	250
The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		400 V	kW	90	110	140	160	220	355	450
		415 V	kW	90	110	145	180	230	355	450
		500 V	kW	110	132	170	220	280	400	560
		690 V	kW	160	200	250	315	400	630	800
Rated breaking capacity in category AC-23		up to 415 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
		500 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
		690 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	Max. OFA_ fuse size	gG/aM	A/A	355/315	355/315	355/315	500/500	500/500	800/1 000	800/1 000
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	61.5	61.5	90	90
	Max. OFA_ fuse size	gG/aM	A	315/315	315/315	315/315	500/450	500/450	800/800	800/800
	I_p (r.m.s.) 80 kA, 690 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	Max. OFA_ fuse size	gG/aM	A	355/315	355/315	355/315	500/500	500/500	800/1 000	800/1 000
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s	kA	15	15	15	31	31	38	38
		690 V 0.25s	kA	15	15	15	24	24	36	36
		690 V 1s	kA	8	8	8	15	15	20	20
Rated short-time making capacity[3]	I_{cm} (peak)[4]	690 V	kA	30	30	30	65	65	80	80
Power loss / pole	With rated current		W	2.4	4	6.5	6.5	10	25	40
Mechanical endurance	Number of oper. cycles[5]		Cycles	8 000	8 000	8 000	8 000	8 000	5 000	5 000
Terminal bolt size	Metric thread diameter x length		mm	M8x25	M8x25	M8x25	M10x30	M10x30	M12x40	M12x40
Terminal tightening torque	Counter torque required		Nm	15-22	15-22	15-22	30-44	30-44	50-75	50-75
Operating torque	3-pole change-over switches		Nm	7	7	7	16	16	27	27
Weight without accessories	Manual change-over switches	3-poles	kg	2.5	2.5	2.5	4.7	4.7	12.8	12.8
		4-poles	kg	3.2	3.2	3.2	5.8	5.8	15.6	15.6
Data according to IEC 60947-6-1										
Class of equipment				PC	PC	PC	PC	PC	PC	PC
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	15	15	15	25	25	38	38
Rated operational current, AC-31B		up to 415 V	A	160	200	250	315	400	630	800
Rated operational current, AC-33B		up to 415 V	A	160	200	250	315	400	630	800

[1] Utilization category B
[2] These values are given for guidance and may vary acc. to the motor manufacturer
[3] Short circuit duration > 50ms, without fuse protection
[4] Max. distance from switch frame to nearest busbar / cable support 150 mm
[5] Operating cycle: O - I - O - II - O
[6] Further ratings on request

1000 V ratings on request

Manual change-over switches
Technical data for OT1000...3200_C

Manual change-over switches

				Switch size , OT_					
Data according to IEC 60947-3				**OT_1000_**	**OT_1250_**	**OT_1600_**	**OT_2000_**	**OT_2500_**	**OT_3200_**
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V	1 000	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10	10
Rated impulse withstand voltage			kV	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	1 000	1 250	1 600	2 000	2 500	3 200
	/ ambient 40°C	In enclosure	A						
..with minimum conductor cross section		Cu	mm^2	2x300	2x400	2x500	3x500	4x500	4x1000
Rated operational current, AC-21A		up to 500 V	A	1 000	1 250	1 600	2 000[5]	2 500[5]	3 200[5]
		690 V	A	1 000	1 250	1 600			
Rated operational current, AC-22A		up to 500 V	A	1 000	1 250	1 600			
		690 V	A	1 000	1 250	1 600			
Rated operational current, AC-23A		up to 415 V	A	1 000	1 250	1 250			
		440 V	A	1 000	1 250	1 250			
		500 V	A	1 000	1 250	1 250			
		690 V	A	1 000	1 250	1 250			
Rated operational power, AC-23A[1] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V	kW	315	400	400			
		400 V	kW	560	710	710			
		415 V	kW	560	710	710			
		500 V	kW	710	900	900			
		690 V	kW	1 000	1 200	1 200			
Rated breaking capacity in category AC-23		up to 415 V	A	10 000	10 000	10 000			
		500 V	A	10 000	10 000	10 000			
		690 V	A	10 000	10 000	10 000			
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V	$\hat{i}_c$ (peak)	kA	100	100	100			
	Max. OFA_ fuse size	gG/aM	A/A	1 250/1 250	1 250/1 250	1 250/1 250			
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA	106	106	106			
	Max. OFA_ fuse size	gG/aM	A	1 250/1 250	1 250/1 250	1 250/1 250			
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s	kA	50	50	50	50	50	
		690 V 0.25s	kA	50	50	50	50	50	
		690 V 1s	kA	50	50	50	55	55	65
Rated short-time making capacity[2]	I_{cm} (peak)[3]	690 V	kA	92	92	92	110	110	143
Power loss / pole	With rated current		W	19	29	48	55	85	95
Mechanical endurance	Number of oper. cycles[4]		Cycles	3 000	3 000	3 000	2 000	2 000	2 000
Terminal bolt size	Metric thread diameter x length		mm	M12x60	M12x60	M12x60	M12x60	M12x60	M12x100
Terminal tightening torque	Counter torque required		Nm	50-75	50-75	50-75	50-75	50-75	50-75
Operating torque	3-pole change-over switches		Nm	78	78	78	78	78	80
Weight without accessories	Manual change-over switches	3-poles	kg	32.3	32.3	34.8	48	48	57
		4-poles	kg	40.2	40.2	43.3	60	60	72
Data according to IEC 60947-6-1									
Class of equipment				PC	PC	PC	PC	PC	
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	50	50	50	50	50	
Rated operational current, AC-31B		up to 415 V	A	1 000	1 250	1 600	2 000	2 000	
Rated operational current, AC-33B		up to 415 V	A	1 000	1 000	1 000			

[1] These values are given for guidance and may vary acc. to the motor manufacturer
[2] Short circuit duration > 50ms, without fuse protection
[3] Max. distance from switch frame to nearest busbar / cable support 150 mm
[4] Operating cycle: O - I - O - II - O
[5] Category AC-21B, up to 415V
1000 V ratings on request

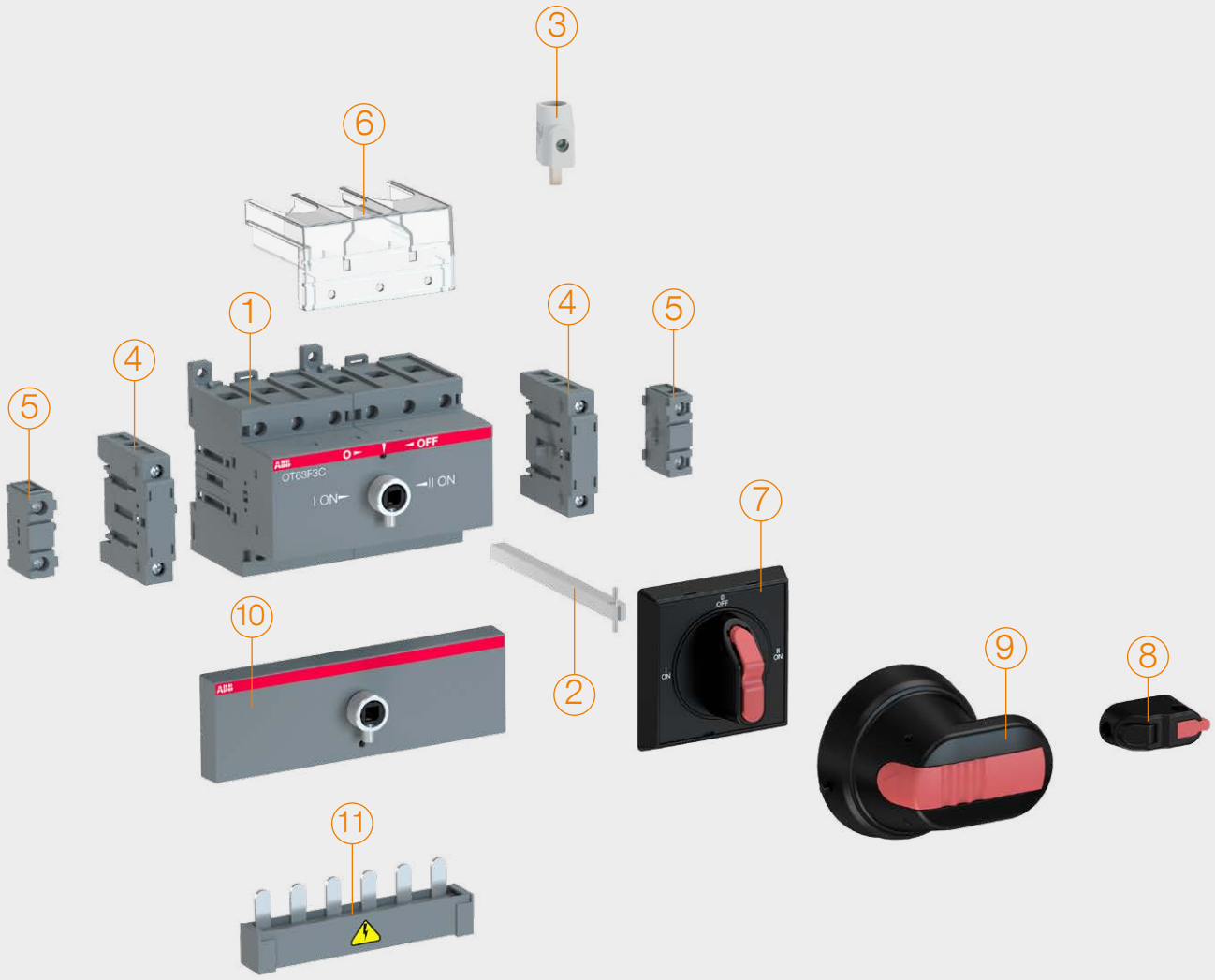
Manual change-over switches
Technical data for UL/CSA switches OT30...100_C, OT200...800U_C

UL/CSA manual change-over switches

Data according to UL and CSA				Switch size						
				OT30_	OT60_	OT100_	OT200U_	OT400U_	OT600U_	OT800U_
Standards				UL98 CSA 22.2#4	UL98 CSA 22.2#4	UL98 CSA 22.2#4	UL98 CSA 22.2#4	UL98 CSA 22.2#4	UL98 CSA 22.2#4	UL98 CSA 22.2#4
General use ratings, 1- or 3-phase ratings			V A	600 30	600 60	600 100	600 200	600 400	600 600	600 800
Horsepower, 3-phase ratings		240V 480V 600V	HP HP HP	10 20 30	20 40 40	30 50 50	75 150 200	125 250 350	200 450 500	250 500 500
Short-circuit ratings	Required protection	Circuit breaker Class J/L fuse …fuse size Class RK5 fuse …fuse size	kA kA A kA A	 50 / - 60	 50 / - 150	 50 / - 150	14 65/100 400/200	25 100 600	35 100 800 100 600	42 100 800
Data according to IEC 60947-3										
Rated insulation voltage and rated operational voltage AC20/DC20	Pollution degree 3		V	750	750	750	1 000	1 000	1 000	1 000
Dielectric strength Rated impulse withstand voltage	50 Hz 1min.		kV kV	6 8	6 8	6 8	10 12	10 12	10 12	10 12
Rated thermal current and rated operational current AC20/DC20 ..with minimum conductor cross section	/ ambient 40°C	In open air Cu	A AWG/ mm²	40 14 - 4	63 14 - 4	100 8 - 1/0	250 120	400 240	800 2x240	1600 2x500
Rated operational current, AC-21A		up to 690 V	A	40	63	100	250	400	800	1 600
Rated operational current, AC-22A		up to 500 V 690 V	A A	40 40	63 63	100 100	250 250	400 400	800 800	1 600 1 600
Rated operational current, AC-23A		up to 500 V 690 V	A A	40 40	63 40	60 40	250 250	400 400	800 800	1 250 1 250
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$ peak value[1]	I_p (r.m.s.) : 100 kA, 500 V Max. OFA_ fuse size I_p (r.m.s.) : 80 kA, 690 V Max. OFA_ fuse size	$\hat{i}_c$ (peak) gG/aM $\hat{i}_c$ (peak) gG/aM	kA A kA A				40.5 315/315 40.5 355/315	61.5 500/450 59 500/500	90 800/800 83,5 800/1 000	106 1 250/1 250
Rated short-time withstand current	I_{cw} (r.m.s.)	690V, 1s	kA	2.5	2.5	2.5	8	15	20	50
Rated short-circuit making capacity	I_{cm} (peak)	690V	kA	3.6	3.6	3.6	30	65	80	92
Mechanical endurance	Number of operating cycles[2]		Cycles	6000	6000	6000	8 000	8 000	5 000	3 000
Terminal bolt size	Metric thread diameter x length		mm				M8x25	M10x30	M12x40	M12x60
Terminal tightening torque	Counter torque required		Nm				15...22	30...44	50...75	50...75
Operating torque	3-pole switches		Nm	2	2	2	7	16	27	78
Weight without accessories	3-pole switch 4-pole switch		kg kg	0.90 1.18	0.90 1.18	0.90 1.18	2.8 3.5	5.0 6.1	13.1 15.9	34.8 43.3
Data according to IEC 60947-6-1										
Class of equipment Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s					PC 15	PC 25	PC 38	PC 50
Rated operational current, AC-31B		up to 415 V	A				250	400	800	1 600
Rated operational current, AC-33B		up to 415 V	A				250	400	800	1 000

[1] The fuse in single-phase test according to IEC 60269
[2] Operating cycle: O - I - O - II - O

Manual change-over switches
Ordering information for OT16...OT125_C



Manual change-over switch accessory guide

1. Manual change-over switch
2. Extended shaft
3. Terminal clamp
4. Fourth pole
5. Auxiliary contact
6. Terminal shroud
7. Selector handle, black or red/yellow
8. Direct handle knob
9. Pistol handle, black or red/yellow
10. Conversion kit
11. Parallel connection kit

Please note that listed accessories are not automatically included in your order.
See next page for recommendations.

Manual change-over switches
Ordering information for OT16...OT125F_C

OT16...40F3C

OT63...80F3C

OT100...125F3C

Direct operation:

OHBS3

OHBS9

External operation:

OHBS2AJE011

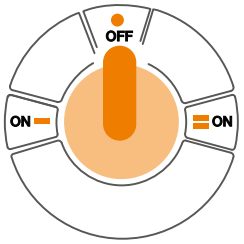
OHB45J6E311

OZXA38

OZXA32

Open transition

Simple I-O-II –operation where the handle is padlockable in O-position and door interlock available in the I- and II-positions (and when padlocked). Din-rail or base mounting.



Manual change-over switches, open transition, OT16...OT125F_C

Handle and shaft not included. See recommended accessories.

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
3	16	11	16/7.5	OT16F3C	1SCA104816R1001	0.25
4	16	11	16/7.5	OT16F4C	1SCA104831R1001	0.31
3	25	17	20/9	OT25F3C	1SCA104863R1001	0.25
4	25	17	20/9	OT25F4C	1SCA104877R1001	0.31
3	40	27	23/11	OT40F3C	1SCA104913R1001	0.25
4	40	27	23/11	OT40F4C	1SCA104934R1001	0.31
3	63	43	45/22	OT63F3C	1SCA105338R1001	0.64
4	63	43	45/22	OT63F4C	1SCA105369R1001	0.70
3	80	55	75/37	OT80F3C	1SCA105402R1001	0.64
4	80	55	75/37	OT80F4C	1SCA105418R1001	0.70
3	100	70	80/37	OT100F3C	1SCA105008R1001	0.90
4	100	70	80/37	OT100F4C	1SCA105019R1001	1.18
3	125	86	90/45	OT125F3C	1SCA105037R1001	0.90
4	125	86	90/45	OT125F4C	1SCA105054R1001	1.18

Cable cross section of the change-over switches

Suitable for switches	Cable cross section [mm²]
OT16...40F_C	0.75 … 10
OT63...80F_C	1.5 … 35
OT100...125F_C	10 … 70

Recommended accessories: Handles, shafts and parallel connection kit

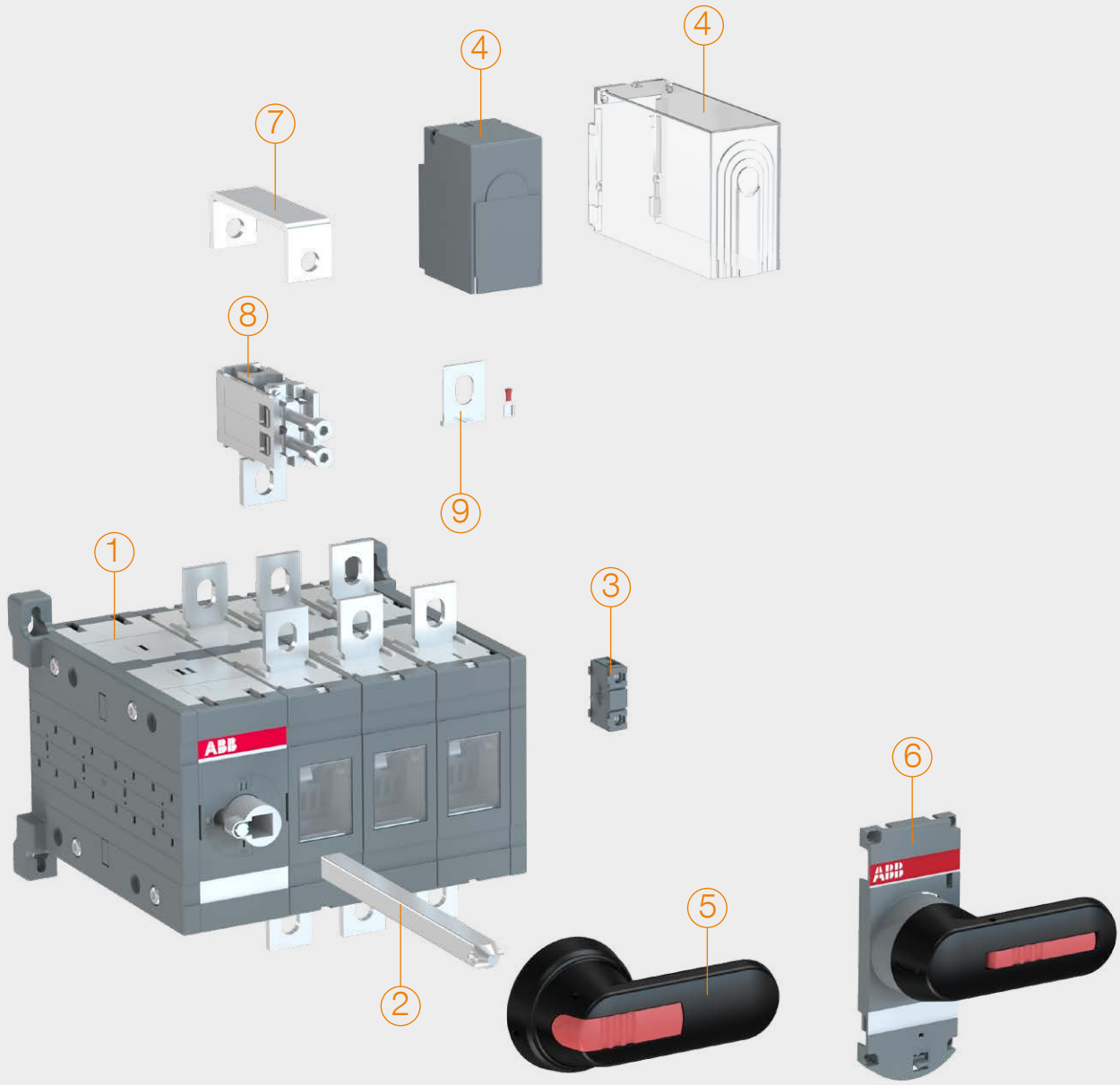
Suitable for switches	Operating type	Handle type	Order number	Shaft type	Order number
OT16…40F_C	Direct operation	OHBS3	1SCA108320R1001	–	–
OT63…125F_C	Direct operation	OHBS9	1SCA108665R1001	–	–
OT16…125F_C	Selector handle (external)	OHBS2AJE011	1SCA105220R1001	OXS6X120	1SCA101654R1001
OT16…125F_C	Pistol handle (external)	OHB45J6E311	1SCA022817R2130	OXP6X170	1SCA108224R1001

Parallel connection kits

Finger protected connection bars for parallel connection of the upper or lower terminals. The bars accept additional cables, the maximum size is stated below.

Suitable for switches	Cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT16…40F3C	6 (fine stranded), 10 (stranded)	OZXA33	1SCA022685R0310	1	0.02
OT16…40F4C	6 (fine stranded), 10 (stranded)	OZXA32	1SCA022683R4110	1	0.03
OT63…80F3C	25	OZXA38	1SCA022785R2140	1	0.06
OT63…80F4C	25	OZXA39	1SCA022790R3820	1	0.09
OT100…125F3C	50	OZXA40	1SCA022790R3910	1	0.16
OT100…125F4C	50	OZXA41	1SCA022790R4040	1	0.24

Manual change-over switches
Ordering information for OT160...OT800_C, OT200...OT600U_C



Manual change-over switch accessory guide

1. Manual change-over switch
2. Extended shaft
3. Auxiliary contact
4. Terminal shroud
5. Pistol handle
6. Direct mount handle*
7. Bridging bar
8. Terminal clamp
9. Voltage sensing connector

Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.

Manual change-over switches
Ordering information for OT160...OT250_C

OT160...250E03CP

OT160...250E03WCP

OT160...250E04CP

OT160...250E04WCP

OT160...250E33CP

OT160...250E33WCP

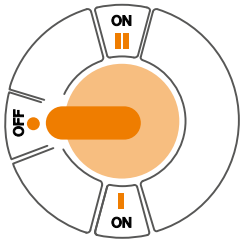
OXP6X150_161

OHB65J6E011

OTZC13

Open transition

Simple I-O-II –operation where the handle is padlockable in O-position and door interlock available in the I- and II-positions (and when padlocked).



Manual change-over switches, open transition, OT160...OT250_CP

Delivered with a black plastic IP65 I-0-II pistol handle (see the table below), shaft and bolt set for the cable connection. 1000V versions available on request.

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
Types -W: with wide phase distance.						
3	160	110	160/90	OT160E03CP	1SCA022772R6510	3.3
3	160	110	160/90	OT160E03WCP	1SCA022772R8210	3.6
4	160	110	160/90	OT160E04CP	1SCA022775R9440	4.1
4	160	110	160/90	OT160E04WCP	1SCA022775R0220	4.4
3	200	135	200/110	OT200E03CP	1SCA022771R7520	3.3
3	200	135	200/110	OT200E03WCP	1SCA022772R8720	3.6
4	200	135	200/110	OT200E04CP	1SCA022771R7280	4.1
4	200	135	200/110	OT200E04WCP	1SCA022775R0650	4.4
3	250	170	250/140	OT250E03CP	1SCA022771R3450	3.3
3	250	170	250/140	OT250E03WCP	1SCA022772R8300	3.6
4	250	170	250/140	OT250E04CP	1SCA022775R4640	4.1
4	250	170	250/140	OT250E04WCP	1SCA022775R0810	4.4
4	250	170	250/140	OT250E13CP	1SCA022777R0330	4.1
6	250	170	250/140	OT250E33CP	1SCA118551R1001	5.7
6	250	170	250/140	OT250E33WCP	1SCA118608R1001	6.0

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT160...250_C	OXP6x161	OHB65J6E011	M8x25

Recommended accessories: Bridging bars

Bridging bars are an easy and cost-efficient way to make load side connections.

Suitable for switches	No. of poles	Type	Order number	Units/ type pcs	Weight / unit
OT160…250_C	3	OTZC13	1SCA022767R6910	3	0.5
OT160…250_C	4	OTZC14	1SCA022767R7040	4	0.8

Manual change-over switches
Ordering information for OT315...OT800_C

OT315...400E03CP

OT315...400E13CP

OT315...400E33CP

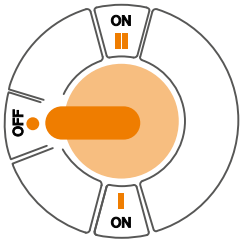
OT630...800E03CP

OT630...800E04CP

OT630...800E33CP

Open transition

Simple I-O-II –operation where the handle is padlockable in O-position and door interlock available in the I- and II-positions (and when padlocked).



Manual change-over switches, open transition, OT315...OT800_CP

Delivered with a black plastic IP65 I-0-II pistol handle (see the table below), shaft and bolt set for the cable connection.

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
Place of mechanism, see the pictures.						
3	315	215	315/160	OT315E03CP	1SCA022772R6780	5.9
3	315	215	315/160	OT315E12CP	1SCA022776R9910	5.9
4	315	215	315/160	OT315E04CP	1SCA022775R7150	7.1
4	315	215	315/160	OT315E13CP	1SCA022777R0410	7.1
6	315	215	315/160	OT315E33CP	1SCA118635R1001	9.5
3	400	275	400/220	OT400E03CP	1SCA022771R8500	5.9
3	400	275	400/220	OT400E12CP	1SCA022776R9590	5.9
4	400	275	400/220	OT400E04CP	1SCA022771R8680	7.1
4	400	275	400/220	OT400E13CP	1SCA022777R0500	7.1
6	400	275	400/220	OT400E33CP	1SCA118629R1001	9.5
3	630	435	630/355	OT630E03CP	1SCA022785R6050	17.7
3	630	435	630/355	OT630E12CP	1SCA022785R8690	17.7
4	630	435	630/355	OT630E04CP	1SCA022785R6130	21
4	630	435	630/355	OT630E13CP	1SCA022785R9070	21
6	630	435	630/355	OT630E33CP	1SCA118652R1001	27.6
3	800	550	800/450	OT800E03CP	1SCA022785R6300	17.7
3	800	550	800/450	OT800E12CP	1SCA022785R8850	17.7
4	800	550	800/450	OT800E04CP	1SCA022785R6210	21
4	800	550	800/450	OT800E13CP	1SCA022785R9230	21
6	800	550	800/450	OT800E33CP	1SCA118649R1001	27.6

1000V versions available on request

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT315...400_C	OXP12x166	OHB95J12E011	M10x30
OT630...800_C	OXP12x185	OHB125J12E011	M12x40

OXP12X185

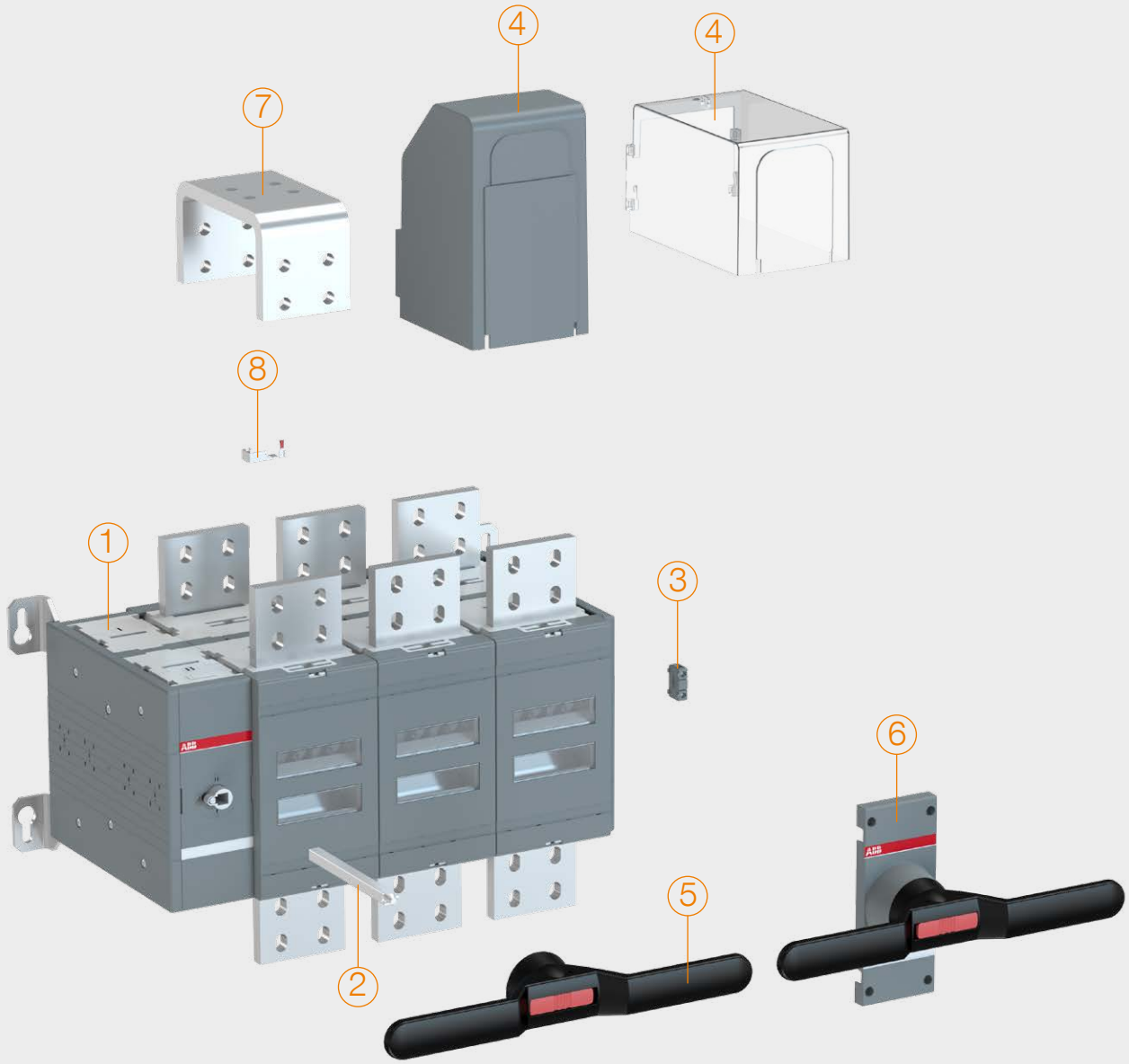
OHB125J12E011

OTZC23

Recommended accessories: Bridging bars

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT315...400_C	3	OTZC23	1SCA022767R7120	3	0.6
OT315...400_C	4	OTZC24	1SCA022767R7210	4	0.8
OT315...400_C	3	OTZC33	1SCA022767R7020	3	1
OT315...400_C	4	OTZC34	1SCA022767R7110	4	1.3

Manual change-over switches
Ordering information for OT1000...OT3200_C, OT800U_C



Manual change-over switch accessory guide

1. Manual change-over switch
2. Extended shaft
3. Auxiliary contact
4. Terminal shroud
5. Pistol handle
6. Direct mount handle*
7. Bridging bar
8. Voltage sensing connector

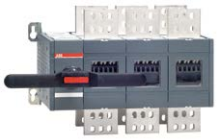
Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.
*) Optional handle types available. Please see Accessories for more details.

Manual change-over switches
Ordering information for OT1000...OT3200E_C

OT1250E03CP

OT1000...1250E22CP

OT1600E03CP



OT2000...2500E03CP

OT3200E03CP

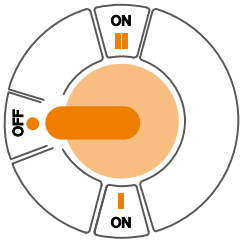
OXP12X185

OHB200J12PE011

OTZC44

Open transition

Simple I-O-II –operation where the handle is padlockable in O-position and door interlock available in the I- and II-positions (and when padlocked).



Manual change-over switches, open transition, OT1000...OT3200_C

Delivered with a black plastic IP65 I-0-II pistol handle (see the table below), shaft and bolt set for the cable connection.

No. of poles	Rated current[1] and power AC-21A/AC-22A ≤ 415V I[A]	400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
Place of mechanism, see the pictures.						
3	1000	680	1000/560	OT1000E03CP	1SCA022872R1680	48
4	1000	680	1000/560	OT1000E04CP	1SCA022872R1500	60
4	1000	680	1000/560	OT1000E22CP	1SCA103289R1001	60
3	1250	850	1250/710	OT1250E03CP	1SCA022872R0790	48
4	1250	850	1250/710	OT1250E04CP	1SCA022872R1250	60
4	1250	850	1250/710	OT1250E22CP	1SCA103311R1001	60
3	1600	1000	1250/710	OT1600E03CP	1SCA022872R1840	51
4	1600	1000	1250/710	OT1600E04CP	1SCA022872R2310	63
4	1600	1000	1250/710	OT1600E22CP	1SCA103303R1001	63
3	2000	1350		OT2000E03CP	1SCA103908R1001	70
4	2000	1350		OT2000E04CP	1SCA103912R1001	86
4	2000	1350		OT2000E22CP	1SCA103953R1001	86
3	2500	1700		OT2500E03CP	1SCA105615R1001	70
4	2500	1700		OT2500E04CP	1SCA103906R1001	86
4	2500	1700		OT2500E22CP	1SCA103902R1001	86
3	3200	2170		OT3200E03CP	1SCA129156R1001	79
4	3200	2170		OT3200E04CP	1SCA129158R1001	97
4	3200	2170		OT3200E22CP	1SCA131131R1001	97

[1] OT2000…3200: Category AC-21B
1000V versions available on request

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT1000...2500_C	OXP12x185	OHB200J12PE011	M12x60
OT3200_C	OXP12x185	OHB200J12PE011	M12x100

Recommended accessories: Bridging bars

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT1000…1250_C	4	OTZC44	1SCA022868R0800	4	5.6
OT1600_C	4	OTZC54	1SCA022767R1010	4	7.4
OT2000…2500_C	4	OTZC64	1SCA022868R1360	4	14.4
OT_3200E_C	4	OTZC74	1SCA128844R1001	4	18.7

Manual change-over switches
Ordering information for OT160...OT800_CF

OT160...250E03CFP

OT160...250E03WCFP

OT315...400E13CFP

OT630...800E03CFP

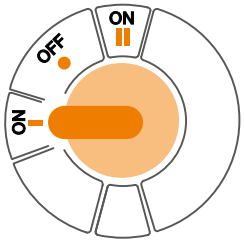
OXP12X185

OHB65J6E69

OHB95J12E69

Fast transition

Faster I-O-II –operation with no padlocking opportunity or interlocking. 90° operating angle for fast switching and minimized OFF-time between transfer from I-II or II-I (as low as 20ms).



Manual change-over switches, fast transition, OT160...OT800_CF

Delivered with a black plastic IP65 I-0-II pistol handle (see the table below), shaft and bolt set for the cable connection. Handle not padlockable and no door interlocking.

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
Place of mechanism, see the pictures. Types -W: with wide phase distance.						
3	160	110	160/90	OT160E03CFP	1SCA106086R1001	3.3
3	160	110	160/90	OT160E03WCFP	1SCA108484R1001	3.6
4	160	110	160/90	OT160E04CFP	1SCA108489R1001	4.1
4	160	110	160/90	OT160E04WCFP	1SCA108492R1001	4.4
3	200	135	200/110	OT200E03CFP	1SCA108520R1001	3.3
3	200	135	200/110	OT200E03WCFP	1SCA107578R1001	3.6
4	200	135	200/110	OT200E04CFP	1SCA108528R1001	4.1
4	200	135	200/110	OT200E04WCFP	1SCA108531R1001	4.4
3	250	170	250/140	OT250E03CFP	1SCA108591R1001	3.3
3	250	170	250/140	OT250E03WCFP	1SCA107577R1001	3.6
4	250	170	250/140	OT250E04CFP	1SCA108600R1001	4.1
4	250	170	250/140	OT250E04WCFP	1SCA108606R1001	4.4
3	315	215	315/160	OT315E03CFP	1SCA108629R1001	5.9
4	315	215	315/160	OT315E04CFP	1SCA114535R1001	7.1
3	400	275	400/220	OT400E03CFP	1SCA106360R1001	5.9
4	400	275	400/220	OT400E04CFP	1SCA108650R1001	7.1
3	630	435	630/355	OT630E03CFP	1SCA106915R1001	17.7
4	630	435	630/355	OT630E04CFP	1SCA108753R1001	21
3	800	550	800/450	OT800E03CFP	1SCA106916R1001	17.7
4	800	550	800/450	OT800E04CFP	1SCA106945R1001	21

Shafts, handle and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT160...250_CF	OXP6x161	OHB65J6E69	M8x25
OT315...400_CF	OXP12x166	OHB95J12E69	M10x30
OT630...800_CF	OXP12x185	OHB145J12E69	M12x40

Manual change-over switches
Ordering information for OT160...OT800_CL

OT160...250E03CLP

OT160...250E03WCLP

OT315...400E03CLP

OT630...800E03CLP

OXP12X185

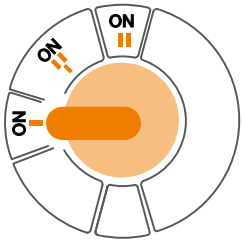
OHB65J6E65

OHB95J12E65

OHB145J12E65

Closed transition

I – I+II – II –operation, or closed transition, means that there is no OFF-position. There is a I+II –position between I and II, in which both switches are closed simultaneously.



Manual change-over switches, closed transition, OT160...OT800_CL

Delivered with a black plastic IP65 I - I+II - II pistol handle (see the table below), shaft and bolt set for the cable connection.

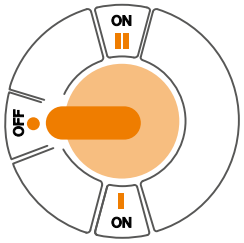
No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
Place of mechanism, see the picture. Types -W: with wide phase distance.						
3	160	110	160/90	OT160E03CLP	1SCA108468R1001	3.3
3	160	110	160/90	OT160E03WCLP	1SCA108486R1001	3.6
4	160	110	160/90	OT160E04CLP	1SCA108491R1001	4.1
4	160	110	160/90	OT160E04WCLP	1SCA108494R1001	4.4
3	200	135	200/110	OT200E03CLP	1SCA108522R1001	3.3
3	200	135	200/110	OT200E03WCLP	1SCA108525R1001	3.6
4	200	135	200/110	OT200E04CLP	1SCA108530R1001	4.1
4	200	135	200/110	OT200E04WCLP	1SCA108532R1001	4.4
3	250	170	250/140	OT250E03CLP	1SCA108593R1001	3.3
3	250	170	250/140	OT250E03WCLP	1SCA107576R1001	3.6
4	250	170	250/140	OT250E04CLP	1SCA108605R1001	4.1
4	250	170	250/140	OT250E04WCLP	1SCA108607R1001	4.4
3	315	215	315/160	OT315E03CLP	1SCA108630R1001	5.9
4	315	215	315/160	OT315E04CLP	1SCA106404R1001	7.1
3	400	275	400/220	OT400E03CLP	1SCA108641R1001	5.9
4	400	275	400/220	OT400E04CLP	1SCA106405R1001	7.1
3	630	435	630/355	OT630E03CLP	1SCA106917R1001	17.7
4	630	435	630/355	OT630E04CLP	1SCA106947R1001	21
3	800	550	800/450	OT800E03CLP	1SCA106928R1001	17.7
4	800	550	800/450	OT800E04CLP	1SCA106952R1001	21

[1] 1000...2500 available on request

Shafts, handles and bolt kits included as standard

Suitable for switches	Shaft	Handle	Bolt kit
OT160...250_CL	OXP6x161	OHB65J6E65	M8x25
OT315...400_CL	OXP12x166	OHB95J12E65	M10x30
OT630...800_CL	OXP12x185	OHB145J12E65	M12x40

Manual change-over switches
Ordering information for UL/CSA OT30…100_C, OT200...800U_C



Open transition

Double-throw switch for use in optional standby system. Simple I-O-II –operation where the handle is padlockable in O-position and door interlock available in the I- and II-positions (and when padlocked).


OT100...125F3C


OT200U03CP


OT400U04CP


OT600U03CP


OT800U03CP

UL/CSA manual change-over switches, open transition, OT30...100_C, OT200...800_C

The change-over switches are delivered with a black handle IP65, Nema type 1, 3R, 12, a shaft and a bolt set for the cable connection and a set of phase separators.

No. of poles	UL98 600V general use [A]	Rated current IEC60947-3 ≤ 415 V AC-21-22A [A]	Rated current IEC60947-6-1 ≤ 415V AC-31B/ AC-33B [A]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
3	30	40/40		OT30F3C	1SCA105071R1001	1	0.9
4	30	40/40		OT30F4C	1SCA146051R1001	1	1.18
3	60	63/63		OT60F3C	1SCA105078R1001	1	0.9
4	60	63/63		OT60F4C	1SCA146053R1001	1	1.18
3	100	100/80		OT100F3C	1SCA105008R1001	1	0.9
4	100	100/80		OT100F4C	1SCA105019R1001	1	1.2
3	200	250	250/250	OT200U03CP	1SCA022771R5910	1	3.6
4	200	250	250/250	OT200U04CP	1SCA022771R6210	1	4.4
3	400	400	400/400	OT400U03CP	1SCA022771R2810	1	6.2
4	400	400	400/400	OT400U04CP	1SCA022771R2300	1	8.1
3	600	800	800/800	OT600U03CP	1SCA022785R5320	1	17.9
4	600	800	800/800	OT600U04CP	1SCA022785R5410	1	21
3	800	800	1600/1000	OT800U03CP	1SCA104031R1001	1	51
4	800	800	1600/1000	OT800U04CP	1SCA104036R1001	1	63

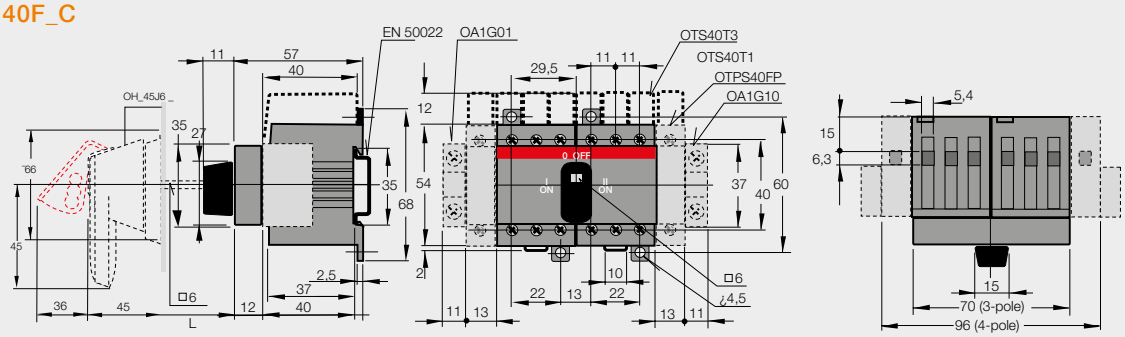
Shafts, handles and bolt kits included as standard

The handles are equipped with door interlock function in both I- and II-position and when padlocked. Padlocking possibility in O-position with 3 padlocks, bail dia Ø 5...10 mm. Indication I-O-II. Nema type 1, 3R, 12.
OT30...100F_C Handle and Shaft are not included in standard delivery.

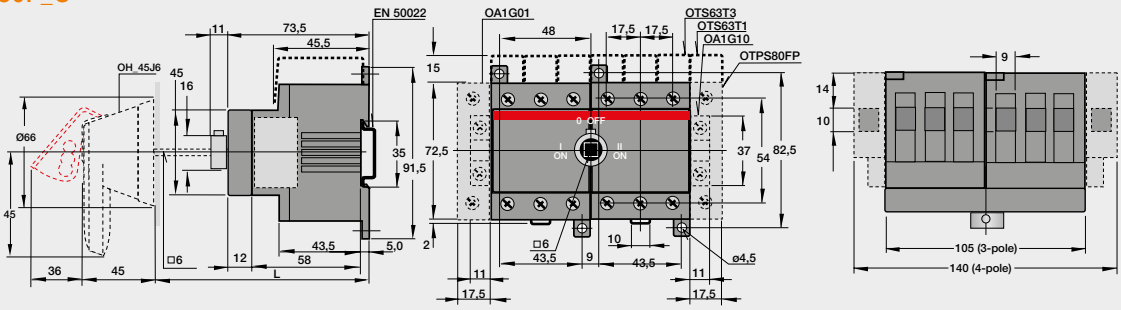
Suitable for switches	Shaft	Handle	Bolt kit
OT200U_	OXP6x161	OHB65J6E011	M8x25
OT400U_	OXP12x166	OHB95J12E011	M10x30
OT600U_	OXP12x185	OHB125J12E011	M12x40
OT800U_	OXP12X185	OHB200J12PE011	M12x60

Modular change-over switches
Dimensional drawings

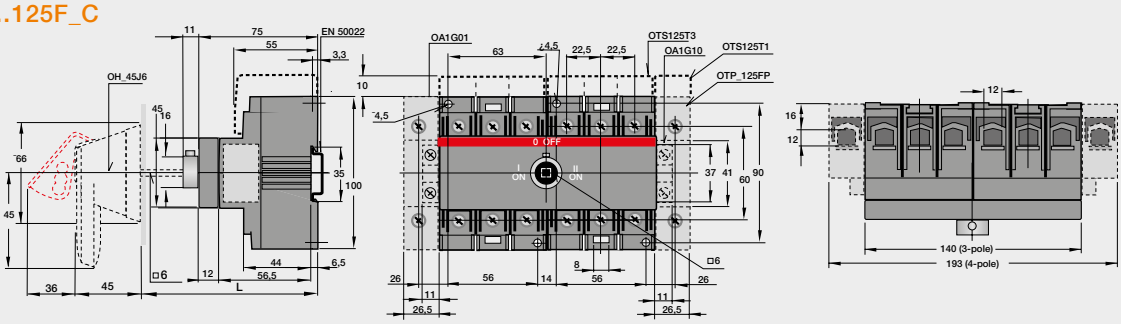
OT16...40F_C



OT63...80F_C



OT100...125F_C



OT16...40F_C

Selector handle OH_S2AJE011

Shaft OXS6X_	Installation depth [mm]
85	103…114
105	123…134
120	138…149
130	148…159

Pistol handle OH_45J6E311

Shaft OXS6X_	Installation depth [mm]
150	164…175
170	184…195
265	279…290
400	414…425

OT63...80F_C

Selector handle OH_S2AJE011

Shaft OXS6X_	Installation depth [mm]
85	121…131
105	141…151
120	156…166
130	166…176

Pistol handle OH_45J6E311

Shaft OXS6X_	Installation depth [mm]
150	183…194
170	203…214
265	298…309
400	433…444

OT100...125F_C

Selector handle OH_S2AJE011

Shaft OXS6X_	Installation depth [mm]
85	120…130
105	140…150
120	155…165
130	165…175

Pistol handle OH_45J6E311

Shaft OXS6X_	Installation depth [mm]
150	192…206
170	212…226
265	307…321
400	442…456

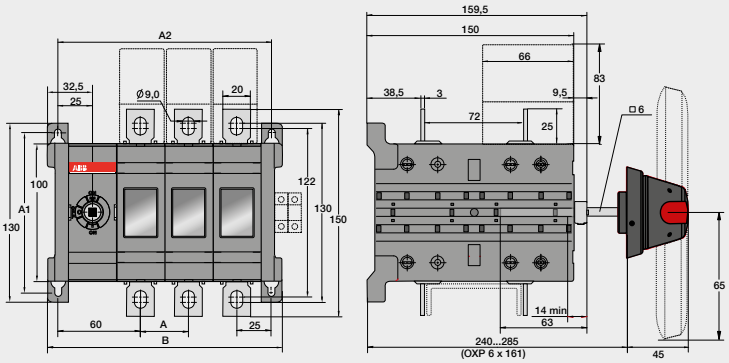
Manual change-over switches
Dimensional drawings

OT160...OT250E03/04C_P

OT160-250_C_

[mm]	E03	E04	E12	E13	E22	E23	E33
A	35	35	35	35	35	35	35
A1	116	116	116	116	116	116	116
A2	155	190	155	190	190	225	260
B	170	205	170	205	205	240	275

C000001 / OT160-250E02-04_C_ C /ES

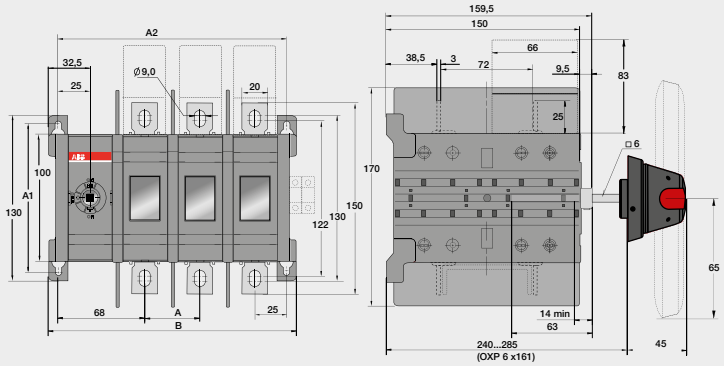


OT160...OT250E03/04WC_P

OT160-250_WC

[mm]	E03	E04
A	43	43
A1	116	116
A2	179	222
B	194	237

C000010 / OT160-250E_WC_ C /ES

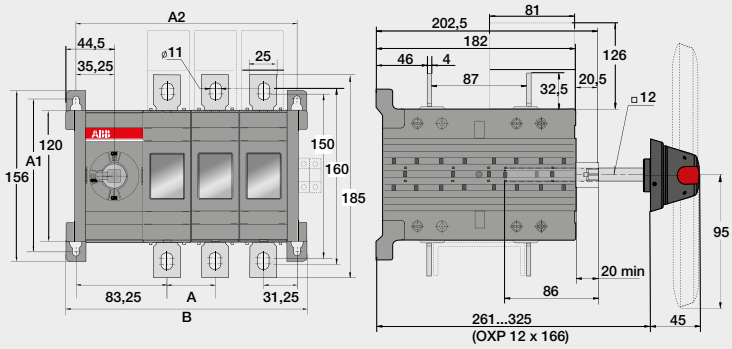


OT315...400E03/04C_P

OT315-400_C

[mm]	E03	E04	E12	E13	E22	E23	E33
A	44	44	44	44	44	44	44
A1	142	142	142	142	142	142	142
A2	202,5	246,5	202,5	246,5	246,5	290,5	334,5
B	221	265	221	265	265	309	353

C000008 / 315-400E02-04_C_ C /ES



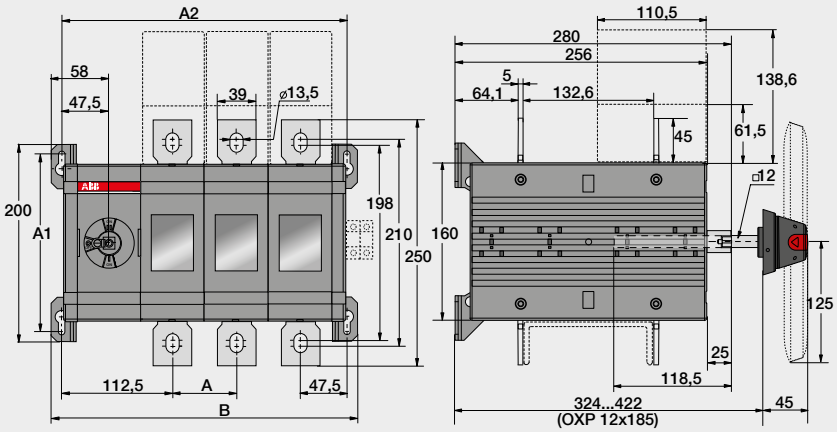
Manual change-over switches
Dimensional drawings

OT630...800E03/04C_P

OT630-800_C_

[mm]	E03	E04	E12	E13	E22	E23	E33
A	65	65	65	65	65	65	65
A1	180	180	180	180	180	180	180
A2	290	355	290	355	355	420	485
B	311	376	311	376	376	441	506

M00088/OT630-800E02-04C_ C /ES

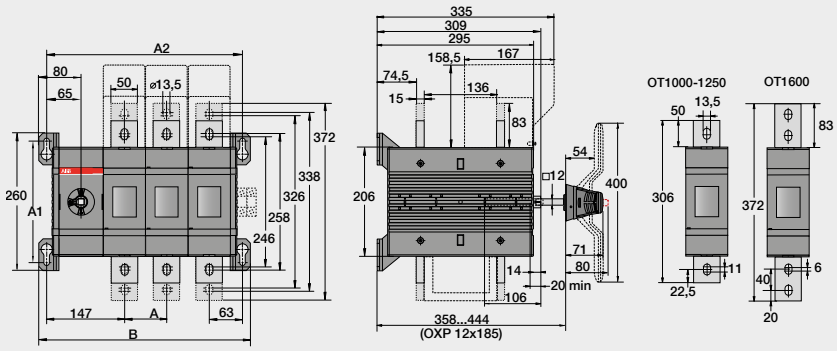


OT1000...1600E03/04CP

OT1000-1600_C_

[mm]	E03	E04	E12	E13	E22
A	80	80	80	80	80
A1	230	230	230	230	230
A2	370	450	370	450	450
B	400	480	400	480	480

M00155/OT1000-1600E_C-1 E /ES

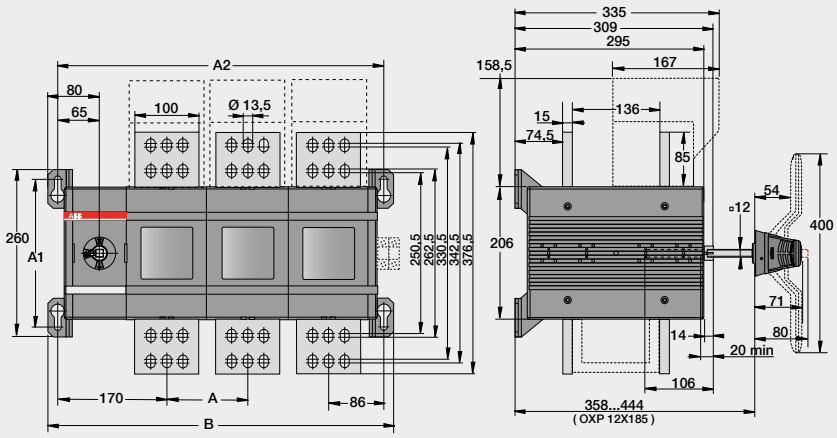


OT2000...2500E03/04CP

OT2000-2500_C_

[mm]	E03	E04	E12	E13	E22
A	126	126	126	126	126
A1	230	230	230	230	230
A2	508	634	508	634	634
B	538	664	538	664	664

M00179/ OT2000-2500E_C_ D /ES



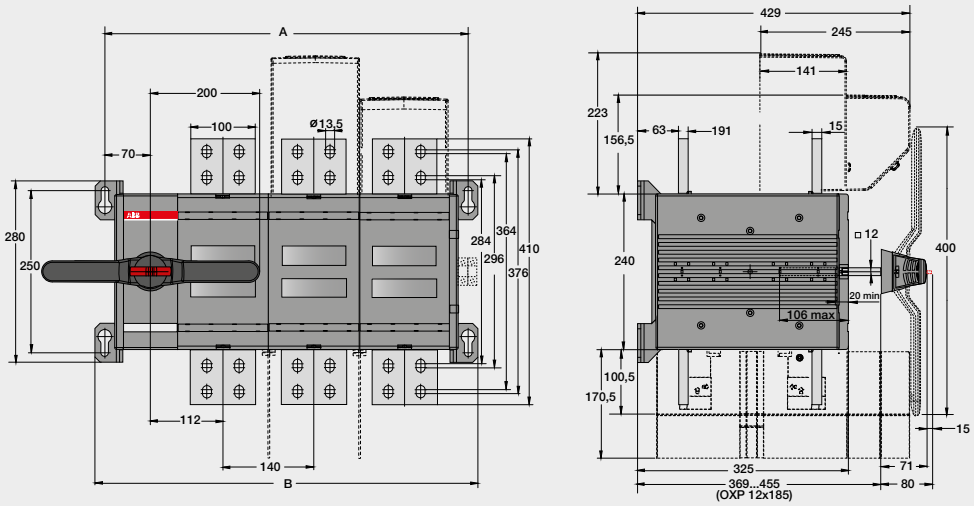
Manual change-over switches
Dimensional drawings

OT3200E02/03/04C_P

OT3200_C

[mm]	E02	E03	E04
A	420	560	700
B	450	590	730

M00435/OT3200E02-04C B

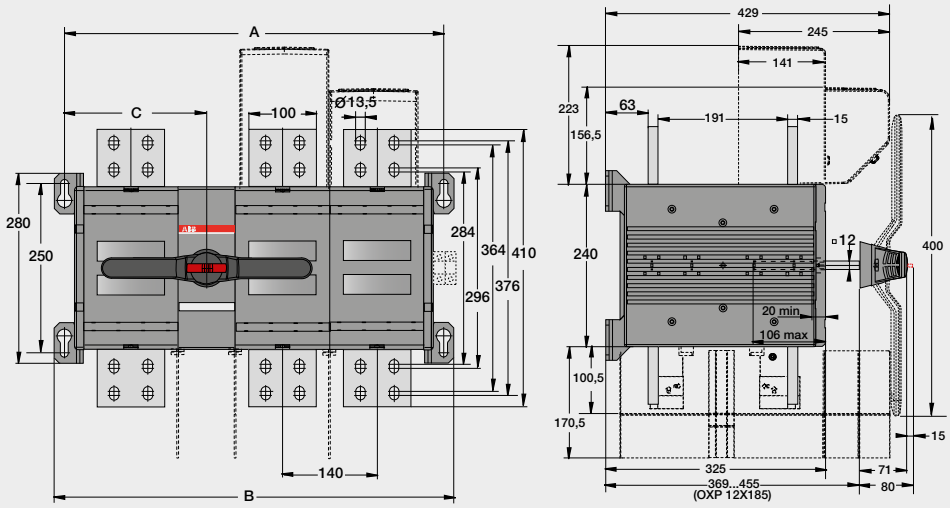


OT3200E12/13/22C_P

OT3200E_C

[mm]	E12	E13	E22
A	560	700	700
B	590	730	730
C	210	210	350

M00436/OT3200E12-22C B



Manual change-over switches
Dimensional drawings for UL/CSA -types

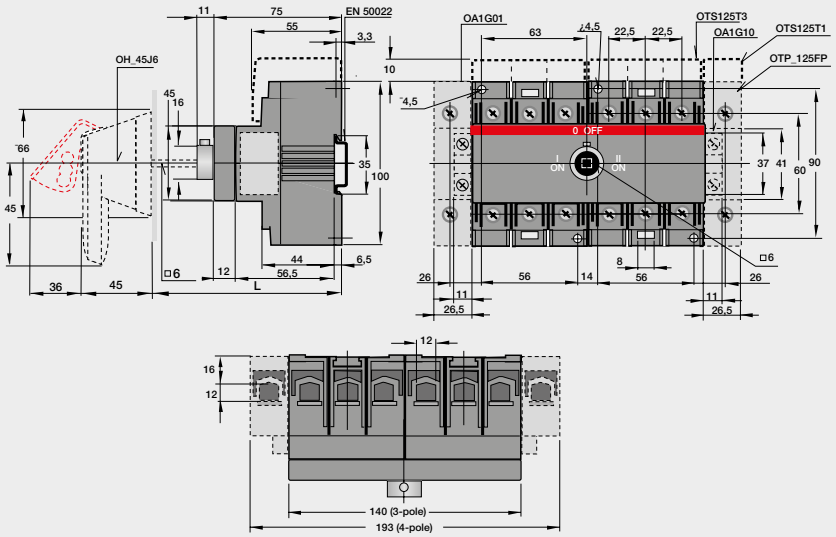
OT30...100_C

Selector handle OH_S2AJE011

Shaft 0XS6X_	Installation depth [mm]
85	120…130
105	140…150
120	155…165
130	165…175

Pistol handle OH_45J6E311

Shaft 0XS6X_	Installation depth [mm]
150	192…206
170	212…226
265	307…321
400	442…456

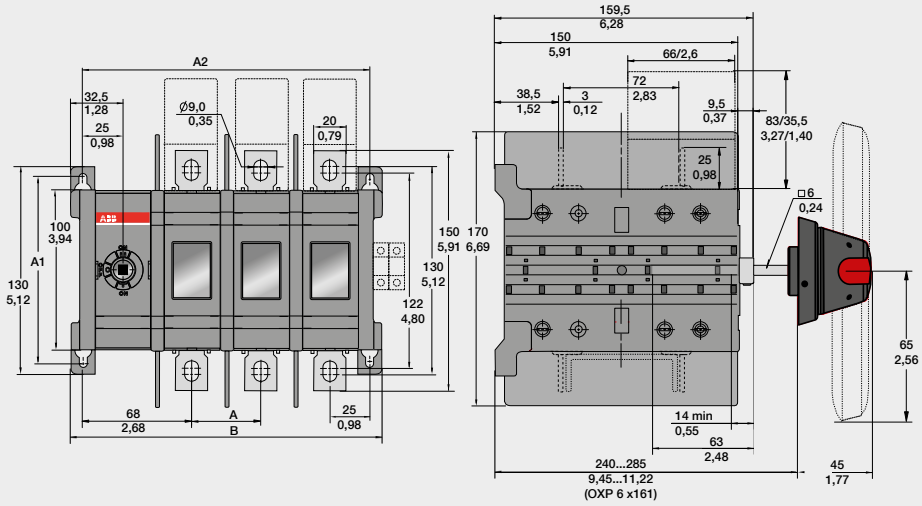


OT200U03/04CP

OT200_C_

[mm/in]	U03	U04
A	43/1,69	43/1,69
A1	116/4,57	116/4,57
A2	179/7,05	222/8,74
B	194/7,64	237/9,33

C000002 / OT200U02_04_C _ C /ES

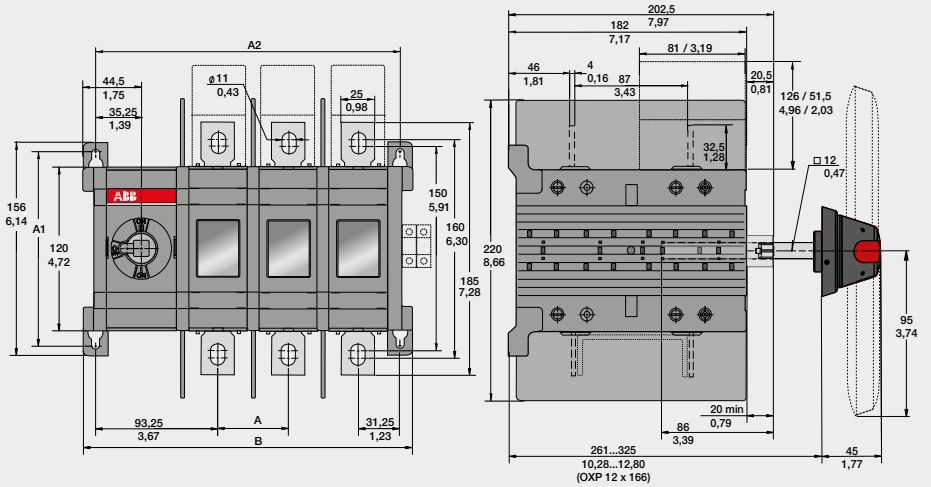


OT400U03/04CP

OT400_C_

[mm/in]	U03	U04
A	54/2,13	54/2,13
A1	142/5,59	142/5,59
A2	232,5/9,15	286,5/11,28
B	251/9,88	305/12,01

C000009 / OT400U02-04_C_ C /ES



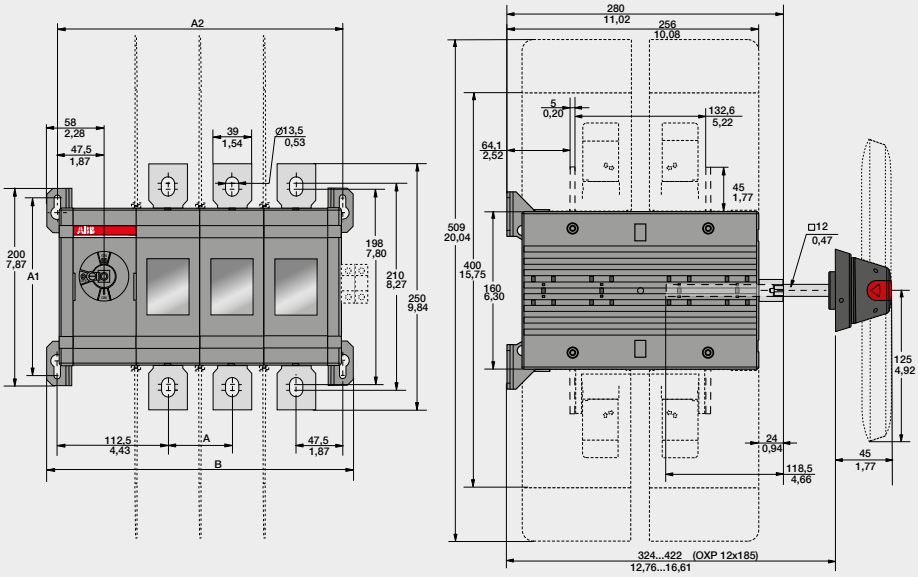
Manual change-over switches
Dimensional drawings for UL/CSA -types

OT600U03/04CP

OT600_C_

[mm/in]	U03	U04
A	65/2,56	65/2,56
A1	180/7,09	180/7,09
A2	290/11,42	355/13,98
B	311/12,24	376/14,80

M00087/OT600U02-04C_ C /ES

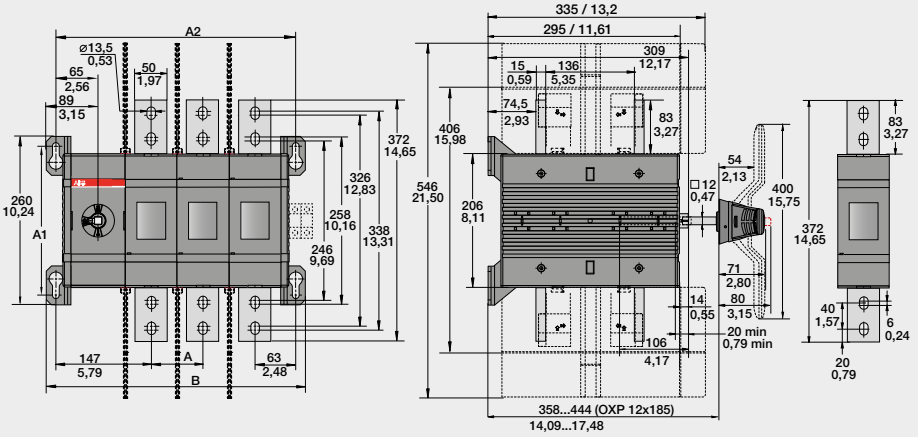


OT800U03/04CP

OT800_C_

[mm/in]	U03	U04
A	80/3,15	80/3,15
A1	230/9,06	230/9,06
A2	370/14,56	450/17,72
B	400/15,75	480/18,90

M00156/OT800-1200U_C-1 C /ES



Optional accessories for manual change-over switches
Ordering information for handle knobs

OHRS2_

OHRS3_

OHBS9_

OHRS9_

OHBS11

OHBS12

Handle knobs

No shaft needed, direct mounting on the top of the switch.

Suitable for switches	Colour	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
Padlockable in 0-position					
OT16…80F_C	Black	OHBS2/1	1SCA109090R1001	1	0.01
OT16…80F_C	Black	OHBS2	1SCA109089R1001	10	0.01
OT16…80F_C	Red	OHRS2/1	1SCA108599R1001	1	0.01
OT16…80F_C	Red	OHRS2	1SCA108598R1001	10	0.01
OT16…80F_C	Black	OHBS12/1	1SCA109094R1001	1	0.01
OT16…80F_C	Black	OHBS12	1SCA108252R1001	10	0.01
OT16…80F_C	Red	OHRS12/1	1SCA109097R1001	1	0.01
OT16…80F_C	Red	OHRS12	1SCA108253R1001	10	0.01
OT100...125F_C	Black	OHBS11/1	1SCA109093R1001	1	0.02
OT100...125F_C	Black	OHBS11	1SCA109092R1001	10	0.02
Non-padlockable					
OT16…80F_C	Black	OHBS3/1	1SCA108319R1001	1	0.01
OT16…80F_C	Black	OHBS3	1SCA108320R1001	10	0.01
OT16…80F_C	Red	OHRS3/1	1SCA108688R1001	1	0.01
OT16…80F_C	Red	OHRS3	1SCA108667R1001	10	0.01
OT100...125F_C	Black	OHBS9/1	1SCA108689R1001	1	0.01
OT100...125F_C	Black	OHBS9	1SCA108665R1001	10	0.01
OT100...125F_C	Red	OHRS9/1	1SCA108690R1001	1	0.01
OT100...125F_C	Red	OHRS9	1SCA108666R1001	10	0.01

Optional accessories for manual change-over switches
Ordering information for external handles

OHBS2_

OHB45J6_

OHB65J6_

OHY125J12_

OHB274J12_

OHB200J12P_

OHB65J6E69

Selector handle, indication I-O-II

IP65, Nema type 1, 3R, 12. Padlockable in O -position with maximum three padlocks with bail diameter 5...8 mm (two lower holes) and 5...6.3 mm (the upper hole). Door interlock in I- and II-position and when padlocked in O-position.

Suitable for switches	Colour	Shaft diameter [mm]	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT16...125F_C	Black	6	OHBS2AJE011	1SCA105220R1001	1	0.07
OT16...125F_C	Red-yellow	6	OHYS2AJE011	1SCA105301R1001	1	0.07

Pistol handle, plastic, indication I-O-II

Suitable for switches	Colour	Shaft diameter [mm]	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
Padlockable in all positions						
IP65, Nema type 1, 3R, 12. Door interlock in I- and II-position and when padlocked. Padlocking possibility with three padlocks, bail dia Ø 5...10 mm.						
OT16...125F_C	Black	6	OHB45J6E311	1SCA022817R2130	1	0.10
OT16...125F_C	Red-yellow	6	OHY45J6E311	1SCA022817R2300	1	0.10
OT160…250_C	Black	6	OHB65J6E311	1SCA022662R4730	1	0.12
OT315…400_C	Black	12	OHB95J12E311	1SCA022779R2140	1	0.12
OT630…800_C	Black	12	OHB125J12E311	1SCA022615R1730	1	0.14
OT1000…3200_C	Black	12	OHB200J12PE311	1SCA104685R1001	1	0.40
Padlockable in the O-position						
IP65, Nema type 1, 3R, 12. Door interlock in I- and II-position and when padlocked. Padlocking possibility with three padlocks, bail dia Ø 5...10 mm.						
OT16…125F_C	Black	6	OHB45J6E011	1SCA022594R7110	1	0.10
OT16…125F_C	Red-yellow	6	OHY45J6E011	1SCA022817R2210	1	0.10
OT160…250_C	Black	6	OHB65J6E011	1SCA022383R2480	1	0.12
OT160…250_C	Red-yellow	6	OHY65J6E011	1SCA022779R1840	1	0.12
OT315…400_C	Black	12	OHB95J12E011	1SCA022621R0760	1	0.12
OT315…400_C	Red-yellow	12	OHY95J12E011	1SCA022621R0920	1	0.12
OT630…800_C	Black	12	OHB125J12E011	1SCA022589R3340	1	0.14
OT630…800_C	Red-yellow	12	OHY125J12E011	1SCA022615R1650	1	0.14
OT1000…3200_C	Black	12	OHB274J12E011	1SCA122306R1001	1	0.54
OT1000…3200_C	Black	12	OHB200J12PE011	1SCA022873R4230	1	0.40
OT1000…3200_C	Red-yellow	12	OHY200J12PE011	1SCA104686R1001	1	0.40
Handle not padlockable and no door interlocking						
IP65, operating angle 90°.						
OT160...250_CF	Black	6	OHB65J6E69	1SCA112052R1001	1	0.12
OT315...400_CF	Black	12	OHB95J12E69	1SCA112058R1001	1	0.12
OT630...800_CF	Black	12	OHB145J12E69	1SCA112066R1001	1	0.14

Optional accessories for manual change-over switches
Ordering information for external handles

OHB65J6E65

OHB95J12E65

OTV250ECK

OTV1000ECK

OTV1000ECLK

Pistol handle for closed transition types, plastic, indication I - I+II - II

IP65, operating angle 90°.

Suitable for switches	Colour	Shaft diameter [mm]	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
Handle not padlockable and no door interlocking						
OT160...250_CL	Black	6	OHB65J6E65	1SCA112050R1001	1	0.12
OT315...400_CL	Black	12	OHB95J12E65	1SCA112056R1001	1	0.12
OT630...800_CL	Black	12	OHB145J12E65	1SCA112063R1001	1	0.14
OT1000...2500_CL	Black	12	OHB200J12PE65	1SCA112078R1001	1	0.40

Plastic handle, direct mounting, indication I-O-II

Includes a shaft and a mechanism cover. The type and ordering numbers are for one piece.

Suitable for switches	Colour	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
Padlockable with three padlocks in 0-position.					
OT160…250_C	Black	OTV250ECK	1SCA022783R0090	1	0.08
OT315…400_C	Black	OTV400ECK	1SCA022783R0170	1	0.26
OT630…800_C	Black	OTV800ECK	1SCA022797R2470	1	0.30
OT1000…2500_C	Black	OTV1000ECK	1SCA107481R1001	1	0.75
Includes a shaft (no mechanism cover)					
OTM40...125F_C	Black	OHB65D6CM	1SCA022807R9430	1	0.12
Handle not padlockable, operating angle 90°.					
OT160…250_CF	Black	OTV250ECFK	1SCA113141R1001	1	0.08
OT315…400_CF	Black	OTV400ECFK	1SCA113147R1001	1	0.26
OT630…800_CF	Black	OTV800ECFK	1SCA113151R1001	1	0.30

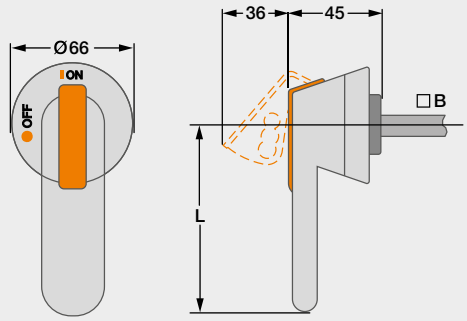
Plastic handle for closed transition types, direct mounting, indication I - I+II - II

Includes a shaft and a mechanism cover. The type and ordering numbers are for one piece.

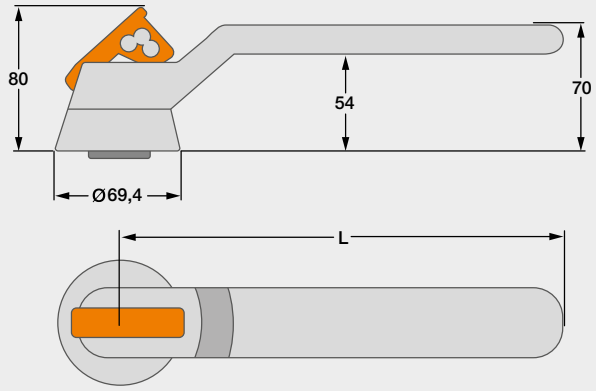
Suitable for switches	Colour	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
Handle not padlockable, operating angle 90°.					
OT160…250_CL	Black	OTV250ECLK	1SCA113137R1001	1	0.08
OT315…400_CL	Black	OTV400ECLK	1SCA113143R1001	1	0.26
OT630…800_CL	Black	OTV800ECLK	1SCA113148R1001	1	0.30
OT1000...2500_CL	Black	OTV1000ECLK	1SCA113152R1001	1	0.75

Optional accessories for manual change-over switches
Dimensional drawings for external handles

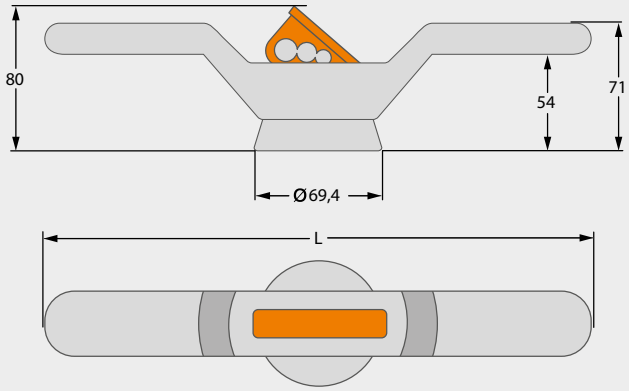
Plastic handles



Handle type	Handle length L [mm]	Shaft B [mm]
OH_45J6E_	45	6
OH_65J6E_	65	6
OH_95J12E_	95	12
OH_125J12E_	125	12
OH_145J12E_	145	12
OH_175J12E_	175	12
OH_200J12E_	200	12
OH_275J12E_	275	12



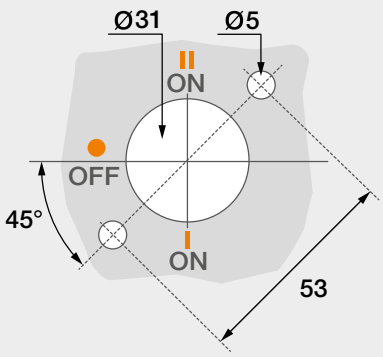
Handle type	L [mm]
OH_274J12	274



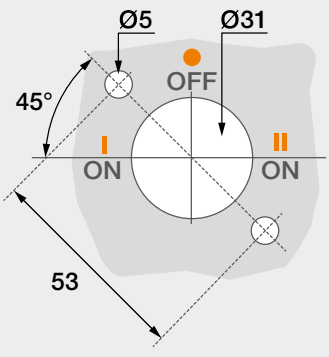
Handle type	L [mm]
OHB150J12P	300
OHB200J12P	400

Door drilling for OH_ handles

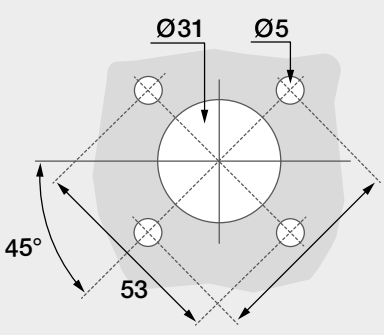
Valid for switches up to 125 A



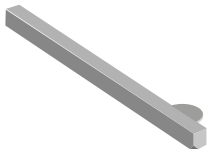
Valid from switches from 200 to 800 A



Valid from switches 1000 A and higher (OHB handles)



Optional accessories for manual change-over switches
Ordering information for extended shafts



OXS6X_

OXP6X_

OXP12X

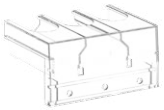
Shafts for selector handle handles

For switches	Length [mm]	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
Shaft diameter 6 mm					
OT16...125F_C	85	OXS6X85	1SCA101647R1001	10	0.03
	105	OXS6X105	1SCA108043R1001	10	0.03
	120	OXS6X120	1SCA101654R1001	10	0.04
	130	OXS6X130	1SCA101655R1001	10	0.04

Shafts for pistol handles

For switches	Length [mm]	Type	Order number	Delivery batch [pcs]	Weight/unit [kg]
Shaft diameter 6 mm					
OT16…125F_C	150	OXP6X150	1SCA022295R5600	10	0.05
	170	OXP6X170	1SCA108224R1001	10	0.05
	265	OXP6X265	1SCA108225R1001	10	0.08
	400	OXP6X400	1SCA108226R1001	10	0.12
Shaft diameter 6 mm					
OT160...250_C	90	OXP6X90	1SCA022064R1180	10	0.03
	130	OXP6X130	1SCA022057R0570	10	0.04
	161	OXP6X161	1SCA022067R1760	10	0.05
	210	OXP6X210	1SCA022295R6080	10	0.06
	290	OXP6X290	1SCA022042R6370	10	0.08
	360	OXP6X360	1SCA022042R6530	10	0.11
Shaft diameter 6/12 mm (6 mm to 12 mm conversion shaft)					
OT160...250E	161	OXP6/12x161C	1SCA111724R1001	1	0.05
Shaft diameter 12 mm					
OT315...400_C	107	OXP12X107	1SCA022029R9750	1	0.12
	148	OXP12X148	1SCA022658R5570	1	0.17
	166	OXP12X166	1SCA022325R7100	1	0.20
	185	OXP12X185	1SCA022325R6710	1	0.22
	250	OXP12X250	1SCA022325R6980	1	0.29
	280	OXP12X280	1SCA022137R5140	1	0.33
	325	OXP12X325	1SCA022042R5810	1	0.38
	395	OXP12X395	1SCA022042R5990	1	0.46
	465	OXP12X465	1SCA022042R6020	1	0.54
OT630…800_C	148	OXP12X148	1SCA022658R5570	1	0.17
	185	OXP12X185	1SCA022325R6710	1	0.22
	250	OXP12X250	1SCA022325R6980	1	0.29
	325	OXP12X325	1SCA022042R5810	1	0.38
	395	OXP12X395	1SCA022042R5990	1	0.46
	465	OXP12X465	1SCA022042R6020	1	0.54
OT1000…3200	166	OXP12X166	1SCA022325R7100	1	0.20
	185	OXP12X185	1SCA022325R6710	1	0.23
	250	OXP12X250	1SCA022325R6980	1	0.29
	325	OXP12X325	1SCA022042R5810	1	0.38
	395	OXP12X395	1SCA022042R5990	1	0.46
	465	OXP12X465	1SCA022042R6020	1	0.54

Optional accessories for manual change-over switches
Ordering information for terminal shrouds



OTS_T3

OTS_T1

Terminal shrouds, transparent plastic

Snap-on mounting to the switches, IP20. The full shrouding of a 3-pole change-over switch is achieved with four 3-pole shrouds.

Suitable for switches	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
For three pole switches				
OT16…40F_C	OTS40T3	1SCA105317R1001	10	0.01
OT63…80F_C	OTS63T3	1SCA022353R6750	10	0.01
OT100...125F_C	OTS125T3	1SCA022379R9680	10	0.01
For fourth pole				
OTPS40FPN1	OTS40T1	1SCA105314R1001	10	0.01
OTPS40FPN2	OTS40T1	1SCA105314R1001	10	0.01
OTPS80FP	OTS63T1	1SCA022353R6910	10	0.01
OTPS60FP, OTPS125FP	OTS125T1	1SCA022379R9760	10	0.01

OTS_L_

OTS_S_

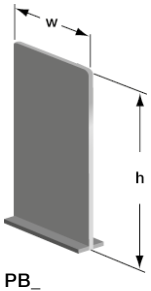
Terminal shrouds, grey plastic

Snap-on mounting to the switches, IP 20. A kit includes three or four shrouds which can be used on either side of the switch. Suitable for the upperswitch. Transparent shrouds for OT_160…2500 available on request, please replace the letter “G” with “T”.

Suitable for switches	No. of poles	Description	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	3	Long type	OTS250G1L/3	1SCA022731R8150	3	0.09
OT_160…250_C	3	Short type	OTS250G1S/3	1SCA022731R8310	3	0.06
OT_160…250_C	4	Long type	OTS250G1L/4	1SCA022731R8230	4	0.12
OT_160…250_C	4	Short type	OTS250G1S/4	1SCA022731R8400	4	0.08
OT_315…400_C	3	Long type	OTS400G1L/3	1SCA022736R8840	3	0.15
OT_315…400_C	3	Short type	OTS400G1S/3	1SCA022736R9060	3	0.09
OT_315…400_C	4	Long type	OTS400G1L/4	1SCA022736R9490	4	0.20
OT_315…400_C	4	Short type	OTS400G1S/4	1SCA022736R9650	4	0.12
OT_600…800_C	3	Long type	OTS800G1L/3	1SCA022776R7890	3	0.32
OT_600…800_C	3	Short type	OTS800G1S/3	1SCA022776R8190	3	0.17
OT_600…800_C	4	Long type	OTS800G1L/4	1SCA022776R7970	4	0.42
OT_600…800_C	4	Short type	OTS800G1S/4	1SCA022776R8270	4	0.26
OT_1000…1600_C	3	Long type	OTS1600G1L/3	1SCA022871R9510	3	0.64
OT_1000…1600_C	3	Short type	OTS1600G1S/3	1SCA022871R9600	3	0.37
OT_1000…1600_C	4	Long type	OTS1600G1L/4	1SCA022871R9780	4	0.85
OT_1000…1600_C	4	Short type	OTS1600G1S/4	1SCA022871R9860	4	0.49
OT_2000…2500_C	3	Long type	OTS2500G1L/3	1SCA107261R1001	3	0.77
OT_2000…2500_C	3	Short type	OTS2500G1S/3	1SCA107260R1001	3	0.47
OT_2000…2500_C	4	Long type	OTS2500G1L/4	1SCA107262R1001	4	1.00
OT_2000…2500_C	4	Short type	OTS2500G1S/4	1SCA107271R1001	4	0.61
OT3200_C	3	Long type	OTS4000G1L/3	1SCA129042R1001	3	1.20
OT3200_C	3	Short type	OTS4000G1S/3	1SCA129044R1001	3	1.00
OT3200_C	4	Long type	OTS4000G1L/4	1SCA129043R1001	4	1.40
OT3200_C	4	Short type	OTS4000G1S/4	1SCA129045R1001	4	1.60

Optional accessories for manual change-over switches
Ordering information for phase barriers

OTB_



PB_

Phase barriers

The phase barriers designed for ABB Tmax T4-T5 MCCB's can also be used for OT_160...800 change-over switches. 3-pole change-overs need 8 barriers and 4-pole change-overs need 12 barriers for full protection.

Suitable for switches	No. of poles	Height h [mm]	Cutting width W of the phase barrier [mm]	Type	Order number	Units/ type [pcs]
OT_160…250E_C	3	100	55	PB100 low	1SDA054970R1	4
OT_160…250E_C	3	200	55	PB200 high	1SDA054972R1	4
OT_160…250E_C	4	100	55	PB100 low	1SDA054971R1	6
OT_160…250E_C	4	200	55	PB200 high	1SDA054973R1	6
OT_315…400E_C	3	100	67	PB100 low	1SDA054970R1	4
OT_315…400E_C	3	200	67	PB200 high	1SDA054972R1	4
OT_315…400E_C	4	100	67	PB100 low	1SDA054971R1	6
OT_315…400E_C	4	200	67	PB200 high	1SDA054973R1	6
OT_600...800E_C	3	100	90	PB100 low	1SDA054970R1	4
OT_600...800E_C	3	200	90	PB200 high	1SDA054972R1	4
OT_600...800E_C	4	100	90	PB100 low	1SDA054971R1	6
OT_600...800E_C	4	200	90	PB200 high	1SDA054973R1	6

OZXA38

Parallel connection kits

Finger protected connection bars for parallel connection of the upper or lower terminals. The bars accept additional cables, the maximum size is stated below.

OZXA39

OZXA32

OZXA33

Suitable for switches	Cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT16…40F3C	6 (fine stranded), 10 (stranded)	OZXA33	1SCA022685R0310	1	0.02
OT16…40F4C	6 (fine stranded), 10 (stranded)	OZXA32	1SCA022683R4110	1	0.03
OT63…80F3C	25	OZXA38	1SCA022785R2140	1	0.06
OT63…80F4C	25	OZXA39	1SCA022790R3820	1	0.09
OT100…125F3C	50	OZXA40	1SCA022790R3910	1	0.16
OT100…125F4C	50	OZXA41	1SCA022790R4040	1	0.24
OTM40F3C_	2.5...25/2x2.5...16	OMZC003	1SCA121324R1001	1	0.5
OTM40F4C_	2.5...25/2x2.5...16	OMZC004	1SCA121325R1001	1	0.65
OTM40…125F3C_	10...70	OMZC03	1SCA117037R1001	1	0.5
OTM40…125F4C_	10...70	OMZC04	1SCA117038R1001	1	0.65

Optional accessories for manual change-over switches
Ordering information for terminal clamps

OZXT1

OZXT2...3

OZXB2L

OZXB7L

OZXB9

Terminal clamp sets for Al- and Cu-cables insulated versions

Suitable for switches	Cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT63…125F_C	16...50 Al/2.5...50 Cu	OZXT1	1SCA022469R6310	3	0.06
OT100…125F_C	16...120 Al/Cu	OZXT2	1SCA022620R7200	3	0.21
OT100...125F_C	2x(16...50) Al/Cu	OZXT3	1SCA022639R0720	3	0.21
OTM40...125F_C	16...50 Al/2.5...50 Cu	OZXT1	1SCA022469R6310	3	0.06

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]
OT100…125F_	10...70		OZXL1	1SCA022439R6770	3	1	0.14
OT_160...250E_C	10...70	OTS250_L	OZXB1L	1SCA022169R2030	3	1	0.15
OT_160...250E_C	10...70	OTS250_L	OZXB1L/1	1SCA022194R0030	1	50	0.05
OT_160...250E_C	25...120	OZXB2K	OZXB2	1SCA022119R7610	3	1	0.34
OT_160...250E_C	25...120	OZXB2K	OZXB2/1	1SCA022194R0200	1	50	0.12
OT_160...250E_C	25...120	OZXB2K	OZXB2L	1SCA022158R7750	3	1	0.43
OT_160...250E_C	25...120	OZXB2K	OZXB2L/1	1SCA022194R0460	1	50	0.15
OT_160...250E_C	95...185	OTS250_L	OZXB8	1SCA022744R1510	3	1	0.50
OT_160...250E_C	95...185	OTS250_L	OZXB8/1	1SCA022744R1600	1	20	0.15
OT_160...250E_C	95...240	OTS250_L	OZXB9	1SCA022750R3210	3	1	0.50
OT_160...250E_C	95...240	OTS250_L	OZXB9/1	1SCA022750R3300	1	20	0.15
OT_315...400E_C	25...120	OZXB2K	OZXB2L	1SCA022158R7750	3	1	0.43
OT_315...400E_C	25...120	OZXB2K	OZXB2L/1	1SCA022194R0460	1	50	0.15
OT_315...400E_C	70…185	OZXB3K	OZXB3	1SCA022136R8100	3	1	1.28
OT_315...400E_C	70…185	OZXB3K	OZXB3/1	1SCA022194R0620	1	20	0.43
OT_315...400E_C	2x(70…185)	OZXB3K	OZXB4	1SCA022137R4760	3	1	1.71
OT_315...400E_C	2x(70…185)	OZXB3K	OZXB4/1	1SCA022194R0890	1	20	0.57
OT_315...400E_C	120...240	OZXB5K	OZXB7	1SCA022185R0040	3	1	1.00
OT_315...400E_C	120...240	OZXB5K	OZXB7/1	1SCA022194R1430	1	20	0.34
OT_315...400E_C	120...240	OZXB5K	OZXB7L	1SCA022185R7130	3	1	1.17
OT_315...400E_C	120...240	OZXB5K	OZXB7L/1	1SCA022194R1600	1	20	0.40
OT_315...400E_C	95...185	OTS400_L	OZXB8	1SCA022744R1510	3	1	0.50
OT_315...400E_C	95...185	OTS400_L	OZXB8/1	1SCA022744R1600	1	20	0.15
OT_315...400E_C	95...240	OTS400_L	OZXB9	1SCA022750R3210	3	1	0.50
OT_315...400E_C	95...240	OTS400_L	OZXB9/1	1SCA022750R3300	1	20	0.15

Optional accessories for manual change-over switches
Ordering information for bridging- and reversing bars

OTZC13...34

OTZC43...44
OTZC53...54

Bridging bars

The bridging bars provide a connection link either on the incoming or outcoming side of the switch.

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	3	OTZC13	1SCA022767R6910	3	0.6
OT_160…250_C	4	OTZC14	1SCA022767R7040	4	0.8
OT_315…400_C	3	OTZC23	1SCA022767R7120	3	0.6
OT_315…400_C	4	OTZC24	1SCA022767R7210	4	0.8
OT_600_C…800E_C	3	OTZC33	1SCA022785R7020	3	1.0
OT_600_C…800E_C	4	OTZC34	1SCA022785R7110	4	1.3
OT_1000…1250E_C	3	OTZC43	1SCA022868R0710	3	4.2
OT_1000…1250E_C	4	OTZC44	1SCA022868R0800	4	5.6
OT800U_, OT_1600E_C	3	OTZC53	1SCA022868R0980	3	5.6
OT800U_, OT_1600E_C	4	OTZC54	1SCA022868R1010	4	7.4
OT_2000…2500E_C	3	OTZC63	1SCA022868R1100	3	10.8
OT_2000…2500E_C	4	OTZC64	1SCA022868R1360	4	14.5
OT_3200E_C	3	OTZC73	1SCA128843R1001	3	14.1
OT_3200E_C	4	OTZC74	1SCA128844R1001	4	18.7

OTZR_

Reversing bars

A reversing switch can be built by using phase sequence bars in two phases.
The kit includes two phase sequence conversion bars. The missing bridging bars must be ordered separately, see above. For example 3-pole switches: one 4-pole standard bridging bar kit is required (one bar for the reversing side, three bars for the other side).

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	OTZR1	1SCA100352R1001	2	0.3
OT_315…400_C	OTZR2	1SCA104647R1001	2	0.3
OT_600_C…800E_C	OTZR3	1SCA100355R1001	2	0.4

Ordering information for fourth poles

OTPS40F

Fourth poles for OT16...125F

Snap-on mounting to the left or right side of the switches, IP20.
Simultaneous operation with power poles. The type and ordering numbers are for one piece.

Suitable for switches	Rated current, up to 415V AC-21A/AC-22A/AC-23A I[A]	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT16…40F_C	40/40/23	OTPS40FPN1[1)]	1SCA105001R1001	10	0.03
OT16…40F_C	40/40/23	OTPS40FPN2[2)]	1SCA105000R1001	10	0.03
OT63…80F_C	80/80/75	OTPS80FP	1SCA105461R1001	10	0.06
OT100...125F_C	125/125/90	OTPS125FP	1SCA105099R1001	10	0.14

[1)] Installation to the left side
[2)] Installation to the right side

Optional accessories for manual change-over switches
Ordering information and technical data for auxiliary contacts

OA1G01
OA7G10

OA1G10
OA8G01

OA2G11

Auxiliary contact blocks for OT16...125F

Snap-on mounting to the switch, IP 20, max. 2 blocks/ side.
I_{th} = 16 A, suitable for cable cross sections max. 2 x 2,5 mm^2.
Simultaneous action with the main contacts.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_16...125F_C	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_16...125F_C	1NC	Right	OA8G01	1SCA022744R2240	10	0.03
OT_16...125F_C	1NO	Left	OA7G10	1SCA022673R1140	10	0.03
OT_16...125F_C	1NC	Left	OA1G01	1SCA022353R4890	10	0.03
OT63...125F3C	1NO+1NC	Either	OA2G11[1)]	1SCA022379R8100	10	0.03

[1)] Not mountable on 4-pole change-over switches

Auxiliary contact blocks for OT160... 3200

Mounting on the right side of the switch: Max. 4 auxiliary contact blocks/switch (totally 8 blocks). Types _AU have gold plated contacts for harsh environments and low operating voltages. Simultaneous action with the main contacts, IP20.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_160…3200_	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_160…3200_	1NC	Right	OA3G01	1SCA022456R7410	10	0.03
OT_160…3200_	1NO	Right	OA1G10AU	1SCA022436R7910	10	0.03
OT_160…3200_	1NC	Right	OA3G01AU	1SCA022819R5260	10	0.03

Auxiliary contacts

Technical data for auxiliary contacts according to IEC 60947-5-1, for OA1G_, OA2G_, OA3G_, OA7G_, OA8G_

AC15		DC12			DC13	
U_e/[V]	I_e/[A]	U_e/[V]	I_e/[A]	P/[W]	I_e/[A]	P/[W]
230	6	24	10	240	2	50
400	4	72	4	290	0.8	60
415	4	125	2	250	0.55	70
690	2	250	0.55	140	0.27	70
		440	0.1	44		

Function tables

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch I (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	closed	open
0	open	open	closed
II	closed	open	closed

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch II (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	open	closed
0	open	open	closed
II	closed	closed	open

Motorized change-over switches
Open transition from 40 to 3200 Amperes

ABB‘s motorized change-over switches are suitable for remote operations and ensure a reliable load transfer under any given circumstance.

Motorized change-over switches
Uninterrupted power supply with motorized functionality

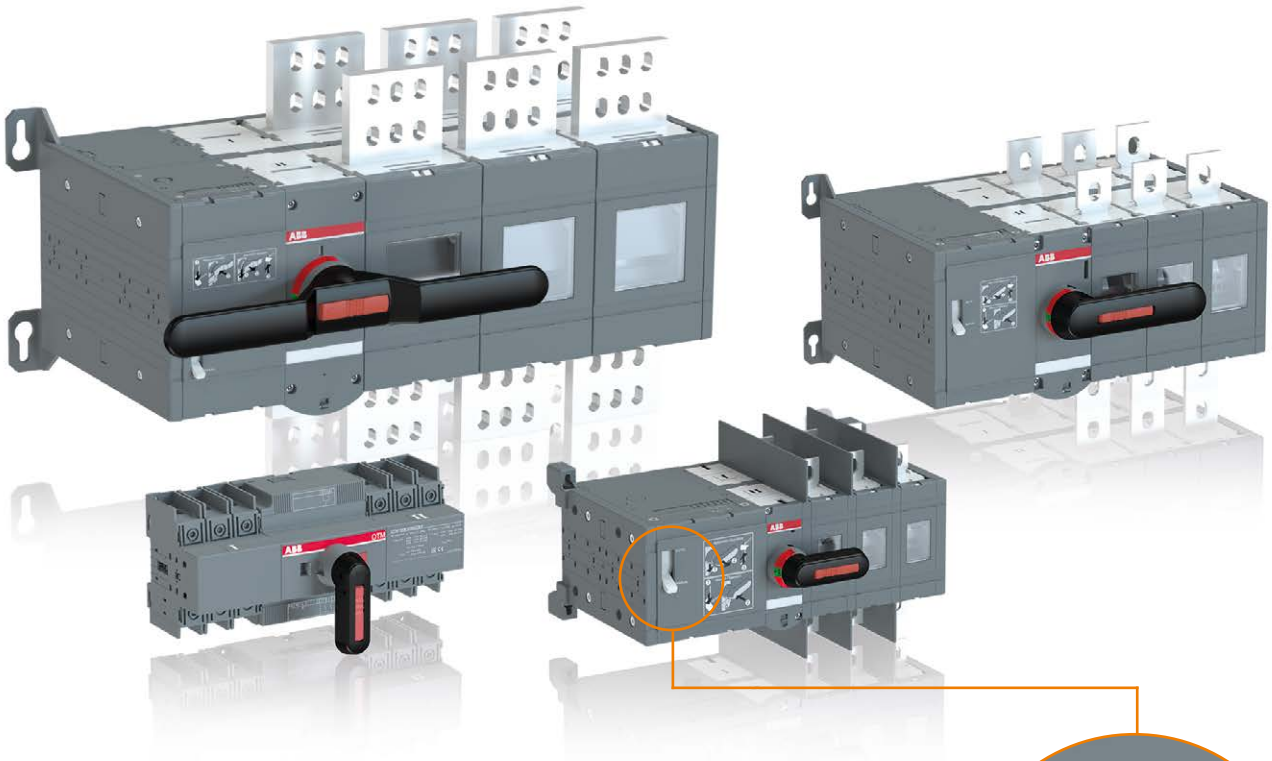
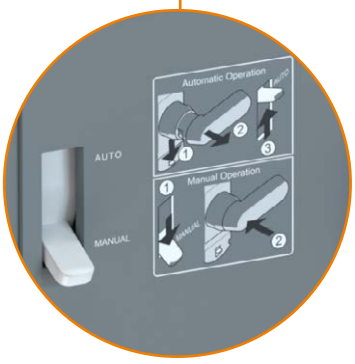


ABB offers a wide variety of open transition motorized change-over switches from 40 to 3200 Amperes in range. All of our visually redesigned motorized change-over switches now come equipped with a new cover with clear operating instructions and enhanced motor operator performance.



High performance level
Ensuring a high performance level for you is of the utmost importance to us. In change-over applications where the loaded switch may need to be operated remotely, adequate durability has been ensured by testing against the IEC 60947-6-1 standard in the specification of endurance requirements.

Reduced installation time
ABB motorized change-over switches are fast and easy to install. The voltage sensing connectors have been designed to save time, as there is no need to drill holes into the busbars (see page 78 for relevant accessories). Also, the control and power cables are screw mounted, providing a safe and secure connection that stays tight even during transportation.

Safe and reliable
Our switches come equipped with a comprehensive range of inbuilt safety features such as mechanical interlock, which ensures the isolation of the two asynchronous power supplies. This eliminates risk of short-circuiting between them. The motorized change-over switches are also equipped with a handle for manual operation in case of emergency.

Space-saving design
ABB provides compact and cost-effective components for any and all installations. On average, our motorized change-over switches are 20% smaller than other similar products on the market.

Motorized change-over switches
Open transition from 40 to 2500 Amperes


Motor operation, change-over switches 16-125 A

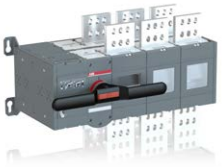
Types	OTM40F_C					OTM63F_C				
						OTM80F_C				
						OTM100F_C				
						OTM125F_C				
I_{th} /A	**40**	**63**	**80**	**115**	**125**	**40**	**63**	**80**	**115**	**125**
I_e /AC-22A, < 415V	40	63	80	100	125	40	63	80	100	125
I_e /AC-23A, < 415V	40	63	80	80	90	40	63	80	80	90




Motor operation, change-over switches 160-800 A

Types	OTM160E_C			OTM160E_WC			OTM315E_C		OTM630E_C	
	OTM200E_C			OTM200E_WC			OTM400E_C		OTM800E_C	
	OTM250E_C			OTM250E_WC						
I_{th} /A	**160**	**200**	**250**	**160**	**200**	**250**	**315**	**400**	**630**	**800**
I_e /AC-22A, < 415V	160	200	250	160	200	250	315	400	630	800
I_e /AC-23A, < 415V	160	200	250	160	200	250	315	400	630	800
I_e /AC-31B, < 415V	160	200	250	160	200	250	315	400	650	720





Motor operation, change-over switches 1000-3200 A

Types	OTM1000E_C		OTM1600E_C	OTM2000E_C		
	OTM1250E_C			OTM2500E_C		
				OTM3200E_C		
I_{th} /A	**1000**	**1250**	**1600**	**2000**	**2500**	**3200**
I_e /AC-22A, < 415V	1000	1250	1600			
I_e /AC-21B, < 415V				2000	2500	3200
I_e /AC-31B, < 415V	1000	1250	1600			

Motorized change-over switches
Type codes

Type codes

Understanding the type code keys below will help you quickly identify the correct product for your needs. The simple naming system allows you to see the products type, Ampere rating, standard classification and number of poles, all in one glance.

Explanation of the types OTM40...125_C

Option:	OTM125	F	3	C	M	A	230	V
Position:	1	2	3	4	5	6	7	8

1	Brand and Switch size / Ampere rating
2	IEC
3	Number of the poles
	3: 3-poles
	4: 4-poles
4	Change over switch: I-0-II -operation
5	Remote control
6	Automatic operation available with OMD control unit (controller not included in the delivery)
7	Voltage for motor operator
	230: 110...240 V AC/DC
	24: 24 V AC/DC
8	Motor voltage type
	V=AC/DC

Explanation of the types OTM160...2500_C

Option:	OTM250	E	3	C	M	230	C
Position:	1	2	3	4	5	6	7

1	Brand and Switch size / Ampere rating
2	IEC
3	Number of the poles
	2: 2-poles
	3: 3-poles
	4: 4-poles
4	Change-over switch: I-0-II -operation
5	Motorized change-over switch
6	Voltage for motor operator
	230: 220...240 V AC [1]
	110: 110...125 V AC/DC
	48: 48 V AC/DC
	24: 24 V AC/DC
7	Motor voltage type
	V: AC/DC
	C: AC
	D: DC

[1] 2-pole versions, motor voltage Ue 220...240V AC/DC

Motorized change-over switches
Technical data for OTM16...125_C

Motorized change-over switches

				Switch size				
Data according to IEC 60947-3				**OTM40_**	**OTM63_**	**OTM80_**	**OTM100_**	**OTM125_**
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V	800	800	800	800	800
Dielectric strength		50 Hz 1min.	kV	6	6	6	6	6
Rated impulse withstand voltage			kV	8	8	8	8	8
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	40	63	80	115	125
	/ ambient 40°C	In enclosure	A	40	63	80	115	125
	/ ambient 60°C	In enclosure	A	32	50	63	80	100
..with minimum conductor cross section		Cu	mm^2	10	16	25	35	50
Rated operational current, AC-21A		up to 500 V	A	40	63	80	100	125
		690 V	A	40	63	80	100	125
Rated operational current, AC-22A		up to 500 V	A	40	63	80	100	125
		690 V	A	40	63	80	100	125
Rated operational current, AC-23A		up to 415 V	A	40	63	80	80	90
		500 V	A	40	60	60	60	70
		690 V	A	40	40	40	40	50
Rated operational current / poles in series, DC-21A		up to 48 V	A	40/1	63/1	80/1	100/1	125/1
		110 V	A	40/2	63/2	80/2	100/2	125/2
		220 V	A	40/4	63/4	80/4	100/4	100/4
Rated operational current / poles in series, DC-22A		up to 48 V	A	40/1	63/1	80/1	100/1	125/1
		110 V	A	40/2	63/2	80/2	100/2	125/2
		220 V	A	40/4	63/4	80/4	80/4	80/4
Rated operational current / poles in series, DC-23A		up to 48 V	A	40/1	63/1	80/1	100/1	125/1
		110 V	A	40/2	63/2	80/2	100/2	125/2
		220 V	A	40/4	63/4	63/4	63/4	63/4
Rated operational power, AC-23A[1]		230 V	kW	7.5	15	22	22	22
The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		400 V	kW	18.5	30	37	37	45
		415 V	kW	18.5	30	37	37	45
		500 V	kW	22	37	37	37	45
		690 V	kW	37	37	37	37	45
Rated breaking capacity in category AC-23		up to 415 V	A	320	504	640	640	720
		500 V	A	320	480	480	480	560
		690 V	A	320	320	320	320	400
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 50 kA, 415 V	$\hat{i}_c$ (peak)	kA	16.5	16.5	16.5	16.5	16.5
	Max. OFA_ fuse size	gG/aM	A/A	125/125	125/125	125/125	125/125	125/125
	I_p (r.m.s.) 18 kA, 690 V	$\hat{i}_c$ (peak)	kA	11	11	11	11	11
	Max. OFA_ fuse size	gG	A	125	125	125	125	125
	I_p (r.m.s.) 50 kA, 690 V	$\hat{i}_c$ (peak)	kA	10	10	10	10	10
	Max. OFA_ fuse size	gG/aM	A/A	63/63	63/63	63/63	63/63	63/63
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 1s	kA	2.5	2.5	2.5	2.5	2.5
Rated short-time making capacity[2]	I_{cm} (peak)	690 V	kA	3.6	3.6	3.6	3.6	3.6
Power loss / pole	With rated current		W	1.6	2.8	3.5	4.0	6.3
Mechanical endurance	Number of oper. cycles[3]		Cycles	10 000	10 000	10 000	10 000	10 000
Cable size	Cu-wire size suitable for terminal clamps		mm^2	2.5-25/2x2.5-16	10-70	10-70	10-70	10-70
			AWG	14-4/2x14-6	8-00	8-00	8-00	8-00
Terminal tightening torque	Counter torque required		Nm	6	6	6	6	6
Operating torque	3-pole switches		Nm	5	5	5	5	5
Weight without accessories	3-pole switch		kg	1.37	1.37	1.37	1.37	1.37
	4-pole switch		kg	1.60	1.60	1.60	1.60	1.60
Data according to IEC 60947-6-1								
Class of equipment				PC	PC	PC	PC	PC
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	5	5	5	5	5
Conditional short-circuit current	I_{cc} (r.m.s.)	415 V	kA	50	50	50	50	50
Corresponding fuse rating	gG/aM fuse	415 V	A	125	125	125	125	125
Rated operational current, AC-31B		up to 415 V	A	40	63	80	100	125
Rated operational current, AC-32B		up to 415 V	A	40	63	80	100	125
Rated operational current, AC-33B		up to 415 V	A	40	63	80	80	80

[1] These values are given for guidance and may vary according to the motor manufacturer
[2] Short circuit duration > 50ms, without fuse protection
[3] Operating cycle: O - I - O - II - O

Motorized change-over switches
Technical data for OTM160...800_C

Motorized change-over switches

				Switch size						
Data according to IEC 60947-3				**OT_160_**	**OT_200_**	**OT_250_**	**OT_315_**	**OT_400_**	**OT_630_**	**OT_800_**
Rated insulation voltage and rated operational voltage AC20/DC20[1]		Pollution degree 3[2]	V	1000	1000	1000	1000	1000	1000	1000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10	10	10
Rated impulse withstand voltage[3]			kV	12	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	160	200	250	315	400	630	800
	/ ambient 40°C	In enclosure	A	160	200	250	315	400	630	800
..with minimum conductor cross section		Cu	mm^2	70	95	120	185	240	2x185	2x240
Rated operational current, AC-21A		up to 500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current, AC-22A		up to 500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current, AC-23A		up to 415 V	A	160	200	250	315	400	630	800
		440 V	A	160	200	250	315	400	630	800
		500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current / poles in series, DC-21A[6]		≤ 110 V	A	160/2	200/2	250/2	315/1[1]	400/1[1]	630/1	800/1
		220 V	A	160/2	200/2	250/2	315/2[1]	400/2[1]	630/1	800/1
		440 V	A	160/3	200/3	230/3	315/3	360/3	630/2	720/2
		660 V	A	160/4	200/4	200/4	315/4	315/4	630/4[1]	630/4[1]
Rated operational power, AC-23A[2] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V	kW	45	60	75	100	132	200	250
		400 V	kW	90	110	140	160	220	355	450
		415 V	kW	90	110	145	180	230	355	450
		500 V	kW	110	132	170	220	280	400	560
		690 V	kW	160	200	250	315	400	630	800
Rated breaking capacity in category AC-23		up to 415 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
		500 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
		690 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	Max. OFA_ fuse size	gG/aM	A/A	355/315	355/315	355/315	500/500	500/500	800/1 000	800/1 000
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	61.5	61.5	90	90
	Max. OFA_ fuse size	gG/aM	A	315/315	315/315	315/315	500/450	500/450	800/800	800/800
	I_p (r.m.s.) 80 kA, 690 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	Max. OFA_ fuse size	gG/aM	A	355/315	355/315	355/315	500/500	500/500	800/1 000	800/1 000
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s	kA	15	15	15	31	31	38	38
		690 V 0.25s	kA	15	15	15	24	24	36	36
		690 V 1s	kA	8	8	8	15	15	20	20
Rated short-time making capacity[3]	I_{cm} (peak)[4]	690 V	kA	30	30	30	65	65	80	80
Power loss / pole	With rated current		W	2.4	4	6.5	6.5	10	25	40
Mechanical endurance	Number of oper. cycles[5]		Cycles	8 000	8 000	8 000	8 000	8 000	5 000	5 000
Terminal bolt size	Metric thread diameter x length		mm	M8x25	M8x25	M8x25	M10x30	M10x30	M12x40	M12x40
Terminal tightening torque	Counter torque required		Nm	15-22	15-22	15-22	30-44	30-44	50-75	50-75
Operating torque	3-pole change-over switches		Nm	7	7	7	16	16	27	27
Weight without accessories	3-pole switch		kg	5.7	5.7	5.7	10.2	10.2	17.5	17.5
	4-pole switch		kg	6.4	6.4	6.4	11.4	11.4	20.4	20.4
Data according to IEC 60947-6-1										
Class of equipment				PC	PC	PC	PC	PC	PC	PC
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	15	15	15	25	25	38	38
Rated operational current, AC-31B		up to 415 V	A	160	200	250	315	400	650	720
Rated operational current, AC-33B		up to 415 V	A	160	200	250	315	400	650	650

[1] Utilization category B
[2] These values are given for guidance and may vary acc. to the motor manufacturer
[3] Short circuit duration > 50ms, without fuse protection
[4] Max. distance from switch frame to nearest busbar / cable support 150 mm
[5] Operating cycle: O - I - O - II - O
[6] Further ratings on request

Motorized change-over switches
Technical data for OTM1000...3200_C

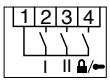
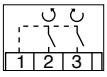
Motorized change-over switches

				Switch size					
Data according to IEC 60947-3				**OT_1000_**	**OT_1250_**	**OT_1600_**	**OT_2000_**	**OT_2500_**	**OT_3200_**
Rated insulation voltage and rated operational voltage AC20/DC20[1]		Pollution degree 3[2]	V	1 000	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10	10
Rated impulse withstand voltage[3]			kV	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	1 000	1 250	1 600	2 000	2 500	3 200
	/ ambient 40°C	In enclosure	A						
..with minimum conductor cross section		Cu	mm^2	2x300	2x400	2x500	3x500	4x500	4x1 000
Rated operational current, AC-21A		up to 500 V	A	1 000	1 250	1 600	2 000[5]	2 500[5]	3 200[5]
		690 V	A	1 000	1 250	1 600			
Rated operational current, AC-22A		up to 500 V	A	1 000	1 250	1 600			
		690 V	A	1 000	1 250	1 600			
Rated operational current, AC-23A		up to 415 V	A	1 000	1 250	1 250			
		440 V	A	1 000	1 250	1 250			
		500 V	A	1 000	1 250	1 250			
		690 V	A	1 000	1 250	1 250			
Rated operational power, AC-23A[1]		230 V	kW	315	400	400			
The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		400 V	kW	560	710	710			
		415 V	kW	560	710	710			
		500 V	kW	710	900	900			
		690 V	kW	1 000	1 200	1 200			
Rated breaking capacity in category AC-23		up to 415 V	A	10 000	10 000	10 000			
		500 V	A	10 000	10 000	10 000			
		690 V	A	10 000	10 000	10 000			
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$ (peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V	$\hat{i}_c$ (peak)	kA	100	100	100			
	Max. OFA_ fuse size	gG/aM	A/A	1 250/1 250	1 250/1 250	1 250/1 250			
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA	106	106	106			
	Max. OFA_ fuse size	gG/aM	A	1 250/1 250	1 250/1 250	1 250/1 250			
	I_p (r.m.s.) 80 kA, 690 V	$\hat{i}_c$ (peak)	kA						
	Max. OFA_ fuse size	gG/aM	A						
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s	kA	50	50	50	50	50	
		690 V 0.25s	kA	50	50	50	50	50	
		690 V 1s	kA	50	50	50	55	55	65
Rated short-time making capacity[2]	I_{cm} (peak)[3]	690 V	kA	92	92	92	110	110	143
Power loss / pole	With rated current		W	19	29	48	55	85	95
Mechanical endurance	Number of oper. cycles[4]		Cycles	3 000	3 000	3 000	2 000	2 000	2 000
Terminal bolt size	Metric thread diameter x length		mm	M12x60	M12x60	M12x60	M12x60	M12x60	M12x100
Terminal tightening torque	Counter torque required		Nm	50-75	50-75	50-75	50-75	50-75	50-75
Operating torque	3-pole change-over switches		Nm	78	78	78	78	78	80
Weight without accessories	3-pole switch		kg	42	42	44	56	56	83
	4-pole switch		kg	50	50	52	70	70	101
Data according to IEC 60947-6-1									
Class of equipment				PC	PC	PC			
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	50	50	50			
Rated operational current, AC-31B		up to 415 V	A	1 000	1 250	1 600			
Rated operational current, AC-33B		up to 415 V	A	1 000	1 000	1 000			

[1] These values are given for guidance and may vary acc. to the motor manufacturer
[2] Short circuit duration > 50ms, without fuse protection
[3] Max. distance from switch frame to nearest busbar / cable support 150 mm
[4] Operating cycle: O - I - O - II - O
[5] Category AC-21B, up to 415V

Motorized change-over switches
Motor operator performance data for OTM40…125_C

Motor operator

				Switch size
Data according to IEC 60947				**40…125**
Rated operational voltage U_e	Pollution degree 3		V AC/DC	110 - 240
	50/60 Hz		V DC	24
Operating voltage range				0.85 - 1.1 x U_e
Operating time[1)]	90° I-0, 0-I, 0-II, II-0	110...240 V AC/DC	s	0.5-1.0
		24 V DC	s	0.6-1.3
Operating transfer time[1)]	180° I-II, II-I	110...240 V AC/DC	s	1.2-1.5
		24 V DC	s	1.4-2.1
OFF -time when operating I-II or II-I[1)]	180° I-II, II-I	110...240 V AC/DC	s	0.4-0.8
		24 V DC	s	0.6-1.0
Nominal current In[1)]		110...240 V AC/DC	A	0.2-0.5
		24 V DC	A	0.6
Current inrush[1)]		110...240 V AC/DC	A	1.5-3.0
		24 V DC	A	3.6
Operating rate	Cycle 0-I-0-II-0	Max. continuous	cycles/min	1
		Max. short-time ≤ 10 cycles	cycles/min	10
Overvoltage category				III
Rated impulse withstand voltage U_{imp}			kV	4
Dielectric strength		50 Hz 1 min.	kV	1.5
Impulse command		Min. impulse duration	ms	100
Terminals				
Voltage supply wiring for U_e				PE - N - L
Cross section		Solid/stranded	mm^2	1.5 - 2.5
Short-circuit protection device		Max. MCB	A	C16
Control terminal				C - II - I - O
Cross section		Solid/stranded	mm^2	1.5 - 2.5
Maximum cable length			m	100
Terminal for state information				
Terminal for state information		Solid/stranded	mm^2	1.5
Also used with the OMD automatic control unit		Rating	A	3
				AC-1/250V
Common, voltage supply	1			
Position of switch I	2			
Position of switch II	3			
Handle attached or motor operator locked	4			
Short-circuit protection device		Max. MCB	A	C2
Control terminal for OMD automatic control unit				
Control terminal for OMD automatic control unit		Solid/stranded	mm^2	1.5 - 2.5
Common, voltage supply from motor operator	1		V DC	24
Close switch I or open switch II	2		V DC	24
			mW	500
Close switch II or open switch I	3		V DC	24
			mW	500
Operating temperature			°C	-25…+55
Transportation and storage temperature			°C	-40…+70
Max. altitude			m	2 000
Protection degree (front panel)				IP20

[1)] Under nominal conditions

Motorized change-over switches
Motor operator performance data for OTM160…3200_C

Motor operator

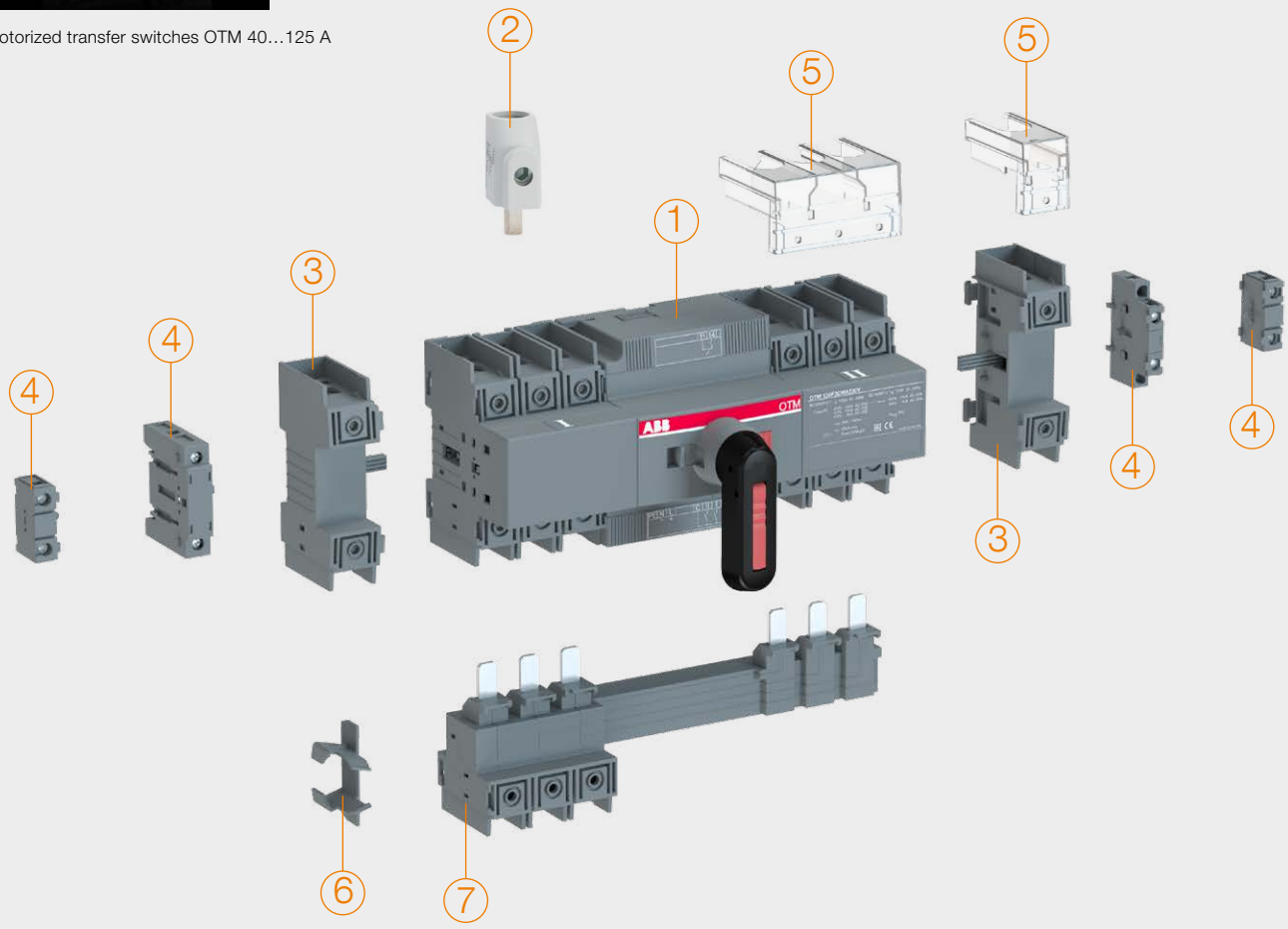
				Switch size				
Data according to IEC 60947				**160…250**	**315…400**	**630…800**	**1000…1600**	**2000…3200**
Rated operational voltage U_e	Pollution degree 3	50/60 Hz	V AC	220 - 240				
			V AC/DC	110 - 125				
			V DC	48				
			V DC	24				
Operating voltage range				0,85 - 1,1 x U_e				
Operating time[1)]	90° I-0, 0-I, 0-II, II-0	220-240VAC	s	0.4-1.0	0.4-1.0	0.4-1.0	0.5-1.5	0.5-1.5
		110-125VAC/DC	s	0.5-1.5	0.5-1.5	0.6-1.2	0.5-1.5	0.5-1.5
		48VDC	s	0.5-1.5	0.4-1.0	0.6-1.6	0.5-1.5	0.5-1.5
		24VDC	s	0.4-1.0	0.4-1.0	0.5-1.5	1.0-2.0	1.0-2.0
Operating transfer time[1)]	180° I-0-II, II-0-I	220-240VAC	s	1.0-2.0	0.9-2.0	0.9-2.0	1.5-3.0	1.5-3.0
		110-125VAC/DC	s	1.1-2.5	1.2-2.6	1.2-3.0	1.5-3.0	1.5-3.0
		48VDC	s	1.4-2.5	1.0-2.0	1.3-3.0	1.5-3.0	1.5-3.0
		24VDC	s	1.0-2.0	1.0-2.0	1.1-2.5	2.0-3.5	2.0-3.5
OFF -time when operating I-II or II-I[1)]	180° I-II, II-I	220-240VAC	s	0.4-1.0	0.4-1.0	0.4-1.0	0.5-1.5	0.5-1.5
		110-125VAC/DC	s	0.4-1.1	0.5-1.5	0.6-1.5	0.5-1.5	0.5-1.5
		48VDC	s	0.5-1.1	0.4-1.0	0.7-1.6	0.5-1.5	0.5-1.5
		24VDC	s	0.4-1.0	0.4-1.0	0.5-1.5	0.8-1.7	0.8-1.7
Nominal current I_n[1)]		220-240VAC	A	0.2	0.5	0.7	1.8	1.8
		110-125VAC/DC	A	0.5	0.6	0.8	3.0	3.0
		48VDC	A	1.1	2.1	2.6	5.3	5.3
		24VDC	A	3.3	4.2	4	8.0	8.0
Current inrush[1)]		220-240VAC	A	1.3	2.1	2.8	7.7	7.7
		110-125VAC/DC	A	2.1	2.5	4.6	13.3	13.3
		48VDC	A	4.4	8.3	8.4	22.4	22.4
		24VDC	A	16.8	17.5	22.4	26.6	26.6
Overload fuse	Type / I_n / Capacity	220-240VAC	mA	T/315/H	T/500/H	T/1 000/H	T/2 000/H	T/2 000/H
		110-125VAC/DC	mA	T/500/H	T/630/H	T/1 000/H	T/4 000/H	T/4 000/H
		48VDC	A	T/1,25/H	T/2,5/H	T/2,5/H	T/5/H	T/5/H
		24VDC	A	T/4,0/H	T/5,0/H	T/5,0/H	T/10/H	T/10/H
	Size		mm	5x20	5x20	5x20	5x20	5x20
Operating rate	Cycle 0-I-0-II-0, max. continuous	220-240VAC	cycles/min	1	1	1	0.5	0.5
		110-125VAC/DC	cycles/min	1	1	1	0.5	0.5
		48VDC	cycles/min	1	1	1	0.5	0.5
		24VDC	cycles/min	1	1	1	0.5	0.5
	Max. short-time, ≤ 10 cycles	220-240VAC	cycles/min	10	10	10	5	5
		110-125VAC/DC	cycles/min	10	10	10	5	5
		48VDC	cycles/min	10	10	10	5	5
		24VDC	cycles/min	10	10	10	5	5
Overvoltage category				III				
Rated impulse withstand voltage U_{imp}			kV	4				
Dielectric strength		50 Hz 1 min.	kV	1.5				
Impulse command		Min. impulse duration	ms	100				
Terminals								
Voltage supply wiring for U_e				PE - N - L				
Cross section		solid/stranded	mm^2	1.5 - 2.5				
Short-circuit protection device		max. MCB	A	C16				
Control terminal (no SELV)				C - II - I - 0				
Cross section		solid/stranded	mm^2	1.5 - 2.5				
Maximum cable length			m	100				
State information of locking (no SELV)								
Handle attached or motor operator locked		11-12-14 (C/O)		5A/250V/cosφ=1				
Locking motor operator		23-24 (NO)		5A/250V/cosφ=1				
Short-circuit protection device		Max. MCB	A	C2				
Protection degree				IP20				
Operating temperature			°C	-25…+55				
Transportation and storage temperature			°C	-40…+70				
Max. altitude			m	2 000				

[1)] Under nominal conditions

Motorized change-over switches
Ordering information for OTM40...OTM125_CMA

Installation of accessories – How to?

Motorized transfer switches OTM 40...125 A



Motorized change-over switch accessory guide

1. Motorized change-over switch
2. Terminal clamp including voltage sensing connector
3. Fourth pole
4. Auxiliary contact (Different types for left and right side)
5. Terminal shroud
6. Handle storage clip
7. Parallel connection kit

Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.

Motorized change-over switches
Ordering information for OTM40...OTM125_CMA

OTM40...125F3C_

OTM40...125F4C_

Motorized change-over switches, open transition, OTM40...OTM125_CMA

Delivered with a handle for manual operation, a storage clip for the handle and male connectors for control circuit.

No. of poles	Rated current AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Motor voltage U_e 110...240 V AC/DC						
3	40	27	40/40	OTM40F3CMA230V	1SCA120096R1001	1.64
4	40	27	40/40	OTM40F4CMA230V	1SCA120102R1001	1.86
3	63	43	63/63	OTM63F3CMA230V	1SCA120095R1001	1.64
4	63	43	63/63	OTM63F4CMA230V	1SCA120101R1001	1.86
3	80	55	80/80	OTM80F3CMA230V	1SCA120093R1001	1.64
4	80	55	80/80	OTM80F4CMA230V	1SCA120100R1001	1.86
3	100	70	100/80	OTM100F3CMA230V	1SCA120071R1001	1.64
4	100	70	100/80	OTM100F4CMA230V	1SCA120098R1001	1.86
3	125	86	125/80	OTM125F3CMA230V	1SCA120070R1001	1.64
4	125	86	125/80	OTM125F4CMA230V	1SCA120097R1001	1.86
Motor voltage U_e 24 V DC						
3	40	27	40/40	OTM40F3CMA24D	1SCA124061R1001	1.64
4	40	27	40/40	OTM40F4CMA24D	1SCA124063R1001	1.86
3	63	43	63/63	OTM63F3CMA24D	1SCA124060R1001	1.64
4	63	43	63/63	OTM63F4CMA24D	1SCA124064R1001	1.86
3	80	55	80/80	OTM80F3CMA24D	1SCA124059R1001	1.64
4	80	55	80/80	OTM80F4CMA24D	1SCA124062R1001	1.86
3	100	70	100/80	OTM100F3CMA24D	1SCA124058R1001	1.64
4	100	70	100/80	OTM100F4CMA24D	1SCA124066R1001	1.86
3	125	86	125/80	OTM125F3CMA24D	1SCA124057R1001	1.64
4	125	86	125/80	OTM125F4CMA24D	1SCA124065R1001	1.86

Handles included as standard, cable cross section

Suitable for switches	Cable cross section [mm²]	Handle
OTM40F_CM	2.5...25 or 2 x 2.5...16	OHB65D6CM
OTM63...125F_CM	10 … 70	OHB65D6CM

OMZC_

OZXT6

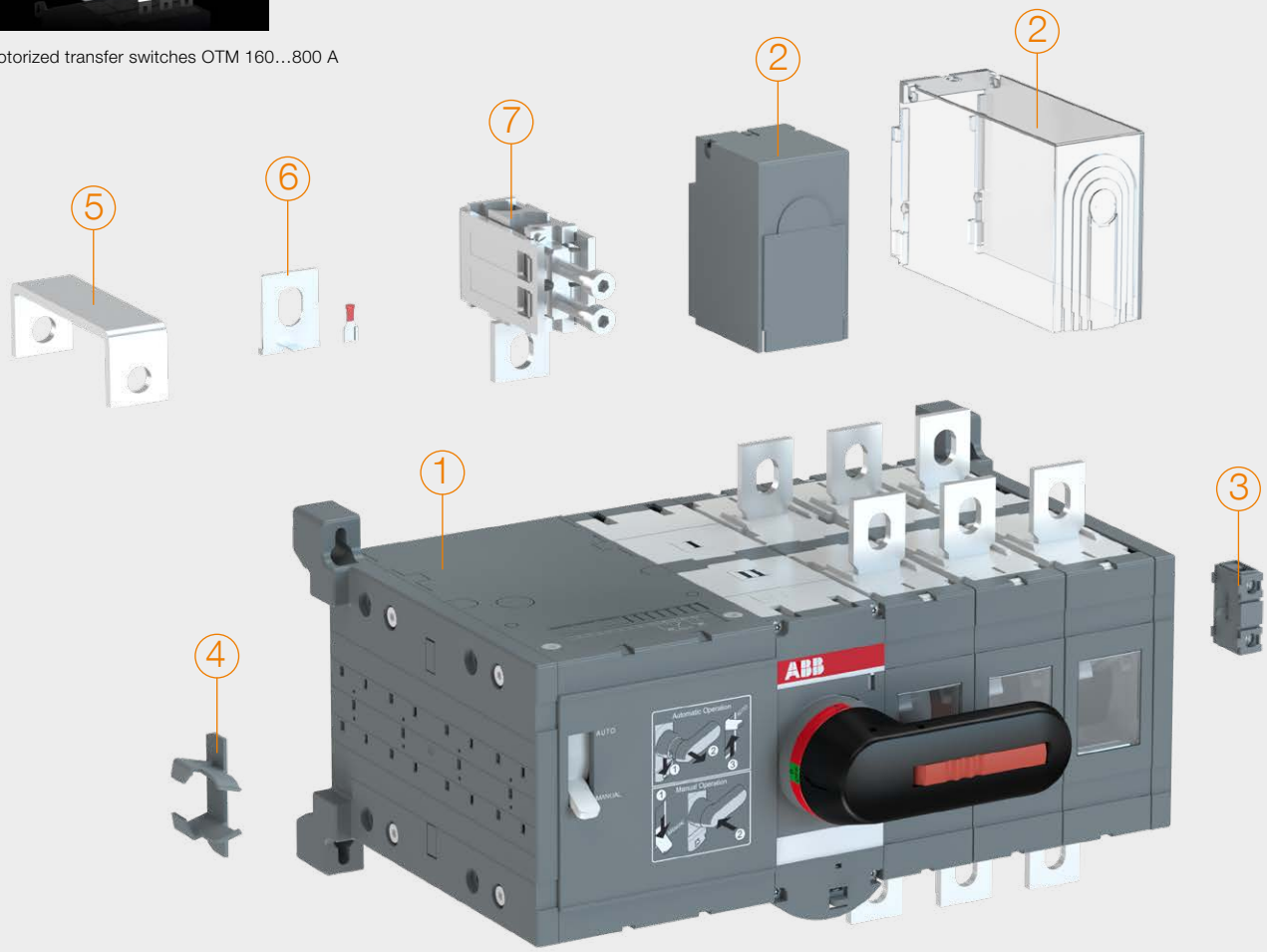
Recommended accessories: Parallel connection kits and terminal clamp

Suitable for switches	Cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40F3C_	2.5...25/2x2.5...16	OMZC003	1SCA121324R1001	1	0.5
OTM40F4C_	2.5...25/2x2.5...16	OMZC004	1SCA121325R1001	1	0.65
OTM40…125F3C_	10...70	OMZC03	1SCA117037R1001	1	0.5
OTM40…125F4C_	10...70	OMZC04	1SCA117038R1001	1	0.65
OTM40...125F_	16...50 Al/2.5...50 Cu	OZXT6	1SCA122537R1001	3	0.06

Motorized change-over switches
Ordering information for OTM160...OTM3200_CM

Installation of accessories – How to?

Motorized transfer switches OTM 160...800 A



Motorized change-over switch accessory guide

1. Motorized change-over switch
2. Terminal shroud
3. Auxiliary contact
4. Storage for handle and fuses
5. Bridging bar
6. Voltage sensing connectors
7. Terminal clamp

Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.

Motorized change-over switches
Ordering information for OTM160...OTM400_CM

OTM160...250E2CM230V

OTM160...250E2WCM230V

OTM160...250E3CM230C

OTM160...250E4WCM230C

OTM315...400E3CM230V

OTM315...400E4CM230C

Motorized change-over switches, open transition, OTM160...OTM400_CM

Delivered with a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits.
Types OTM160…400E include a storage clip for the handle and spare fuses.
Types OTM160…250E_W are equipped with extended phase distance.

M
230VAC

No. of poles	Rated current AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Motor voltage U_e 220...240 V AC[1]						
2	160	110	160/160	OTM160E2CM230V	1SCA121216R1001	5.7
2	160	110	160/160	OTM160E2WCM230V	1SCA121218R1001	5.9
3	160	110	160/160	OTM160E3CM230C	1SCA022845R8610	6.6
3	160	110	160/160	OTM160E3WCM230C	1SCA022846R4000	6.9
4	160	110	160/160	OTM160E4CM230C	1SCA022848R1510	7.5
4	160	110	160/160	OTM160E4WCM230C	1SCA022846R7440	7.9
2	200	135	200/200	OTM200E2CM230V	1SCA121209R1001	5.7
2	200	135	200/200	OTM200E2WCM230V	1SCA121294R1001	5.9
3	200	135	200/200	OTM200E3CM230C	1SCA022845R8960	6.6
3	200	135	200/200	OTM200E3WCM230C	1SCA022846R3960	6.9
4	200	135	200/200	OTM200E4CM230C	1SCA022846R1590	7.5
4	200	135	200/200	OTM200E4WCM230C	1SCA022846R7870	7.9
2	250	170	250/250	OTM250E2CM230V	1SCA121211R1001	5.7
2	250	170	250/250	OTM250E2WCM230V	1SCA121220R1001	5.9
3	250	170	250/250	OTM250E3CM230C	1SCA022845R9260	6.6
3	250	170	250/250	OTM250E3WCM230C	1SCA022846R4770	6.9
4	250	170	250/250	OTM250E4CM230C	1SCA022846R1910	7.5
4	250	170	250/250	OTM250E4WCM230C	1SCA022846R8250	7.9
2	315	215	315/315	OTM315E2CM230V	1SCA121221R1001	9.7
3	315	215	315/315	OTM315E3CM230C	1SCA022847R1210	11.1
4	315	215	315/315	OTM315E4CM230C	1SCA022847R2870	12.5
2	400	275	400/400	OTM400E2CM230V	1SCA121226R1001	9.7
3	400	275	400/400	OTM400E3CM230C	1SCA022847R1630	11.1
4	400	275	400/400	OTM400E4CM230C	1SCA022847R3250	12.5

[1] 2-pole versions, motor voltage U_e 220...240V AC/DC

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30

Recommended accessories: Bridging bars and voltage sensing connectors

See pages 69-70

Motorized change-over switches
Ordering information for OTM630...OTM3200_CM

OTM630...800E2CM230V

OTM630...800E3CM230C

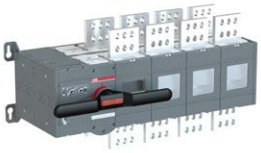
OTM1000...1250E3CM230C

OTM1000...1250E4CM230C

OTM1600E2CM230V

OTM1600E4CM230C

OTM2000...2500E3CM230C



OTM2000...2500E4CM230C

Motorized change-over switches, open transition, OTM630...OTM3200_CM

Delivered with a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM630…3200E_ include a storage clip for the handle and spare fuses.

M
230VAC

No. of poles	Rated current[1] AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Motor voltage U_e 220...240 V AC[2]						
2	630	435	650/650	OTM630E2CM230V	1SCA121268R1001	19
3	630	435	650/650	OTM630E3CM230C	1SCA103567R1001	22
4	630	435	650/650	OTM630E4CM230C	1SCA022873R1990	25
2	800	550	720/650	OTM800E2CM230V	1SCA121270R1001	19
3	800	550	720/650	OTM800E3CM230C	1SCA103570R1001	22
4	800	550	720/650	OTM800E4CM230C	1SCA022872R8340	25
2	1000	680	1000/1000	OTM1000E2CM230V	1SCA121279R1001	45
3	1000	680	1000/1000	OTM1000E3CM230C	1SCA112677R1001	55
4	1000	680	1000/1000	OTM1000E4CM230C	1SCA112703R1001	65
2	1250	850	1250/1000	OTM1250E2CM230V	1SCA121293R1001	45
3	1250	850	1250/1000	OTM1250E3CM230C	1SCA112676R1001	55
4	1250	850	1250/1000	OTM1250E4CM230C	1SCA112702R1001	65
2	1600	1000	1600/1000	OTM1600E2CM230V	1SCA121280R1001	49
3	1600	1000	1600/1000	OTM1600E3CM230C	1SCA112678R1001	59
4	1600	1000	1600/1000	OTM1600E4CM230C	1SCA112704R1001	69
2	2000	1350		OTM2000E2CM230V	1SCA121289R1001	61
3	2000	1350		OTM2000E3CM230C	1SCA112709R1001	78
4	2000	1350		OTM2000E4CM230C	1SCA112712R1001	95
2	2500	1700		OTM2500E2CM230V	1SCA121291R1001	61
3	2500	1700		OTM2500E3CM230C	1SCA112710R1001	78
4	2500	1700		OTM2500E4CM230C	1SCA112713R1001	95
3	3200			OTM3200E3CM230C	1SCA129240R1001	83
4	3200			OTM3200E4CM230C	1SCA129242R1001	101

[1] OTM2000...3200: Category AC-21B
[2] 2-pole versions, motor voltage U_e 220...240V AC/DC

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM630...800	OTV800ECMK	M12x40
OTM1000...2500	OTV1000ECMK	M12x60

Recommended accessories: Bridging bars and voltage sensing connectors

See pages 69-70

Motorized change-over switches
Ordering information for OTM160...OTM2500_CM

OTM160...250E3CM110V

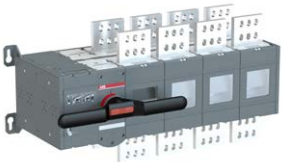
OTM160...250E4WCM110V

OTM315...400E3CM110V

OTM630...800E4CM110V

OTM1000...1250E4CM110V

OTM1600E3CM230C



OTM2000...2500E4CM110V

Motorized change-over switches, open transition, OTM160...OTM2500_CM

Delivered with a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM160…2500E_ include a storage clip for the handle and spare fuses. Types OTM160…250E_W are equipped with extended phase distance.

No. of poles	Rated current[1] AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Motor voltage U_e 110...125 V AC/DC						
3	160	110	160/160	OTM160E3CM110V	1SCA022845R8530	6.6
3	160	110	160/160	OTM160E3WCM110V	1SCA022846R3450	6.9
4	160	110	160/160	OTM160E4CM110V	1SCA022846R1080	7.5
4	160	110	160/160	OTM160E4WCM110V	1SCA022846R7360	7.9
3	200	135	200/200	OTM200E3CM110V	1SCA022845R8880	6.6
3	200	135	200/200	OTM200E3WCM110V	1SCA022846R3880	6.9
4	200	135	200/200	OTM200E4CM110V	1SCA022846R1410	7.5
4	200	135	200/200	OTM200E4WCM110V	1SCA022846R7790	7.9
3	250	170	250/250	OTM250E3CM110V	1SCA022845R9180	6.6
3	250	170	250/250	OTM250E3WCM110V	1SCA022846R4690	6.9
4	250	170	250/250	OTM250E4CM110V	1SCA022846R1830	7.5
4	250	170	250/250	OTM250E4WCM110V	1SCA022846R8170	7.9
3	315	215	315/315	OTM315E3CM110V	1SCA022847R1120	11.1
4	315	215	315/315	OTM315E4CM110V	1SCA022847R2790	12.5
3	400	275	400/400	OTM400E3CM110V	1SCA022847R1550	11.1
4	400	275	400/400	OTM400E4CM110V	1SCA022847R3170	12.5
3	630	435	650/650	OTM630E3CM110V	1SCA022873R1050	22
4	630	435	650/650	OTM630E4CM110V	1SCA022873R1810	25
3	800	550	720/650	OTM800E3CM110V	1SCA022872R5750	22
4	800	550	720/650	OTM800E4CM110V	1SCA022872R8260	25
3	1000	680	1000/1000	OTM1000E3CM110V	1SCA113653R1001	55
4	1000	680	1000/1000	OTM1000E4CM110V	1SCA113656R1001	65
3	1250	850	1250/1000	OTM1250E3CM110V	1SCA113652R1001	55
4	1250	850	1250/1000	OTM1250E4CM110V	1SCA113655R1001	65
3	1600	1000	1600/1000	OTM1600E3CM110V	1SCA113654R1001	59
4	1600	1000	1600/1000	OTM1600E4CM110V	1SCA113657R1001	69
3	2000	1350		OTM2000E3CM110V	1SCA113683R1001	78
4	2000	1350		OTM2000E4CM110V	1SCA113685R1001	95
3	2500	1700		OTM2500E3CM110V	1SCA113684R1001	78
4	2500	1700		OTM2500E4CM110V	1SCA113686R1001	95

[1] OTM2000...2500: Category AC-21B

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30
OTM630...800	OTV800ECMK	M12x40
OTM1000...2500	OTV1000ECMK	M12x60

Recommended accessories: Bridging bars and voltage sensing connectors

See pages 69-70

Motorized change-over switches
Ordering information for OTM160...OTM2500_CM

OTM160...250E3CM48D

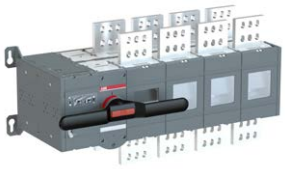
OTM160...250E4WCM48D

OTM315...400E4CM48D

OTM630...800E3CM48D

OTM1000...1250E4CM48D

OTM1600E3CM48D



OTM2000...2500E4CM48D

Motorized change-over switches, open transition, OTM160...OTM2500_C

Delivered with a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM160…2500E_ include a storage clip for the handle and spare fuses. Types OTM160…250E_W are equipped with extended phase distance.

M
48VDC

No. of poles	Rated current[1] AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Motor voltage U_e 48 V DC						
3	160	110	160/160	OTM160E3CM48D	1SCA022845R8450	6.6
3	160	110	160/160	OTM160E3WCM48D	1SCA022846R3370	6.9
4	160	110	160/160	OTM160E4CM48D	1SCA022846R0940	7.5
4	160	110	160/160	OTM160E4WCM48D	1SCA022846R7280	7.9
3	200	135	200/200	OTM200E3CM48D	1SCA022845R8700	6.6
3	200	135	200/200	OTM200E3WCM48D	1SCA022846R3700	6.9
4	200	135	200/200	OTM200E4CM48D	1SCA022846R1320	7.5
4	200	135	200/200	OTM200E4WCM48D	1SCA022846R7610	7.9
3	250	170	250/250	OTM250E3CM48D	1SCA022845R9000	6.6
3	250	170	250/250	OTM250E3WCM48D	1SCA022846R4510	6.9
4	250	170	250/250	OTM250E4CM48D	1SCA022846R1750	7.5
4	250	170	250/250	OTM250E4WCM48D	1SCA022846R8090	7.9
4	315	215	315/315	OTM315E4CM48D	1SCA022847R2610	11.1
3	400	275	400/400	OTM400E3CM48D	1SCA022847R1470	12.5
4	400	275	400/400	OTM400E4CM48D	1SCA022847R3090	11.1
3	315	215	315/315	OTM315E3CM48D	1SCA022847R1040	12.5
3	630	435	650/650	OTM630E3CM48D	1SCA022873R1300	22
4	630	435	650/650	OTM630E4CM48D	1SCA022873R2110	25
3	800	550	720/650	OTM800E3CM48D	1SCA022872R6050	22
4	800	550	720/650	OTM800E4CM48D	1SCA022872R8510	25
3	1000	680	1000/1000	OTM1000E3CM48D	1SCA113663R1001	55
4	1000	680	1000/1000	OTM1000E4CM48D	1SCA113666R1001	65
3	1250	850	1250/1000	OTM1250E3CM48D	1SCA113662R1001	55
4	1250	850	1250/1000	OTM1250E4CM48D	1SCA113665R1001	65
3	1600	1000	1600/1000	OTM1600E3CM48D	1SCA113664R1001	59
4	1600	1000	1600/1000	OTM1600E4CM48D	1SCA113667R1001	69
3	2000	1350		OTM2000E3CM48D	1SCA113689R1001	78
4	2000	1350		OTM2000E4CM48D	1SCA113691R1001	95
3	2500	1700		OTM2500E3CM48D	1SCA113690R1001	78
4	2500	1700		OTM2500E4CM48D	1SCA113692R1001	95

[1] OTM2000...2500: Category AC-21B

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30
OTM630...800	OTV800ECMK	M12x40
OTM1000...2500	OTV1000ECMK	M12x60

Recommended accessories: Bridging bars and voltage sensing connectors

See pages 69-70

Motorized change-over switches
Ordering information for OTM160...OTM2500_CM

OTM160...250E3CM24D

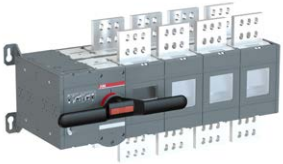
OTM160...250E4WCM24D

OTM315...400E4CM24D

OTM630...800E3CM24D

OTM1000...1250E4CM24D

OTM1600E3CM24D



OTM2000...2500E4CM48D

Motorized change-over switches, open transition, OTM160...OTM2500_C

Delivered with a handle for manual operation, bolt kit with nut and washers for all terminals and male connectors for control circuits. Types OTM160…2500E_ include a storage clip for the handle and spare fuses. Types OTM160…250E_W are equipped with extended phase distance.

M
24VDC

No. of poles	Rated current[1] AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Motor voltage U_e 24 V DC						
3	160	110	160/160	OTM160E3CM24D	1SCA022845R8110	6.6
3	160	110	160/160	OTM160E3WCM24D	1SCA022846R3290	6.9
4	160	110	160/160	OTM160E4CM24D	1SCA022846R0860	7.5
4	160	110	160/160	OTM160E4WCM24D	1SCA022846R7100	7.9
3	200	135	200/200	OTM200E3CM24D	1SCA022845R8290	6.6
3	200	135	200/200	OTM200E3WCM24D	1SCA022846R3610	6.9
4	200	135	200/200	OTM200E4CM24D	1SCA022846R1240	7.5
4	200	135	200/200	OTM200E4WCM24D	1SCA022846R7520	7.9
3	250	170	250/250	OTM250E3CM24D	1SCA022845R8370	6.6
3	250	170	250/250	OTM250E3WCM24D	1SCA022846R4420	6.9
4	250	170	250/250	OTM250E4CM24D	1SCA022846R1670	7.5
4	250	170	250/250	OTM250E4WCM24D	1SCA022846R7950	7.9
3	315	215	315/315	OTM315E3CM24D	1SCA022847R0910	11.1
4	315	215	315/315	OTM315E4CM24D	1SCA022847R2520	12.5
3	400	275	400/400	OTM400E3CM24D	1SCA022847R1390	11.1
4	400	275	400/400	OTM400E4CM24D	1SCA022847R2950	12.5
3	630	435	650/650	OTM630E3CM24D	1SCA022873R1210	22
4	630	435	650/650	OTM630E4CM24D	1SCA022873R2020	25
3	800	550	720/650	OTM800E3CM24D	1SCA022872R5910	22
4	800	550	720/650	OTM800E4CM24D	1SCA022872R8420	25
3	1000	680	1000/1000	OTM1000E3CM24D	1SCA113672R1001	55
4	1000	680	1000/1000	OTM1000E4CM24D	1SCA113675R1001	65
3	1250	850	1250/1000	OTM1250E3CM24D	1SCA113671R1001	55
4	1250	850	1250/1000	OTM1250E4CM24D	1SCA113674R1001	65
3	1600	1000	1600/1000	OTM1600E3CM24D	1SCA113673R1001	59
4	1600	1000	1600/1000	OTM1600E4CM24D	1SCA113676R1001	69
3	2000	1350		OTM2000E3CM24D	1SCA113695R1001	78
4	2000	1350		OTM2000E4CM24D	1SCA113697R1001	95
3	2500	1700		OTM2500E3CM24D	1SCA113696R1001	78
4	2500	1700		OTM2500E4CM24D	1SCA113698R1001	95

[1] OTM2000...2500: Category AC-21B

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30
OTM630...800	OTV800ECMK	M12x40
OTM1000...2500	OTV1000ECMK	M12x60

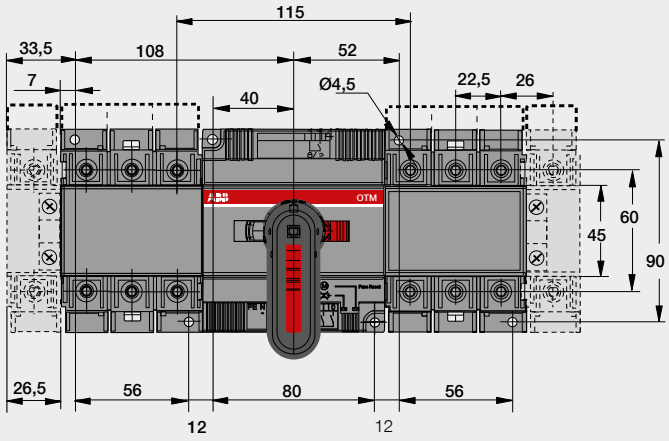
Recommended accessories: Bridging bars and voltage sensing connectors

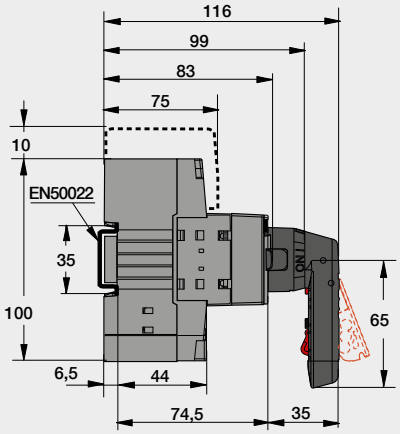
See pages 69-70

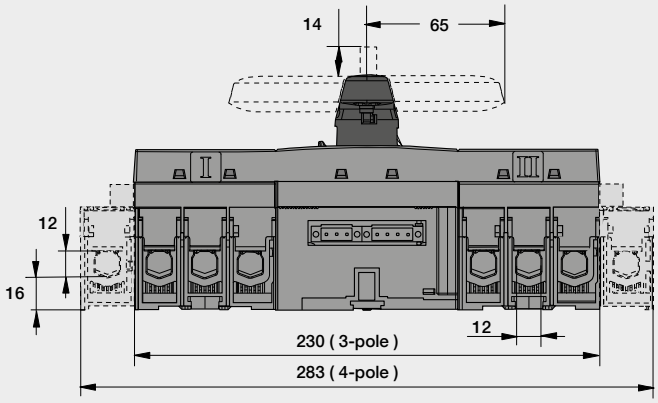
Motorized change-over switches
Dimensional drawings

OTM40...125F3/4_CM

M00352/OTM30-125F_C_M A





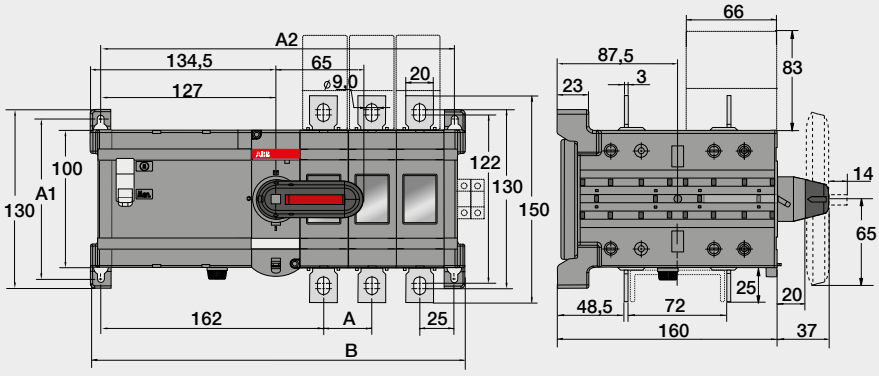


OTM160...250E2/3/4CM

OTM160-250_C_M

[mm]	E2	E3	E4
A	35	35	35
A1	116	116	116
A2	223	258	293
B	238	273	308

M00111 / OTM160-250E_C_M E



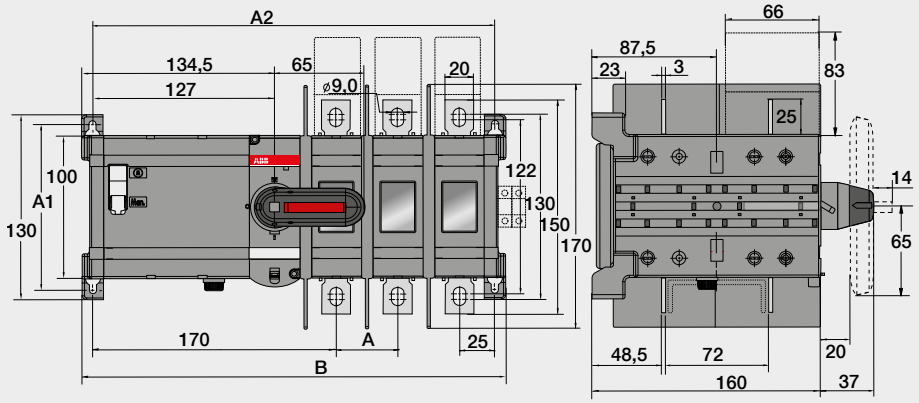
Motorized change-over switches
Dimensional drawings

OTM160...250E2/3/4WCM

OTM160-250_WCM

[mm]	E2	E3	E4
A	43	43	43
A1	116	116	116
A2	239	282	325
B	254	297	340

M00115 / OTM160-250E_WC_M E

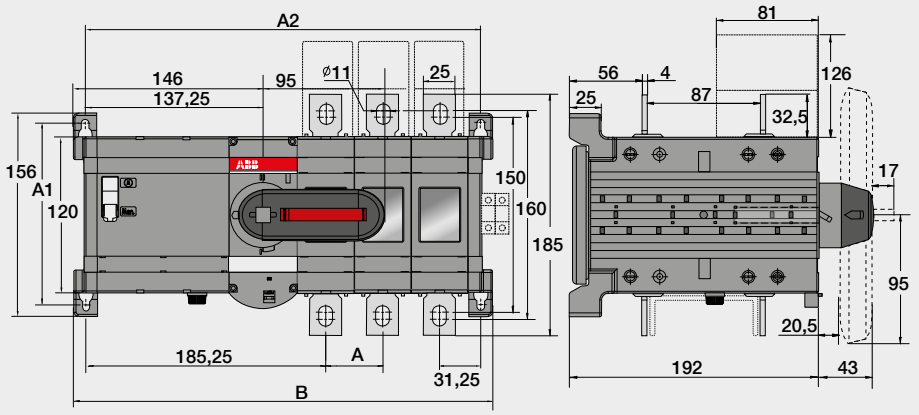


OTM315...400E2/3/4CM

OTM315-400_C_M

[mm]	E2	E3	E4
A	44	44	44
A1	142	142	142
A2	261	305	349
B	280	323	367

M00113 / OTM315-400E_C_M F

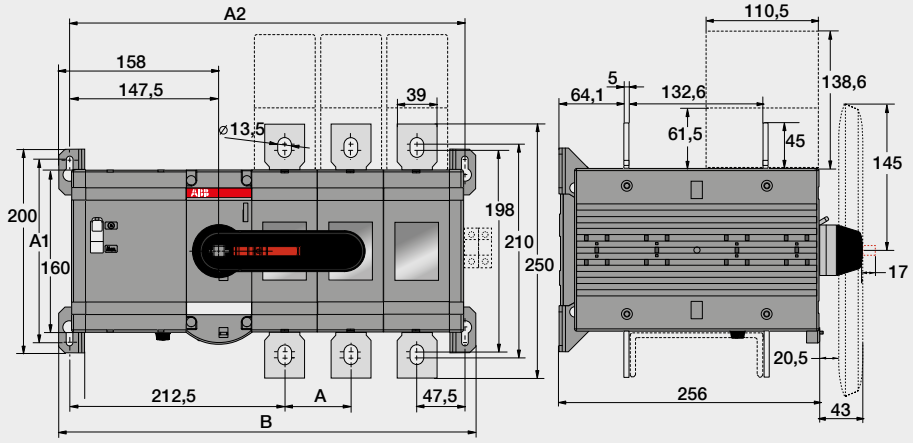


OTM630...800E2/3/4CM

OTM630-800E_C_M

[mm]	E2	E3	E4
A	65	65	65
A1	180	180	180
A2	325	390	455
B	346	411	476

M00140 / OTM630-800E02-04C_M C



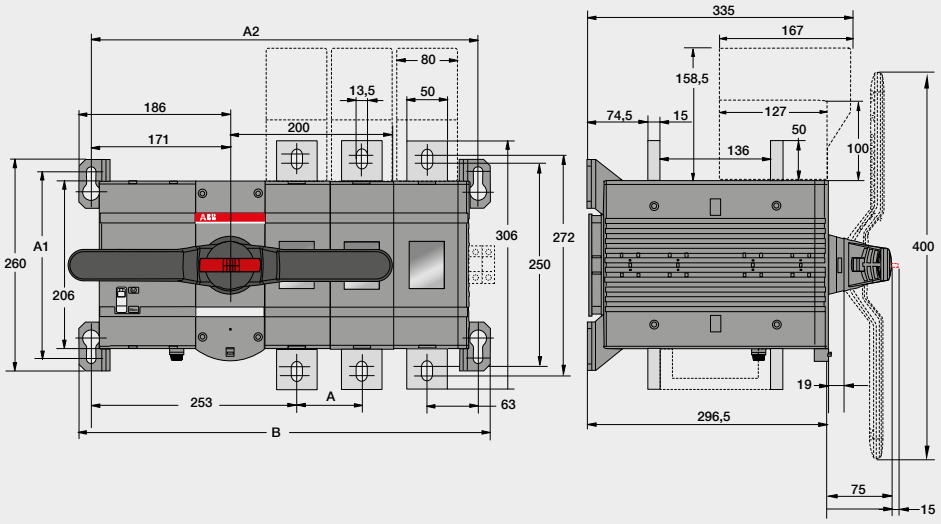
Motorized change-over switches
Dimensional drawings

OTM1000...1250E2/3/4CM

OTM1000-1250_C_M

[mm]	E2	E3	E4
A	80	80	80
A1	230	230	230
A2	296,5	476,5	556,5
B	426,5	506,5	586,5

M00256 / OTM1000-1250E_C_M C

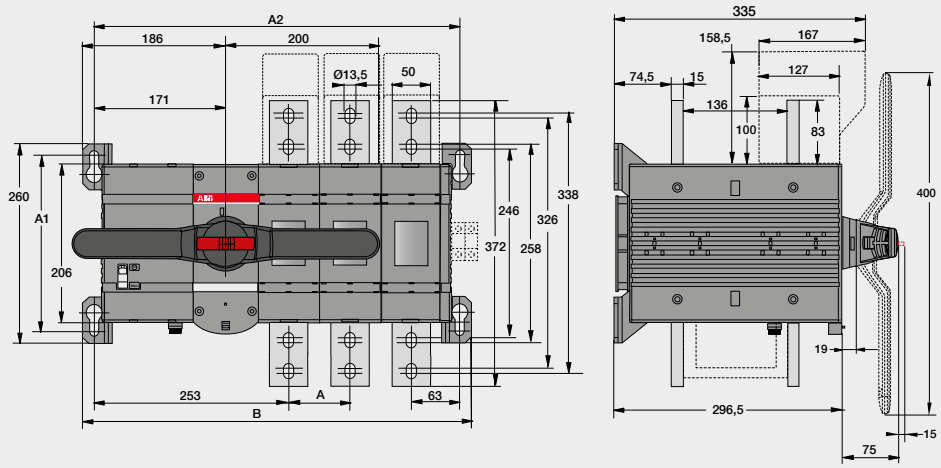


OTM1600E2/3/4CM

OTM1600_C_M

[mm]	E2	E3	E4
A	80	80	80
A1	230	230	230
A2	396,6	476,5	556,5
B	426,5	506,5	586,5

M00258 / OTM1600E_C_M C



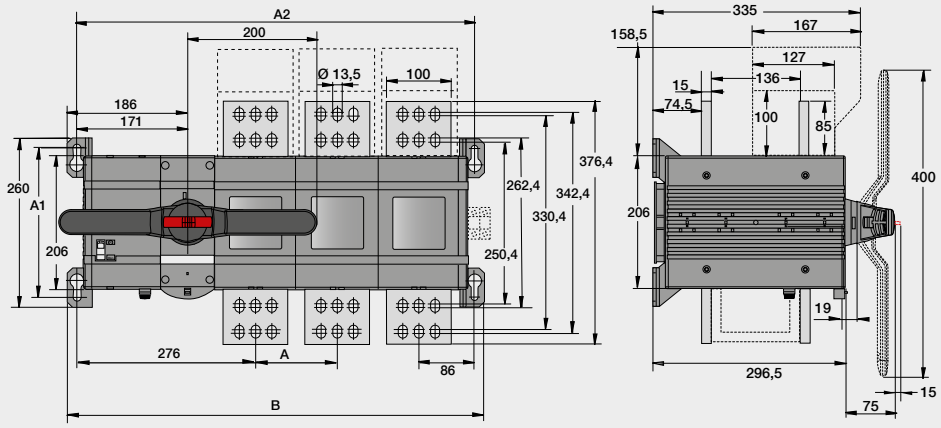
Motorized change-over switches
Dimensional drawings

OTM2000...2500E3/4CM

OTM2000-2500_C_M

[mm]	E2	E3	E4
A	126	126	126
A1	230	230	230
A2	488,5	614,5	740,5
B	518,5	644,5	770,5

M00259 / OTM2000-2500E_C_M C

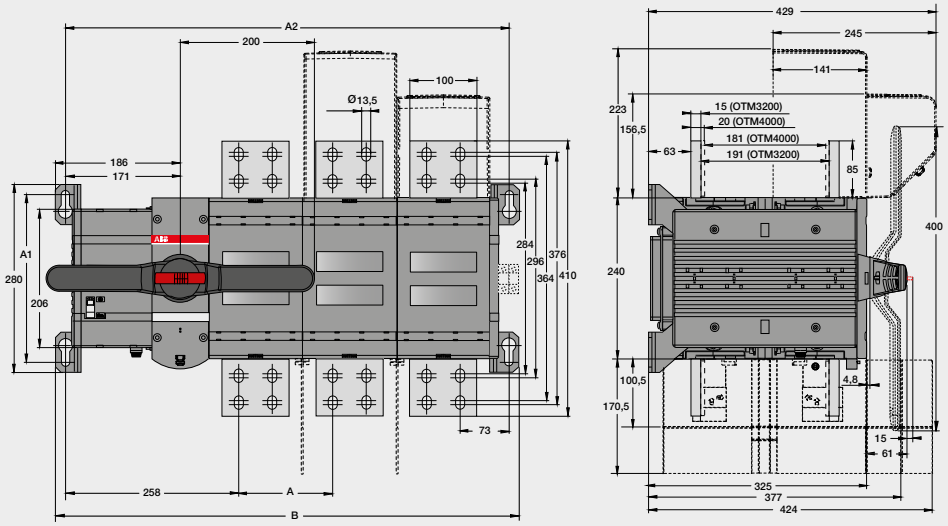


OT3200E2/3/4CM A

OTM3200_C_M

[mm]	E2	E3	E4
A	140	140	140
A1	250	250	250
A2	521,5	661,5	801,5
B	551,5	691,5	831,5

M00432/OTM3200-4000_C_M A



Optional accessories for motorized change-over switches
Ordering information for handles and storage clips

OTV400ECMK

Plastic handle, direct mounting, indication I-O-II

Includes a shaft and a mechanism cover. The type and ordering numbers are for one piece.

Suitable for switches	Colour	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
Padlockable with three padlocks in 0-position. Types -ECMK include also microswitches.					
OTM160…250_C	Black	OTV250ECMK	1SCA022804R0570	1	0.10
OTM315…400_C	Black	OTV400ECMK	1SCA022843R2900	1	0.28
OTM630…800_C	Black	OTV800ECMK	1SCA022804R3410	1	0.32
OTM1000…2500_C	Black	OTV1000ECMK	1SCA111301R1001	1	0.77

OTVS0

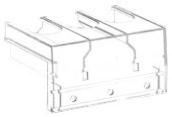
OTVS1

Handle and spare fuse storage clip for motorized change-over switches

OTM40...125F_, the handle can be stored in the handle storage clip OTVS0. The clip can be fixed to a panel frame using the included adhesive tape. OTM160...3200E_, the handle and two spare fuses can be stored in the OTVS1 and OTVS2. OTVS1 and OTVS2 can be installed onto the left side of the switch. Snap-on mounting, no tools required. On OTM160...3200E_, the size of the handle prevents the installation onto the switch frame. However, the handle clip can be installed separately onto the panel frame and the fuse holder clip onto the switch frame.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40...125F	OTVS0	1SCA117524R1001	1	0.02
OTM160…250E_	OTVS1	1SCA111413R1001	1	0.02
OTM315…3200E_	OTVS2	1SCA111414R1001	1	0.04

Optional accessories for motorized change-over switches
Ordering information for terminal shrouds



OTS_T3

OTS_T1

OTS_L_

OTS_S_

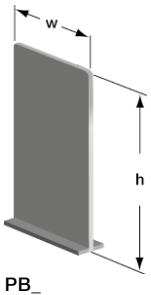
Terminal shrouds, grey plastic

Snap-on mounting to the switches, IP 20. A kit includes three or four shrouds which can be used on either side of the switch. Suitable for the upperswitch. Transparent shrouds for OTM160...3200 available on request, please replace the letter “G” with “T”.

Suitable for switches	No. of poles	Description	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40...125F_			OTS125T3	1SCA022379R9680	10	0.01
OT_160…250_C	3	Long type	OTS250G1L/3	1SCA022731R8150	3	0.09
OT_160…250_C	3	Short type	OTS250G1S/3	1SCA022731R8310	3	0.06
OT_160…250_C	4	Long type	OTS250G1L/4	1SCA022731R8230	4	0.12
OT_160…250_C	4	Short type	OTS250G1S/4	1SCA022731R8400	4	0.08
OT_315…400_C	3	Long type	OTS400G1L/3	1SCA022736R8840	3	0.15
OT_315…400_C	3	Short type	OTS400G1S/3	1SCA022736R9060	3	0.09
OT_315…400_C	4	Long type	OTS400G1L/4	1SCA022736R9490	4	0.20
OT_315…400_C	4	Short type	OTS400G1S/4	1SCA022736R9650	4	0.12
OT_600…800_C	3	Long type	OTS800G1L/3	1SCA022776R7890	3	0.32
OT_600…800_C	3	Short type	OTS800G1S/3	1SCA022776R8190	3	0.17
OT_600…800_C	4	Long type	OTS800G1L/4	1SCA022776R7970	4	0.42
OT_600…800_C	4	Short type	OTS800G1S/4	1SCA022776R8270	4	0.26
OT_1000…1600_C	3	Long type	OTS1600G1L/3	1SCA022871R9510	3	0.64
OT_1000…1600_C	3	Short type	OTS1600G1S/3	1SCA022871R9600	3	0.37
OT_1000…1600_C	4	Long type	OTS1600G1L/4	1SCA022871R9780	4	0.85
OT_1000…1600_C	4	Short type	OTS1600G1S/4	1SCA022871R9860	4	0.49
OT_2000…2500_C	3	Long type	OTS2500G1L/3	1SCA107261R1001	3	0.77
OT_2000…2500_C	3	Short type	OTS2500G1S/3	1SCA107260R1001	3	0.47
OT_2000…2500_C	4	Long type	OTS2500G1L/4	1SCA107262R1001	4	1.00
OT_2000…2500_C	4	Short type	OTS2500G1S/4	1SCA107271R1001	4	0.61
OT3200_C	3	Long type	OTS4000G1L/3	1SCA129042R1001	3	1.20
OT3200_C	3	Short type	OTS4000G1S/3	1SCA129044R1001	3	1.00
OT3200_C	4	Long type	OTS4000G1L/4	1SCA129043R1001	4	1.40
OT3200_C	4	Short type	OTS4000G1S/4	1SCA129045R1001	4	1.60

Optional accessories for motorized change-over switches
Ordering information for phase barriers

OTB_



PB_

Phase barriers

The phase barriers designed for ABB Tmax T4-T5 MCCB's can also be used for OT_160...800 change-over switches. 3-pole change-overs need 8 barriers and 4-pole change-overs need 12 barriers for full protection.

Suitable for switches	No. of poles	Height h [mm]	Cutting width W of the phase barrier [mm]	Type	Order number	Units/ type [pcs]
OT_160…250E_C	3	100	55	PB100 low	1SDA054970R1	4
OT_160…250E_C	3	200	55	PB200 high	1SDA054972R1	4
OT_160…250E_C	4	100	55	PB100 low	1SDA054971R1	6
OT_160…250E_C	4	200	55	PB200 high	1SDA054973R1	6
OT_315…400E_C	3	100	67	PB100 low	1SDA054970R1	4
OT_315…400E_C	3	200	67	PB200 high	1SDA054972R1	4
OT_315…400E_C	4	100	67	PB100 low	1SDA054971R1	6
OT_315…400E_C	4	200	67	PB200 high	1SDA054973R1	6
OT_600...800E_C	3	100	90	PB100 low	1SDA054970R1	4
OT_600...800E_C	3	200	90	PB200 high	1SDA054972R1	4
OT_600...800E_C	4	100	90	PB100 low	1SDA054971R1	6
OT_600...800E_C	4	200	90	PB200 high	1SDA054973R1	6

Ordering information for terminal clamps

OZXT1

OZXT2...3

OZXT6

Terminal clamp sets for Al- and Cu-cables insulated versions

Suitable for switches	Cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40...125F_	16...50 Al/2.5...50 Cu	OZXT1	1SCA022469R6310	3	0.06
OTM63...125F_	16...120 Al/Cu	OZXT2	1SCA022620R7200	3	0.21
OTM63...125F_	2x(16...50) Al/Cu	OZXT3	1SCA022639R0720	3	0.21
Including 0.75...2.5 mm² voltage sensing connection. Voltage sensing wires are not included					
OTM40...125F_	16...50 Al/2.5...50 Cu	OZXT6	1SCA122537R1001	3	0.06

Optional accessories for motorized change-over switches
Ordering information for bridging- and reversing bars

OTZC13...34

OTZC43...44
OTZC53...54

Bridging bars

The bridging bars provide a connection link either on the incoming or outcoming side of the switch.

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	3	OTZC13	1SCA022767R6910	3	0.6
OT_160…250_C	4	OTZC14	1SCA022767R7040	4	0.8
OT_315…400_C	3	OTZC23	1SCA022767R7120	3	0.6
OT_315…400_C	4	OTZC24	1SCA022767R7210	4	0.8
OT_600_C…800E_C	3	OTZC33	1SCA022785R7020	3	1.0
OT_600_C…800E_C	4	OTZC34	1SCA022785R7110	4	1.3
OT_1000…1250E_C	3	OTZC43	1SCA022868R0710	3	4.2
OT_1000…1250E_C	4	OTZC44	1SCA022868R0800	4	5.6
OT800U_, OT_1600E_C	3	OTZC53	1SCA022868R0980	3	5.6
OT800U_, OT_1600E_C	4	OTZC54	1SCA022868R1010	4	7.4
OT_2000…2500E_C	3	OTZC63	1SCA022868R1100	3	10.8
OT_2000…2500E_C	4	OTZC64	1SCA022868R1360	4	14.5
OT_3200E_C	3	OTZC73	1SCA128843R1001	3	14.1
OT_3200E_C	4	OTZC74	1SCA128844R1001	4	18.7

Correct mounting of bridging bars onto the switch shown here.

OTZR_

Reversing bars

A reversing switch can be built by using phase sequence bars in two phases.
The kit includes two phase sequence conversion bars. The missing bridging bars must be ordered separately, see above. For example 3-pole switches: one 4-pole standard bridging bar kit is required (one bar for the reversing side, three bars for the other side).

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	OTZR1	1SCA100352R1001	2	0.3
OT_315…400_C	OTZR2	1SCA104647R1001	2	0.3
OT_600_C…800E_C	OTZR3	1SCA100355R1001	2	0.4

Optional accessories for motorized change-over switches
Ordering information for voltage sensing connector

OMZB18...28

OMZB38

OMZB18...28

OMZB48

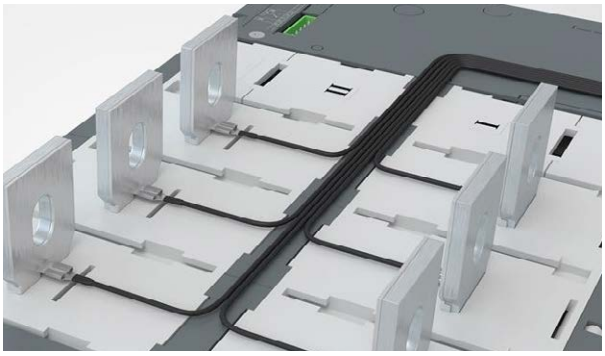
Voltage sensing connectors*

For 0.5...1.5mm² voltage sensing connection of the top or bottom power poles.
The connector package includes also the faston terminals (see the picture).
One package includes 8 connectors and 8 faston terminals. Wires are not included.

Suitable for switches	Faston terminal cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	0.5…1.5	OMZB18	1SCA120153R1001	8	0.2
OT_315…400_C	0.5…1.5	OMZB28	1SCA120154R1001	8	0.2
OT_630…800E_C	0.5…1.5	OMZB38	1SCA120155R1001	8	0.2
OT_1000…3200_C	0.5…1.5	OMZB48	1SCA120156R1001	8	0.2

* Terminal clamp OZXT6 is recommended to use with OTM40...125_C for voltage sensing connection.
Terminal clamp OZXT6 includes 0.75...2.5 mm² voltage sensing connection. See ordering information on page 55.

Correct mounting of voltage sensing connectors onto the switch shown here.



Ordering information for parallel connection kits

OMZC_

Parallel connection kits

Finger protected connection bars for parallel connection of the upper or lower terminals.
The bars accept additional cables, the maximum size is stated below.

Suitable for switches	Cable cross section [mm²]	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40F3C_	2.5...25/2x2.5...16	OMZC003	1SCA121324R1001	1	0.5
OTM40F4C_	2.5...25/2x2.5...16	OMZC004	1SCA121325R1001	1	0.65
OTM40…125F3C_	10...70	OMZC03	1SCA117037R1001	1	0.5
OTM40…125F4C_	10...70	OMZC04	1SCA117038R1001	1	0.65

Optional accessories for motorized change-over switches
Ordering information and technical data for auxiliary contacts

OA1G01
OA7G10

OA1G10
OA8G01

OA2G11

Auxiliary contact blocks for OTM40...125F

Snap-on mounting to the switch, IP 20, max. 2 blocks/ side. I_{th} = 16 A, suitable for cable cross sections max. 2 x 2,5 mm^2. Simultaneous action with the main contacts.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_16...125F_C	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_16...125F_C	1NC	Right	OA8G01	1SCA022744R2240	10	0.03
OT_16...125F_C	1NO	Left	OA7G10	1SCA022673R1140	10	0.03
OT_16...125F_C	1NC	Left	OA1G01	1SCA022353R4890	10	0.03
OT63...125F3C	1NO+1NC	Either	OA2G11[1)]	1SCA022379R8100	10	0.03

[1)] Not mountable on 4-pole change-over switches

Auxiliary contact blocks for OTM160...3200

Mounting on the right side of the switch: Max. 4 auxiliary contact blocks/switch (totally 8 blocks). Types _AU have gold plated contacts for harsh environments and low operating voltages. Simultaneous action with the main contacts, IP20.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_160…3200_	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_160…3200_	1NC	Right	OA3G01	1SCA022456R7410	10	0.03
OT_160…3200_	1NO	Right	OA1G10AU	1SCA022436R7910	10	0.03
OT_160…3200_	1NC	Right	OA3G01AU	1SCA022819R5260	10	0.03

Auxiliary contacts

Technical data for auxiliary contacts according to IEC 60947-5-1, for OA1G_, OA2G_, OA3G_, OA7G_, OA8G_

AC15		DC12			DC13	
U_e/[V]	I_e/[A]	U_e/[V]	I_e/[A]	P/[W]	I_e/[A]	P/[W]
230	6	24	10	240	2	50
400	4	72	4	290	0.8	60
415	4	125	2	250	0.55	70
690	2	250	0.55	140	0.27	70
		440	0.1	44		

Function tables

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch I (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	closed	open
0	open	open	closed
II	closed	open	closed

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch II (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	open	closed
0	open	open	closed
II	closed	closed	open

Optional accessories for motorized change-over switches
Ordering information for automatic control units and related accessories

OMD200

OMD300

OMD800

OMZD1

OMZC2

Automatic control units

OMD automatic control units can be used with OTM40...3200 motorized change-over switches in order to assemble an automatic transfer switch. The type and ordering codes include the OMD control unit, PCB connectors and 2 OMZD1 fasteners for door mounting.

If used with OTM40...125_CMA_:

1 x OTM40…125_CMA_ motorized change-over switch and 2 or 3 x OZXT6 terminal clamp sets (including voltage sensing connection) must be ordered separately to be able to assemble an automatic transfer switch.

If used with OTM160...3200_CM_:

1 x OTM160…3200_CM_ motorized change-over switch, 1 x OMZB_ voltage sensing connectors and 2 x OA1G10 auxiliary contacts must be ordered separately to be able to assemble an automatic transfer switch. The control unit can be mounted on a door or on DIN rail.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40…3200_CM_	OMD200E480C-A1	1SCA123789R1001	1	0.8
OTM40…3200_CM_	OMD300E480C-A1	1SCA123790R1001	1	1.0
OTM40…3200_CM_	OMD800E480C-A1	1SCA123791R1001	1	1.3

Panel fasteners

For mounting the OMD automatic control unit on the door. The type and ordering code is for 1 piece, so 2 units must be ordered for mounting the control on the door.

Suitable for OMD control unit	Type	Order number	Units/type [pcs]
OMD200_, OMD300_, OMD800_	OMZD1	1SCA022787R5190	1

Cover plate

Providing protection against accidental contact. Padlockable transparent cover.
The type and ordering codes are for 1 piece.

Suitable for OMD control unit	Type	Order number	Units/type [pcs]
OMD200_, OMD300_, OMD800_	OMZC2	1SCA101001R1001	1

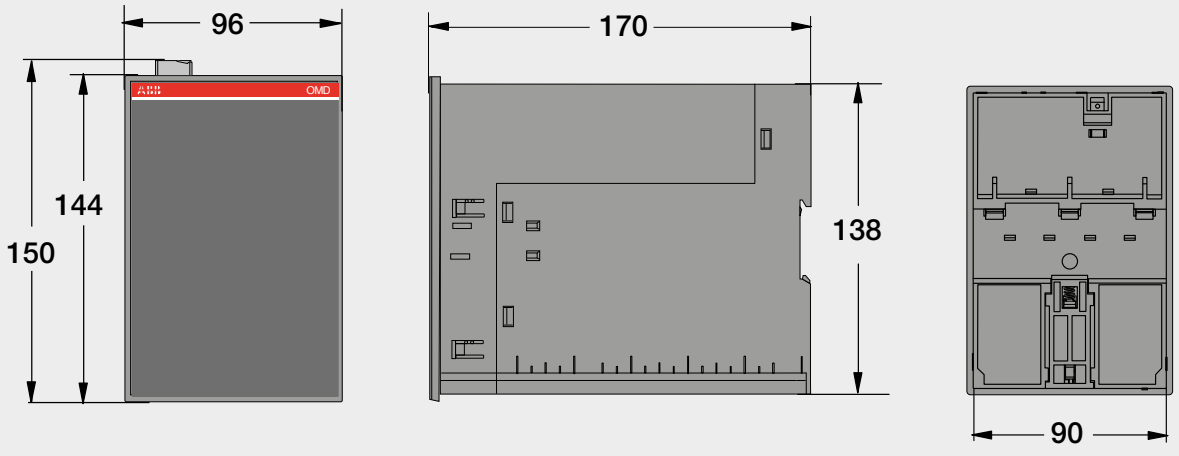
Optional accessories for motorized change-over switches
Technical data and dimensional drawings for automatic control units

Technical data for automatic control units OMD200/300/800

OMD200 and OMD300		
Rated operational voltage U_e		208 V AC - 480 V AC +/- 20% + N
	Phase - Neutral	120 V AC - 277 V AC +/- 20%
Rated frequency		50 / 60 Hz +/- 10%
Voltage sensing precision		5%
Frequency sensing precision		1%
Relay ratings:	X21, X22	12 A, AC1, 250 V / 12 A, DC1, 24 V
	X23, X24	8 A, AC1, 250 V / 8 A, DC1, 24 V
	X26, X27, X28	10 A, AC1, 250 V / 5 A, DC1, 24 V
Rated impulse withstand voltage, U_{imp}		6 kV
Overvoltage category		III
Pollution degree		2
OMD800		
Rated operational voltage U_e on 3 phase system		100 V AC - 480 V AC +/- 20%
	Phase - Neutral	57,7 V AC - 277 V AC +/- 20%
Rated operational voltage U_e on 1 phase system[1)]		57,7 V AC - 277 V AC +/- 20%
Rated frequency		50 / 60 Hz +/- 10%
Voltage sensing precision		1%
Frequency sensing precision		1%
Relay ratings:	X21, X22, X24	12 A, AC1, 250 V / 12 A, DC1, 24 V
	X23	8 A, AC1, 250 V / 8 A, DC1, 24 V
	X29	5 A, AC1, 250 V / 6 A, DC1, 24 V
Rated impulse withstand voltage, U_{imp}		6 kV
Overvoltage category		III
Pollution degree		2
AUX voltage[1)]		24 V DC - 110 V DC (-10% to +15%)
Protection rating for the front panel		IP40
Operating temperature		– 20...+ 60 °C
Transportation and storage temperature		– 25...+ 80 °C
Altitude		Max. 2000m
Humidity		
With condensation		5 %...98 %
Without condensation		5 %...90 %

[1)] If on 1 phase system the voltage level is between 57,7 – 109 V AC, AUX voltage supply must be used

OMD200/300/800



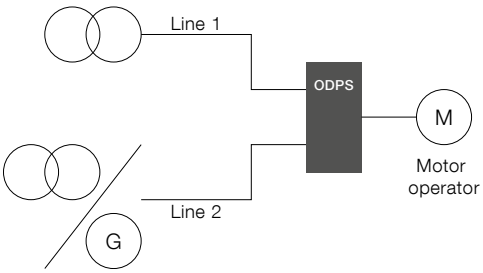
Optional accessories for motorized change-over switches
Ordering information for dual power sources

ODPSE230C

Dual power source

Provides power supply to the motor operator by using two lines. The device has two inputs, from line I (LN I) and line II (LN II), and one output for the motor operator. The motor operator is automatically energized whenever power is available in one of the lines. Can be used with 230VAC motor operators. Snap-on mounted PCB connectors are included in the delivery. The device can be DIN-rail or screw mounted.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40…3200_	ODPSE230C	1SCA116892R1001	1	0.3



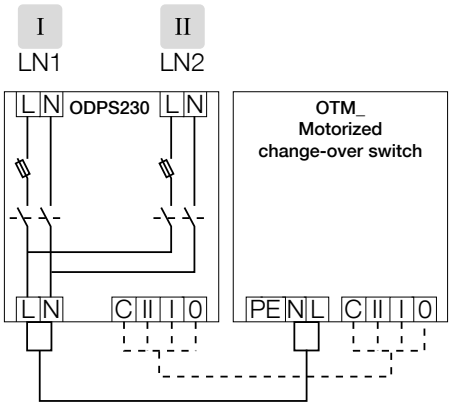
Connection diagram, ODPSE230C

ODPS230

Dual power source including ATS functionality

Similar to previous dual power source but also including ATS (Automatic Transfer Switch) functionality and in-built short-circuit protection. Provides power supply to the motor operator by using two 220...240 V AC lines. Motor operator is automatically energized whenever power is available in one of the lines. The device has a three position (AUTO-MAN-O) DIP switch to choose the correct operating mode. The AUTO position enables and the MAN position disables the ATS functionality when used with OTM motorized change-over switch. The O position is used for safety reasons: it operates the OTM to position 0 to isolate the load from the feeding sources. The device can be DIN-rail or screw mounted.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40…3200_	ODPS230	1SCA122946R1001	1	0.3



Connection diagram, ODPS230

Optional accessories for motorized change-over switches
Technical data and dimensional drawings for dual power sources

Technical data for dual power source ODPSE230C

Dual power source ODPSE230C	
Rated operational voltage U [V]	220…240 V AC +/- 20%
Rated frequency	50 / 60 Hz +/- 10%
Short-circuit protection device	Max. MCB 4 A
Nominal output current I_n [A]	4 A
Startup time	Max. 1.0 s (with 230 V AC)
Operating transfer time LN1 - LN2 or LN2 - LN1	Max. 0.5 s (with 230 V AC)
Cable size	0,2…2,5 mm^2
Rated impulse withstand voltage, U_{imp}	4 kV
Overvoltage category	III
Pollution degree	3
Protection rating for the front panel	IP20
Operating temperature	– 25...+ 60 °C
Transportation and storage temperature	– 40...+ 70 °C
Altitude	Max. 2 000m

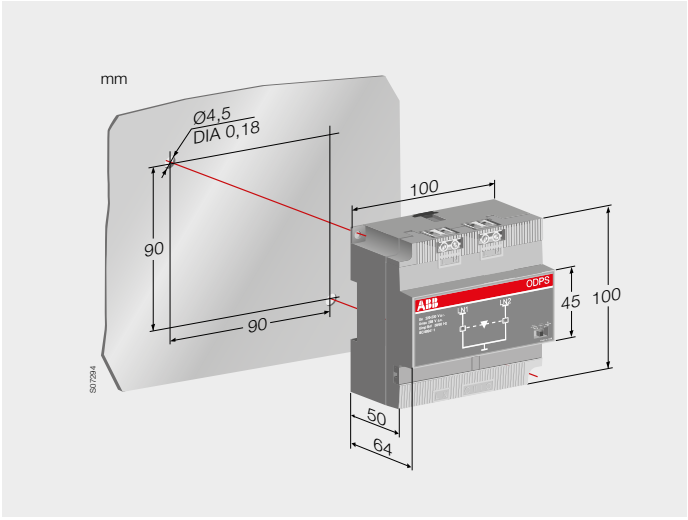
Technical data for new dual power source ODPS230 with ATS functionality

Dual power source ODPS230	
Rated operational voltage U [V]	220…240 V AC, 50 / 60 Hz
Maximum voltage	288 V AC
Pick-up voltage	≥198 V AC
Drop-out voltage	≤154 V AC
Operating time	1 s ± 0.5 s
Nominal output current I_n [A]	3,15 A
Rated conditional short-circuit current, I_p (r.m.s.)	50 kA
Internal fuse	T/3,15A/H*
Fuse size	6,3 x 32 mm
Rated impulse withstand voltage, U_{imp}	4 kV
Overvoltage category	III
Pollution degree	3
Cable size	Max. 6 mm^2
Protection rating for the front panel	IP20
Operating temperature	– 25...+ 60 °C
Transportation and storage temperature	– 40...+ 70 °C
Altitude	Max. 2 000m

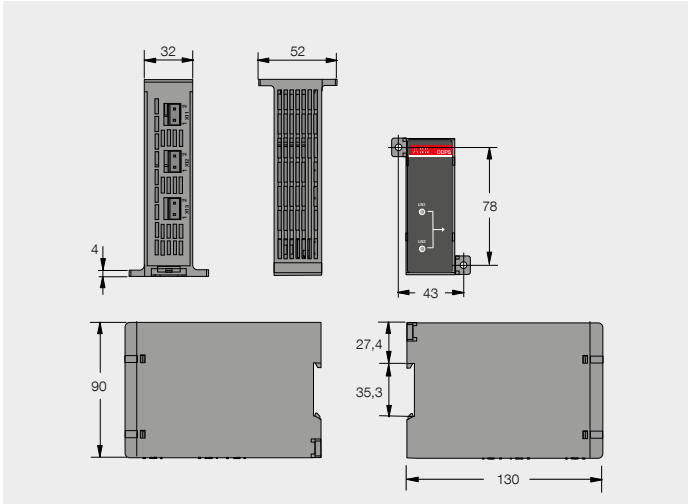
*) The breaking capacity must be 50 kA to achieve 50 kA Ip (r.m.s.) rating

Dimensional drawings for dual power sources

ODPS230



ODPSE230C



Automatic transfer switches
Open transition from 160 to 1600 Amperes

ABB's automatic transfer switches provide virtually instantaneous automatic switching between power sources.

Automatic transfer switches
Instantaneous automatic switching between power sources

ABB offers a wide selection of automatic transfer switches (ATS), from 160 to 1600 Amperes in range. They have the features and functionality that makes them suitable for diverse applications: industrial plants, docks, airports and data centers.

Quick and easy solution
All ATS products by ABB are delivered as a ready-to-use solution in which the OMD unit is pre-mounted at the factory prior to delivery. It is also possible to purchase the control units and motorized change-over switches as separate components, allowing you to build the automatic transfer switch yourself.

Reliable functionality
You can rest assured that your automatic transfer switch solution works as expected without the need to carry out any testing. The entire solution has been tested by ABB and is guaranteed to fulfill all the requirements according to the IEC60947-6-1 standard.

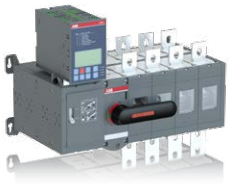
Safe operations
With automatic transfer switches by ABB safe ON LOAD operations with a handle is always easy and readily available. Our switches also come equipped with numerous other safety features such as the possibility to prevent unwanted operations by padlocking the handle into O position.

Improved user experience
Ensuring a high performance level and an easy and efficient user experience for you is of the utmost importance to us. Usage has been made simpler than ever before with an LCD display with menus available in eight languages.

Automatic transfer switches
Open transition from 160 to 1600 Amperes



Automatic transfer switches, 160-400 A								
Types	OTM160E_C_D			OTM160E_WC_D			OTM315E_C_D	
	OTM200E_C_D			OTM200E_WC_D			OTM400E_C_D	
	OTM250E_C_D			OTM250E_WC_D				
I_{th} /A	**160**	**200**	**250**	**160**	**200**	**250**	**315**	**400**
I_e /AC-22A, < 415V	160	200	250	160	200	250	315	400
I_e /AC-23A, < 415V	160	200	250	160	200	250	315	400
I_e /AC-31B, < 415V	160	200	250	160	200	250	315	400



Automatic transfer switches 630-1600 A					
Types	OTM630E_C_D		OTM1000E_C_D		OTM1600E_C_D
	OTM800E_C_D		OTM1250E_C_D		
I_{th} /A	**630**	**800**	**1000**	**1250**	**1600**
I_e /AC-22A, < 415V	630	800	1000	1250	1600
I_e /AC-23A, < 415V	630	800	1000	1250	1250
I_e /AC-31B, < 415V	650	720	1000	1250	1600

Automatic transfer switches
Type codes

Type codes

Understanding the type code keys below will help you quickly identify the correct product for your needs. The simple naming system allows you to see the products type, Ampere rating, standard classification and number of poles, all in one glance.

Explanation of the types OTM160...1600_C_D

Option:	OTM800	E	4	C	3	D	230	C
Position:	1	2	3	4	5	6	7	8

1	Brand and Switch size / Ampere rating
2	IEC
3	Number of the poles
4	Change over switch: I-0-II -operation
	3: 3-poles
	4: 4-poles
5	Place of sensing kit
	_(blank): Voltage sensing kit on the top
	B: Voltage sensign kit on the bottom
6	Automatic controlle unit
	2D: OMD200
	3D: OMD300
	8D: OMD800
7	Voltage for motor operator
	230: 220...240 V AC
8	Motor voltage type
	V=AC/DC

Automatic transfer switches
Switching sequence and operating times

Example of switching sequence for automatic transfer switches

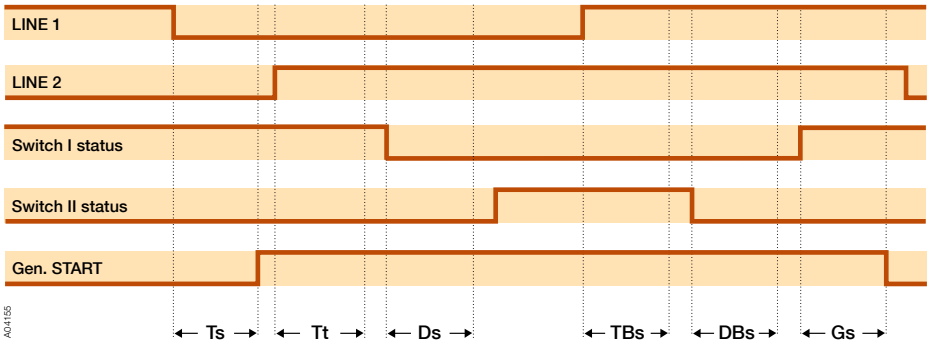
An example of the switching sequence can be summarized in following steps:

- An anomaly occurs on the Line 1
- Switching delay
- Generator start
- Delay on transfer
- Change-over switch (Switch I) to the position O
- Dead band I to II delay
- Change-over switch (Switch II) to the position II

The back switching sequence can be summarized in the following steps:

- The Line 1 will start the normal functioning
- Back switching delay
- Change-over switch (Switch II) to the position O
- Dead band II to I delay
- Change-over switch (Switch I) to the position I
- Generator stop delay
- Generator stop

The diagram is with OTM_C8D and Line 1 priority operating mode



Ts: Switching delay, Tt: Delay on transfer, Ds: Dead band I to II,
TBs: Back switching delay, DBs: Dead band II to I, Gs: Generator stop delay

Automatic transfer switches operating times for OTM160...1600_
Operating times

Type	Operating transfer time[a] I - II, II - I [s]	OFF-time when operating[a] I - II, II - I [s]
OTM160…250_C2D_	2.0 - 4.0	0.4 - 1.0
OTM160…250_C3D_	2.0 - 4.0	0.4 - 1.0
OTM160…250_C8D_	1.5 - 3.0	0.4 - 1.0
OTM315…400_C2D_	2.0 - 5.0	0.4 - 1.0
OTM315…400_C3D_	2.0 - 5.0	0.4 - 1.0
OTM315…400_C8D_	1.5 - 3.0	0.4 - 1.0
OTM630…800_C2D_	2.0 - 5.0	0.4 - 1.0
OTM630…800_C3D_	2.0 - 5.0	0.4 - 1.0
OTM630…800_C8D_	1.5 - 3.0	0.4 - 1.0
OTM1000…1600_C2D_	3.0 - 6.0	0.6 - 1.5
OTM1000…1600_C3D_	3.0 - 6.0	0.6 - 1.5
OTM1000…1600_C8D_	2.5 - 4.0	0.6 - 1.5

[a] Under nominal conditions

Automatic transfer switches
List of product functionalities

Automatic transfer switches functionality

	OTM_C2D_	OTM_C3D_	OTM_C8D_
OTM_C_D products overview			
Includes automatic control unit	OMD200_	OMD300_	OMD800_
Manual operation with handle	x	x	x
Local operation with front panel keypad	x	x	x
Automatic transfer switching equipment (ATSE)	x	x	x
Dual power source for the motor operator[1)]	o	x	o
Measurements			
Three phase voltage measurement on LINE 1	x	x	x
Single phase voltage measurement on LINE 1	x	x	x
Three phase voltage measurement on LINE 2	x	x	x
Single phase voltage measurement on LINE 2	x	x	x
Frequency on LINE 1	x	x	x
Frequency on LINE 2	x	x	x
Possibility to check the measurements via LCD			x
Source failure detections			
No voltage	x	x	x
Undervoltage	x	x	x
Overvoltage	x	x	x
Phase missing	x	x	x
Voltage unbalance	x	x	x
Invalid frequency	x	x	x
Incorrect phase sequence			x
Configuration			
By DIP switches	x	x	
By rotary switches	x	x	
By keypad and LCD			x
Voltage threshold setting	x	x	x
Voltage hysteresis setting			x
Frequency threshold setting			x
Frequency hysteresis setting			x
Time delays			
Switching delay	x[2)]	x[2)]	0...60 s
Delay on transfer[3)]			0...600 s
Dead band time I-II (stop switching to position 0)			0...60 s
Back-switching delay	x[4)]	x[4)]	0...5 400 s
Dead band time II-I (stop switching to position 0)			0...60 s
Generator stop delay	x[5)]	x[5)]	0...1 800 s
Status of time delays on the LCD			x

[1)] Dual power source allows the motor operator to be supplied by two separate voltage supplies. This way the motor operator is always energized from the available line.
[2)] Four options: 0, 5, 10 or 30 seconds
[3)] Delaying the switching sequence before transferring to generator, guaranteeing that in cold locations the generator is properly warmed up
[4)] Two options: the duration of back-switching delay is the same as switching delay, i.e. the time delay is same for I - II and II - I, or the back-switching delay is fixed 300 seconds
[5)] Two options: the duration of generator stop delay is the same as Switching delay or fixed 5 min

x = included as standard
o = as an accessory

Automatic transfer switches
List of product functionalities

Automatic transfer switches functionality

	OTM_C2D_	OTM_C3D_	OTM_C8D_
Features			
Generator start and stop	x	x	x
Off-load test sequence	x	x	x
On-load test sequence	x	x	x
Source status via front panel	x	x	x
Source status via digital outputs			x
Switch position via front panel	x	x	x
LCD[6)]			x
Fieldbus interface[7)]			x
Event/alarm log			x
Counter for number of operations			x
Auxiliary voltage supply[8)]			x
Programmable digital inputs (eight) and digital outputs (six)			x
Secondary load control (load shedding)			x
Digital input - Allow transfer to secondary[9)]			x
Digital input - Generator alarm[10)]			x
Digital input - Remote control to positions I, O and II			x
Operating mode			
Line priority	x[11)]	x[11)]	x[12)]
Manual back-switching[13)]	x	x	x
Automatic operation to position O, in case of source failure[14)]			x
Applications			
Transfer between two transformers	x	x	x
Transfer between a transformer and a generator	x	x	x

[6)] Menus available in eight languages; English, French, German, Italian, Spanish, Russian, Chinese and Finnish
[7)] Two-way communication, bus communication protocol is Modbus
[8)] In case of source failure, the control unit can be supplied with an external auxiliary supply with 24…110 V DC
[9)] Control unit requires an external signal before allowing the transfer to secondary
[10)] Two options for the operating mode after receiving the alarm: control unit either works normally, or initiates generator stop with operation to position O
[11)] Two options: No line priority, or Source 1 is the priority source
[12)] Three options: No line priority, Source 1 or Source 2 is the priority source
[13)] Automatic back-switching to primary source is prevented
[14)] Control unit and motor operator must be energized

x = included as standard
o = as an accessory

Automatic transfer switches
Technical data for OTM160...400_C

Automatic transfer switches

				Switch size , OTM_				
Data according to IEC 60947-3				**OTM_160_**	**OTM_200_**	**OTM_250_**	**OTM_315_**	**OTM_400_**
Rated insulation voltage and rated operational voltage AC20/DC20[1]		Pollution degree 3[2]	V	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10
Rated impulse withstand voltage[3]			kV	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	160	200	250	315	400
	/ ambient 40°C	In enclosure	A	160	200	250	315	400
..with minimum conductor cross section		Cu	mm^2	70	95	120	185	240
Rated operational current, AC-21A		up to 500 V	A	160	200	250	315	400
		690 V	A	160	200	250	315	400
Rated operational current, AC-22A		up to 500 V	A	160	200	250	315	400
		690 V	A	160	200	250	315	400
Rated operational current, AC-23A		up to 415 V	A	160	200	250	315	400
		440 V	A	160	200	250	315	400
		500 V	A	160	200	250	315	400
		690 V	A	160	200	250	315	400
Rated operational current / poles in series, DC-21A[10]		≤ 110 V	A	160/2	200/2	250/2	315/1[4]	400/1[4]
		220 V	A	160/2	200/2	250/2	315/2[4]	400/2[4]
		440 V	A	160/3	200/3	230/3	315/3	360/3
		660 V	A	160/4	200/4	200/4	315/4	315/4
Rated operational power, AC-23A[5] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V	kW	45	60	75	100	132
		400 V	kW	90	110	140	160	220
		415 V	kW	90	110	145	180	230
		500 V	kW	110	132	170	220	280
		690 V	kW	160	200	250	315	400
Rated breaking capacity in category AC-23		up to 415 V	A	1 280	1 600	2 000	2 520	3 200
		500 V	A	1 280	1 600	2 000	2 520	3 200
		690 V	A	1 280	1 600	2 000	2 520	3 200
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$(peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	59	59
	Max. OFA_ fuse size	gG/aM	A/A	355/315	355/315	355/315	500/500	500/500
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	61.5	61.5
	Max. OFA_ fuse size	gG/aM	A	315/315	315/315	315/315	500/450	500/450
	I_p (r.m.s.) 80 kA, 690 V	$\hat{i}_c$ (peak)	kA	40.5	40.5	40.5	59	59
	Max. OFA_ fuse size	gG/aM	A	355/315	355/315	355/315	500/500	500/500
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s	kA	15	15	15	31	31
		690 V 0.25s	kA	15	15	15	24	24
		690 V 1s	kA	8	8	8	15	15
Rated short-time making capacity[6]	I_{cm} (peak)[7]	690 V	kA	30	30	30	65	65
Power loss / pole	With rated current		W	2.4	4	6.5	6.5	10
Mechanical endurance	Number of oper. cycles[8]		Cycles	8 000	8 000	8 000	8 000	8 000
Terminal bolt size	Metric thread diameter x length		mm	M8x25	M8x25	M8x25	M10x30	M10x30
Terminal tightening torque	Counter torque required		Nm	15-22	15-22	15-22	30-44	30-44
Operating torque	Typical for 3-pole change-over switches		Nm	7	7	7	16	16
Weight without accessories	Automatic transfer switches	3-pole switch	kg	5.7	5.7	5.7	10.2	10.2
		4-pole switch	kg	6.4	6.4	6.4	11.4	11.4
Data according to IEC 60947-6-1								
Class of equipment				PC	PC	PC	PC	PC
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	15	15	15	25	25
Rated operational current, AC-31B		up to 415 V	A	160	200	250	315	400
Rated operational current, AC-33B		up to 415 V	A	160	200	250	315	400

[1] Automatic transfer switches: operational voltage = max. 415 V AC for OTM_C2D_, OTM_C3D_ and OTM_C8D_
[2] Automatic transfer switches: pollution degree 2 for OTM_C2D_, OTM_C3D_ and OTM_C8D_
[3] Automatic transfer switches: U_{imp} = 6 kV for OTM_C2D_, OTM_C3D_ and OTM_C8D_
[4] Utilization category B
[5] These values are given for guidance and may vary acc. to the motor manufacturer
[6] Short circuit duration > 50ms, without fuse protection
[7] Max. distance from switch frame to nearest busbar / cable support 150 mm
[8] Operating cycle: O - I - O - II - O
[9] Category AC-21B, up to 415V
[13] Further ratings on request

Automatic transfer switches
Technical data for OTM630...1600_C

Automatic transfer switches

				Switch size , OTM_				
Data according to IEC 60947-3				**OTM_630_**	**OTM_800_**	**OTM_1000_**	**OTM_1250_**	**OTM_1600_**
Rated insulation voltage and rated operational voltage AC20/DC20[1]		Pollution degree 3[2]	V	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10
Rated impulse withstand voltage[3]			kV	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	630	800	1 000	1 250	1 600
	/ ambient 40°C	In enclosure	A	630	800			
..with minimum conductor cross section		Cu	mm^2	2x185	2x240	2x300	2x400	2x500
Rated operational current, AC-21A		up to 500 V	A	630	800	1 000	1 250	1 600
		690 V	A	630	800	1 000	1 250	1 600
Rated operational current, AC-22A		up to 500 V	A	630	800	1 000	1 250	1 600
		690 V	A	630	800	1 000	1 250	1 600
Rated operational current, AC-23A		up to 415 V	A	630	800	1 000	1 250	1 250
		440 V	A	630	800	1 000	1 250	1 250
		500 V	A	630	800	1 000	1 250	1 250
		690 V	A	630	800	1 000	1 250	1 250
Rated operational current / poles in series, DC-21A[10]		≤ 110 V	A	630/1	800/1			
		220 V	A	630/1	800/1			
		440 V	A	630/2	720/2			
		660 V	A	630/4[4]	630/4[4]			
Rated operational power, AC-23A[5] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V	kW	200	250	315	400	400
		400 V	kW	355	450	560	710	710
		415 V	kW	355	450	560	710	710
		500 V	kW	400	560	710	900	900
		690 V	kW	630	800	1 000	1 200	1 200
Rated breaking capacity in category AC-23		up to 415 V	A	5 040	6 400	10 000	10 000	10 000
		500 V	A	5 040	6 400	10 000	10 000	10 000
		690 V	A	5 040	6 400	10 000	10 000	10 000
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current $\hat{i}_c$(peak) value. The cut-off current $\hat{i}_c$ refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V	$\hat{i}_c$ (peak)	kA	83.5	83.5	100	100	100
	Max. OFA_ fuse size	gG/aM	A/A	800/1 000	800/1 000	1 250/1 250	1 250/1 250	1 250/1 250
	I_p (r.m.s.) 100 kA, 500 V	$\hat{i}_c$ (peak)	kA	90	90	106	106	106
	Max. OFA_ fuse size	gG/aM	A	800/800	800/800	1 250/1 250	1 250/1 250	1 250/1 250
	I_p (r.m.s.) 80 kA, 690 V	$\hat{i}_c$ (peak)	kA	83.5	83.5			
	Max. OFA_ fuse size	gG/aM	A	800/1 000	800/1 000			
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s	kA	38	38	50	50	50
		690 V 0.25s	kA	36	36	50	50	50
		690 V 1s	kA	20	20	50	50	50
Rated short-time making capacity[6]	I_{cm} (peak)[7]	690 V	kA	80	80	92	92	92
Power loss / pole	With rated current		W	25	40	19	29	48
Mechanical endurance	Number of oper. cycles[8]		Cycles	5 000	5 000	3 000	3 000	3 000
Terminal bolt size	Metric thread diameter x length		mm	M12x40	M12x40	M12x60	M12x60	M12x60
Terminal tightening torque	Counter torque required		Nm	50-75	50-75	50-75	50-75	50-75
Operating torque	Typical for 3-pole change-over switches		Nm	27	27	78	78	78
Weight without accessories	Automatic transfer switches	3-pole switch	kg	17.5	17.5	42	42	44
		4-pole switch	kg	20.4	20.4	50	50	52
Data according to IEC 60947-6-1								
Class of equipment				PC	PC	PC	PC	PC
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.1s	kA	38	38	50	50	50
Rated operational current, AC-31B		up to 415 V	A	650	720	1 000	1 250	1 600
Rated operational current, AC-33B		up to 415 V	A	650	650	1 000	1 000	1 000

[1] Automatic transfer switches: operational voltage = max. 415 V AC for OTM_C2D_, OTM_C3D_ and OTM_C8D_
[2] Automatic transfer switches: pollution degree 2 for OTM_C2D_, OTM_C3D_ and OTM_C8D_
[3] Automatic transfer switches: U_{imp} = 6 kV for OTM_C2D_, OTM_C3D_ and OTM_C8D_
[4] Utilization category B
[5] These values are given for guidance and may vary acc. to the motor manufacturer
[6] Short circuit duration > 50ms, without fuse protection
[7] Max. distance from switch frame to nearest busbar / cable support 150 mm
[8] Operating cycle: O - I - O - II - O
[9] Category AC-21B, up to 415V
[13] Further ratings on request

Automatic transfer switches
Technical data for power and control circuits

Technical data for automatic transfer switches, power circuit

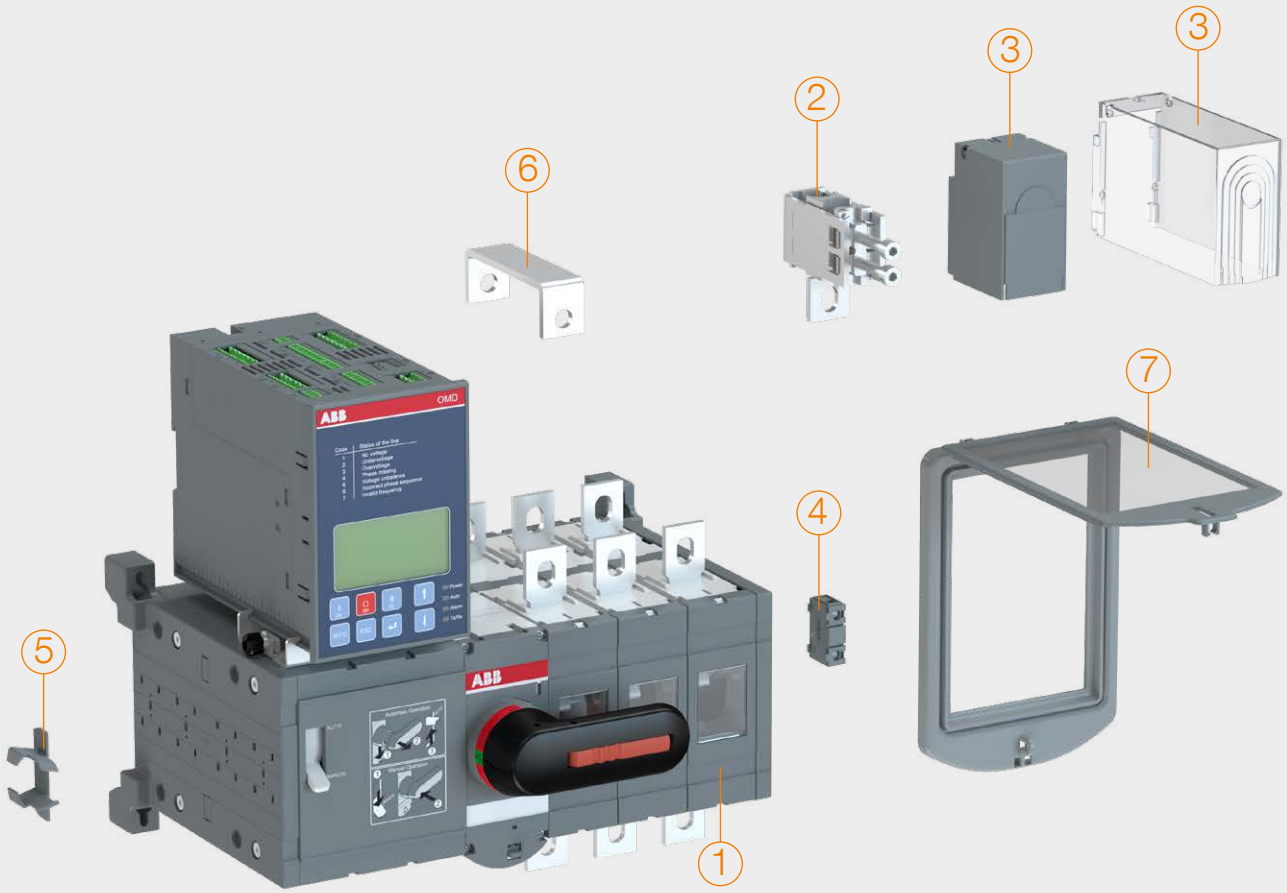
OTM_C2D_ (OMD200)		
Rated operational voltage U_e		208 - 415 V AC +/- 20 % + N
	Phase - Neutral	120 - 240 V AC +/- 20 %
Rated frequency		50 / 60 Hz +/- 10 %
Rated impulse withstand voltage U_{imp}		6 kV
OTM_C3D_ (OMD300)		
Rated operational voltage U_e		208 - 415 V AC +/- 20 % + N
	Phase - Neutral	120 - 240 V AC +/- 20 %
Rated frequency		50 / 60 Hz +/- 10 %
Rated impulse withstand voltage U_{imp}		6 kV
OTM_C8D_ (OMD800)		
Rated operational voltage U_e on 3 phase system		100 - 415 V AC +/- 20 %
	Phase - Neutral	57,7 - 240 V AC +/- 20 %
Rated operational voltage U_e on 1 phase system[1)]		57,7 - 240 V AC +/- 20 %
Rated frequency		50 / 60 Hz +/- 10 %
Rated impulse withstand voltage U_{imp}		6 kV
AUX voltage[1)]		24 V DC - 110 V DC (-10 to 15 %)
Operating temperature		-5…+40°C
Transportation and storage temperature		-25…+70°C
Altitude		Max.2 000m

[1)] If on 1 phase system the voltage level is between 57,7 – 109 V AC, AUX voltage supply must be used

Technical data for motor operator, control circuit

Motor operator, control circuit				**OTM160…250**	**OTM315…400**	**OTM630…800**	**OTM1000…1600**
Rated operational voltage U [V]	Pollution degree 3	50/60 Hz		220 - 240 V AC			
Operating voltage range				0,8…1,2 x U_e			
Operating times				See the table below			
Nominal current I_n[a)]			A	0.2	0.5	0.7	1.8
Current Inrush[a)]			A	1.3	2.1	2.8	7.7
Overload fuse	Type / In / Capacity		mA	T/315/H	T/500/H	T/1 000/H	T/2 000/H
	Size		mm	5x20	5x20	5x20	5x20
Operating rate	Cycle 0 - I - 0 - II - 0						
	Max. continuous		cycles / min	1	1	1	0.5
Max. short-time ≤ 10 cycles			cycles / min	10	10	10	5
Overvoltage category				III			
Rated impulse withstand voltage U_{imp}			kV	4			
Dielectric strength		50 Hz 1 min.	kV	1.5			
Terminals							
Voltage supply wiring for U				PE - N - L			
Cross section		solid/stranded	mm^2	1.5 - 2.5			
Short-circuit protection device		max. MCB	A	C16			
State information of locking (no SELV)							
Cross section		solid/stranded	mm^2	1.5 - 2.5			
Locking motor operator		23-24 (NO)		5A/250V/cosφ=1			
Short-circuit protection device		Max. MCB	A	C2			
Protection degree				IP20			
Operating temperature			°C	-25…+55			
Transportation and storage temperature			°C	-40…+70			
Max. altitude			m	2 000			

Automatic transfer switches
Ordering information for OTM160…OTM1600_C



Automatic transfer switch accessory guide

1. Automatic transfer switch
2. Terminal clamp
3. Terminal shroud
4. Auxiliary contact
5. Storage for handle and fuses
6. Bridging bar
7. Cover plate

Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.
Voltage sensing connection is part of standard delivery and factory fitted.

Automatic transfer switches
Ordering information for OTM160...OTM1600_C

OTM160...250E4C_D230C

OTM160...250E4WC_D230C

OTM315...400E4C_D230C

OTM630...800E4C_D230C

OTM1000...1250E4C_D230C

OTM1600E4C_D230C

Automatic transfer switches, open transition, OTM160...OTM1600_C

Delivered with a handle for manual operation, PCB connectors, bolt kit with nuts and washers for all terminals. Voltage sensing connections are part of standard delivery and factory fitted. Types OTM160…1600_C_D_ include a voltage sensing kit on the top of the switch. Please note that OTM_C2D types are equipped with OMD200 control units, while OTM_C3D types are equipped with OMD300 control units.

To ensure suitability and easy installation, these products are also available with the voltage sensing kit installed onto the bottom of the switch. Simply add the letter “B” to the typecode when ordering. For example,OTM160E4C2D230C ▸ OTM160E4C**B**2D230C. Types OTM160...1600E_ include a storage clip for the handle and spare fuses. Types OTM160...250_WC_D_ are equipped with extended phase distance.

No. of poles	Rated current AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Automatic operation, OTM_C2D_ types, voltage sensing on the top. Voltage sensing connection included as standard.						
Motor operator voltage U_e = 220...240 V AC[1]						
4	160	110	160/160	OTM160E4C2D230C	1SCA106230R1001	11
4	160	110	160/160	OTM160E4WC2D230C	1SCA101033R1001	11
4	200	135	200/200	OTM200E4C2D230C	1SCA106671R1001	11
4	200	135	200/200	OTM200E4WC2D230C	1SCA101034R1001	11
4	250	170	250/250	OTM250E4C2D230C	1SCA101016R1001	11
4	250	170	250/250	OTM250E4WC2D230C	1SCA101035R1001	11
4	315	215	315/315	OTM315E4C2D230C	1SCA101059R1001	15
4	400	275	400/400	OTM400E4C2D230C	1SCA101060R1001	15
4	630	435	650/650	OTM630E4C2D230C	1SCA108434R1001	37
4	800	550	720/650	OTM800E4C2D230C	1SCA108439R1001	37
4	1000	680	1000/1000	OTM1000E4C2D230C	1SCA112858R1001	66
4	1250	850	1250/1000	OTM1250E4C2D230C	1SCA112857R1001	66
4	1600	1000	1600/1000	OTM1600E4C2D230C	1SCA112854R1001	70
Automatic operation, OTM_C3D_ types, voltage sensing on the top. Voltage sensing connection included as standard.						
Including in-built dual power source for the motor operator. Motor operator voltage Ue = 220...240 V AC[1]						
4	160	110	160/160	OTM160E4C3D230C	1SCA106305R1001	11
4	160	110	160/160	OTM160E4WC3D230C	1SCA106306R1001	11
4	200	135	200/200	OTM200E4C3D230C	1SCA106309R1001	11
4	200	135	200/200	OTM200E4WC3D230C	1SCA106310R1001	11
4	250	170	250/250	OTM250E4C3D230C	1SCA106313R1001	11
4	250	170	250/250	OTM250E4WC3D230C	1SCA106314R1001	11
4	315	215	315/315	OTM315E4C3D230C	1SCA106317R1001	15
4	400	275	400/400	OTM400E4C3D230C	1SCA106318R1001	15
4	630	435	650/650	OTM630E4C3D230C	1SCA108726R1001	37
4	800	550	720/650	OTM800E4C3D230C	1SCA108728R1001	37
4	1000	680	1000/1000	OTM1000E4C3D230C	1SCA112852R1001	66
4	1250	850	1250/1000	OTM1250E4C3D230C	1SCA112851R1001	66
4	1600	1000	1600/1000	OTM1600E4C3D230C	1SCA112848R1001	70

[1] Under nominal conditions

See next page for handles and bolt kits ▸

Automatic transfer switches
Ordering information for OTM160...1600_C

OTM160E3C8D230C

OTM160...250E3WC8D230C

OTM315...400E4C8D230C

OTM630...800E4C8D230C

OTM1000...1250E4C8D230C

OTM1600E3C8D230C

Automatic transfer switches, open transition, OTM160...OTM1600_C

Delivered with a handle for manual operation, PCB connectors, bolt kit with nuts and washers for all terminals. Types OTM160…1600_C_D_ include a voltage sensing kit on the top of the switch. Please note that OTM_C2D types are equipped with OMD200 control units, while OTM_C3D types are equipped with OMD300 control units.

To ensure suitability and easy installation, these products are also available with the voltage sensing kit installed onto the bottom of the switch. Simply add the letter “B” to the typecode when ordering. For example,OTM160E4C2D230C ▸ OTM160E4C**B**2D230C.
Types OTM160...1600E_ include a storage clip for the handle and spare fuses.
Types OTM160...250_WC_D_ are equipped with extended phase distance.

No. of poles	Rated current AC-21A, AC-22A ≤ 415V, I[A]	Rated power 400V S[kVA]	Rated current AC-31B/ AC-33B 415V, I[A]	Type	Order number	Weight/ unit [kg]
Automatic operation, OTM_C8D_ types, voltage sensing on the top						
Motor operator voltage U_e = 220...240 V AC[1]						
3	160	110	160/160	OTM160E3C8D230C	1SCA101017R1001	10
3	160	110	160/160	OTM160E3WC8D230C	1SCA101036R1001	10
4	160	110	160/160	OTM160E4C8D230C	1SCA101020R1001	11
4	160	110	160/160	OTM160E4WC8D230C	1SCA101039R1001	11
3	200	135	200/200	OTM200E3C8D230C	1SCA101018R1001	10
3	200	135	200/200	OTM200E3WC8D230C	1SCA101037R1001	10
4	200	135	200/200	OTM200E4C8D230C	1SCA101021R1001	11
4	200	135	200/200	OTM200E4WC8D230C	1SCA101040R1001	11
3	250	170	250/250	OTM250E3C8D230C	1SCA101019R1001	10
3	250	170	250/250	OTM250E3WC8D230C	1SCA101038R1001	10
4	250	170	250/250	OTM250E4C8D230C	1SCA101022R1001	11
4	250	170	250/250	OTM250E4WC8D230C	1SCA101041R1001	11
3	315	215	315/315	OTM315E3C8D230C	1SCA101062R1001	14
4	315	215	315/315	OTM315E4C8D230C	1SCA101063R1001	15
3	400	275	400/400	OTM400E3C8D230C	1SCA101061R1001	14
4	400	275	400/400	OTM400E4C8D230C	1SCA101064R1001	15
3	630	435	650/650	OTM630E3C8D230C	1SCA108452R1001	34
4	630	435	650/650	OTM630E4C8D230C	1SCA108453R1001	37
3	800	550	720/650	OTM800E3C8D230C	1SCA108454R1001	34
4	800	550	720/650	OTM800E4C8D230C	1SCA108455R1001	37
3	1000	680	1000/1000	OTM1000E3C8D230C	1SCA112868R1001	57
4	1000	680	1000/1000	OTM1000E4C8D230C	1SCA112861R1001	66
3	1250	850	1250/1000	OTM1250E3C8D230C	1SCA112862R1001	57
4	1250	850	1250/1000	OTM1250E4C8D230C	1SCA112864R1001	66
3	1600	1000	1600/1000	OTM1600E3C8D230C	1SCA112866R1001	60
4	1600	1000	1600/1000	OTM1600E4C8D230C	1SCA112867R1001	70

[1] Under nominal conditions

Handles and bolt kits included as standard

Suitable for switches	Handle	Bolt kit
OTM160...250	OTV250ECMK	M8x25
OTM315...400	OTV400ECMK	M10x30
OTM630...800	OTV800ECMK	M12x40
OTM1000...1600	OTV1000ECMK	M12x60

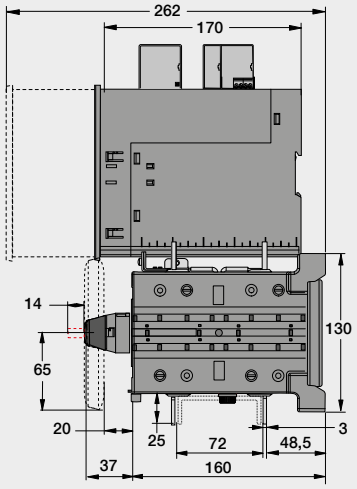
Automatic transfer switches
Dimensional drawings

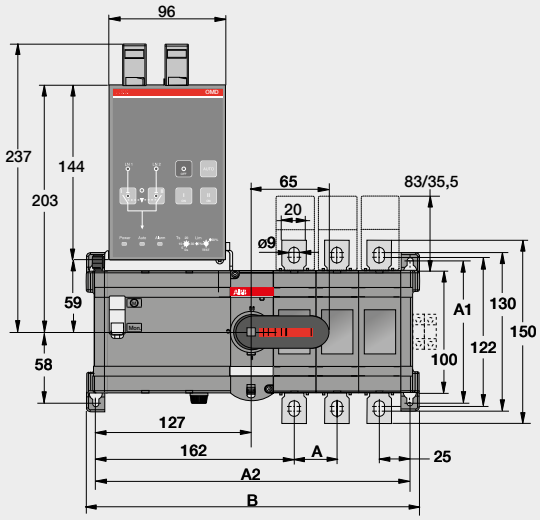
OTM160...250E_C_2D_
OTM160...250E_C_3D_

OT160-250_C_D_

[mm]	E3	E4
A	35	35
A1	116	116
A2	257	292
B	272	307

13 / OTM160-250E_C_2D_ C



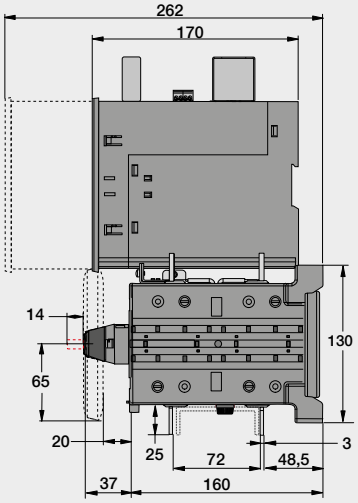


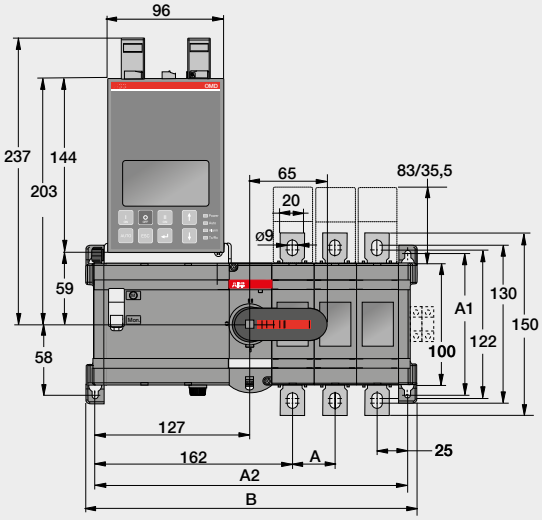
OTM160...250E_C_8D_

OT160-250_C_D_

[mm]	E03	E04
A	35	35
A1	116	116
A2	257	292
B	272	307

M00184 / OTM160-250E_C_8D_ C



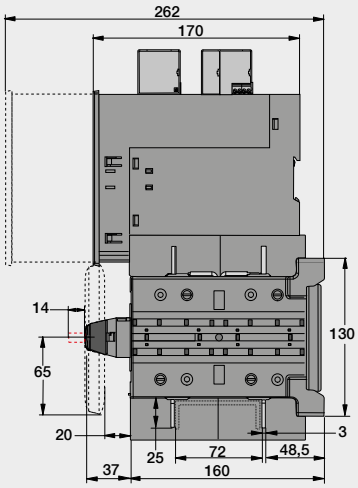


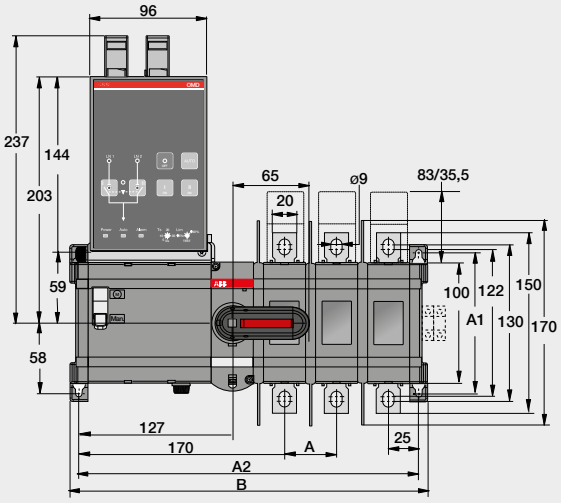
OTM160...250E_WC_2D_
OTM160...250E_WC_3D_

OT160-250_WC_D_

[mm]	E3	E4
A	43	43
A1	116	116
A2	281	324
B	296	339

M00186 / OTM160-250E_WC_2D_ C





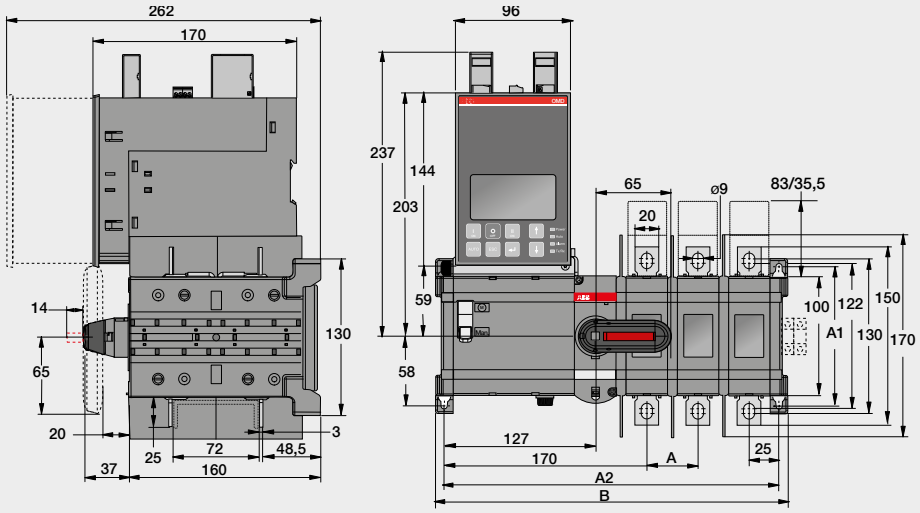
Automatic transfer switches
Dimensional drawings

OTM160...250E_WC_8D_

OT160-250_WC_D_

[mm]	E3	E4
A	43	43
A1	116	116
A2	281	324
B	296	339

M00187 / OTM160-250E_WC_8D_ C



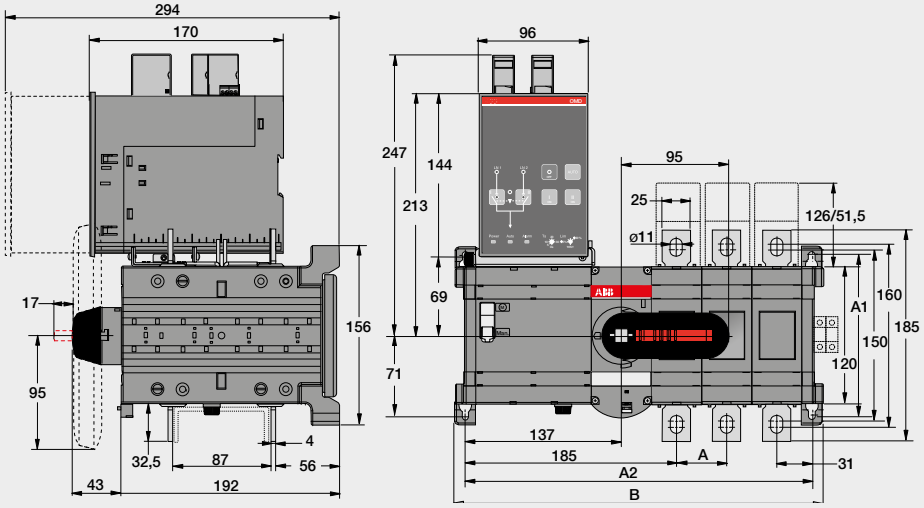
,

OTM315...400E_C_2D_
OTM315...400E_C_3D

OTM315-400_C_D_

[mm]	E3	E4
A	44	44
A1	142	142
A2	304,5	348,5
B	323	367

M00192 / OTM315-400E_C_2D_ C

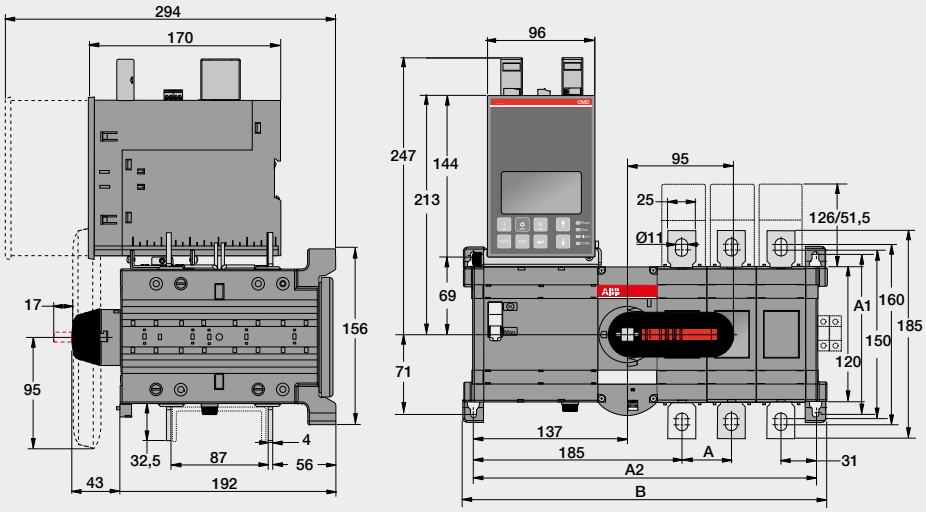


OTM315...400E_C_8D_

OTM315-400_C_D_

[mm]	E3	E4
A	44	44
A1	142	142
A2	304,5	348,5
B	323	367

M00193 / OTM315-400E_C_8D_ C



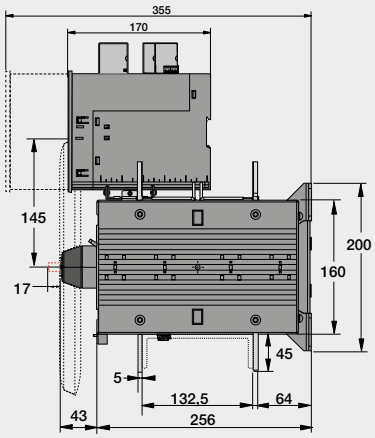
Automatic transfer switches
Dimensional drawings

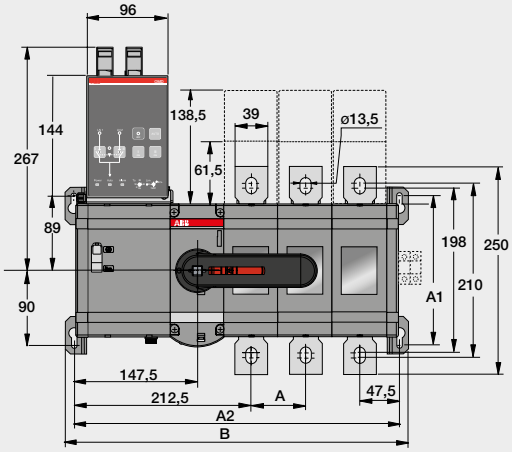
OTM630...800E_C_2D_
OTM630...800E_C_3D_

OTM630-800_C_D_

[mm]	E2	E3	E4
A	65	65	65
A1	180	180	180
A2	325	390	455
B	346	411	476

M00204 / OTM630-800E_C_2D_ C



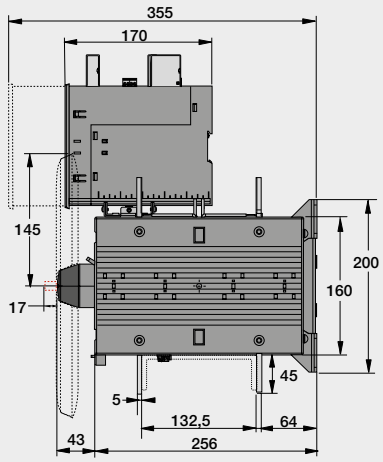


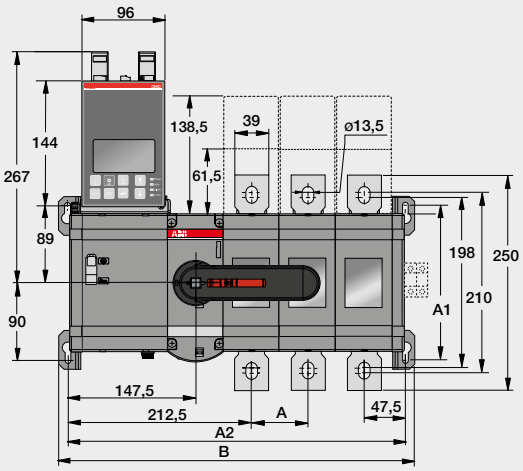
OTM630...800E_C_8D_

OTM630-800_C_D_

[mm]	E2	E3	E4
A	65	65	65
A1	180	180	180
A2	325	390	455
B	346	411	476

M00205 / OTM630-800E_C_8D_ C



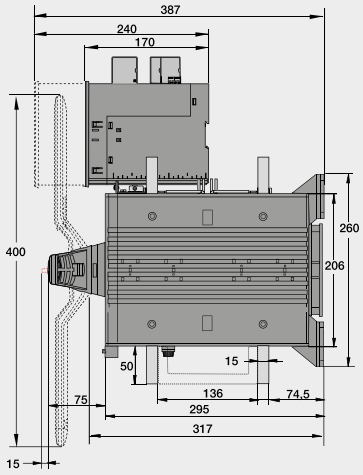


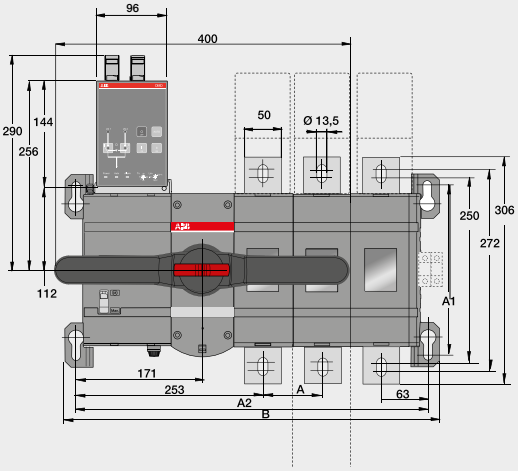
OTM1000...1250E_C2D_
OTM1000...1250E_C3D_

OTM1000-1250E_C_D

[mm]	E2	E3	E4
A	80	80	80
A1	230	230	230
A2	396	476	556
B	426	506	586

M00262 / OTM1000_1250E2_4C2 B





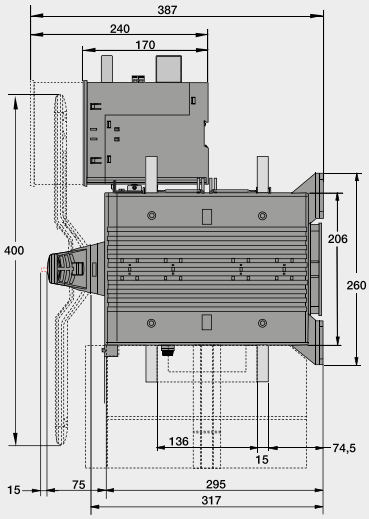
Automatic transfer switches
Dimensional drawings

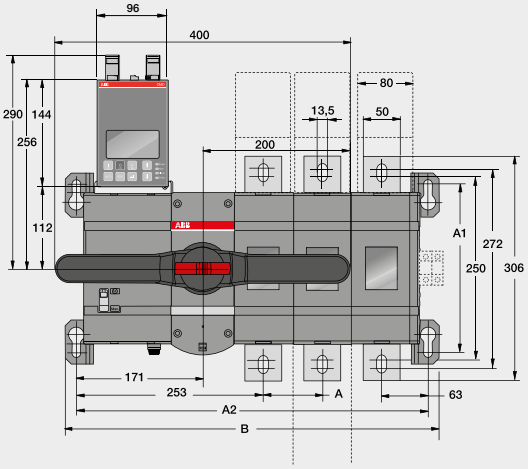
OTM1000...1250E_C_8D

OTM1000-1250E_C_D

[mm]	E2	E3	E4
A	80	80	80
A1	230	230	230
A2	396	476	556
B	426	506	586

M00264 / OTM1000_1250E2_4C8 B



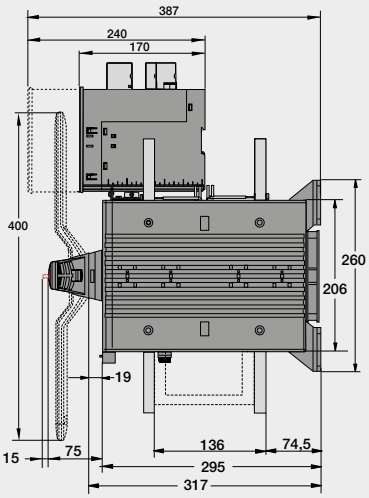


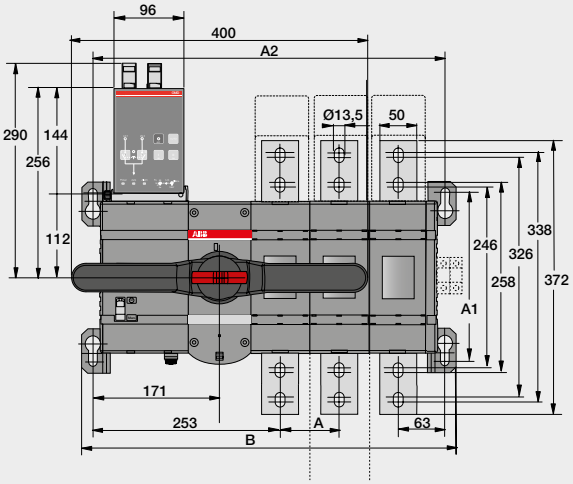
OTM1600E_C2D_
OTM1600E_C3D_

OTM1600_C_D

[mm]	E2	E3	E4
A	80	80	80
A1	230	230	230
A2	396	476	556
B	426	506	586

M00268 / OTM1600E2-4C2D_ C



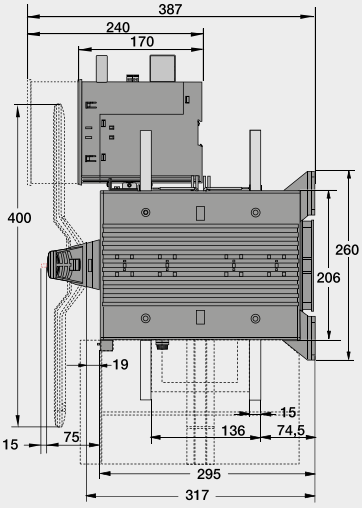


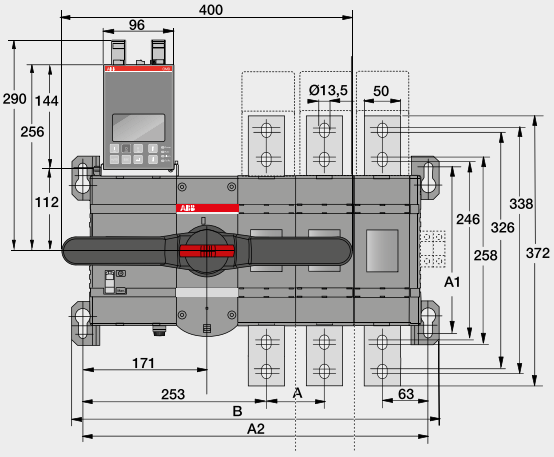
OTM1600E_C8D_

OTM1600E_C_D

[mm]	E2	E3	E4
A	80	80	80
A1	230	230	230
A2	396	476	556
B	426	506	586

M00269 / OTM1600E2_4C8 B





Optional accessories for automatic transfer switches
Ordering information for terminal shrouds

OTS_L_

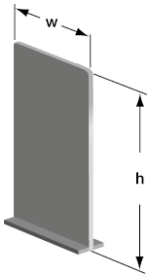
OTS_S_

Terminal shrouds, grey plastic

Snap-on mounting to the switches, IP 20. A kit includes three or four shrouds which can be used on either side of the switch. Suitable for the upperswitch. Transparent shrouds for OT_160…1600 available on request, please replace the letter “G” with “T”.

Suitable for switches	No. of poles	Description	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	3	Long type	OTS250G1L/3	1SCA022731R8150	3	0.09
OT_160…250_C	3	Short type	OTS250G1S/3	1SCA022731R8310	3	0.06
OT_160…250_C	4	Long type	OTS250G1L/4	1SCA022731R8230	4	0.12
OT_160…250_C	4	Short type	OTS250G1S/4	1SCA022731R8400	4	0.08
OT_315…400_C	3	Long type	OTS400G1L/3	1SCA022736R8840	3	0.15
OT_315…400_C	3	Short type	OTS400G1S/3	1SCA022736R9060	3	0.09
OT_315…400_C	4	Long type	OTS400G1L/4	1SCA022736R9490	4	0.20
OT_315…400_C	4	Short type	OTS400G1S/4	1SCA022736R9650	4	0.12
OT_600…800_C	3	Long type	OTS800G1L/3	1SCA022776R7890	3	0.32
OT_600…800_C	3	Short type	OTS800G1S/3	1SCA022776R8190	3	0.17
OT_600…800_C	4	Long type	OTS800G1L/4	1SCA022776R7970	4	0.42
OT_600…800_C	4	Short type	OTS800G1S/4	1SCA022776R8270	4	0.26
OT_1000…1600_C	3	Long type	OTS1600G1L/3	1SCA022871R9510	3	0.64
OT_1000…1600_C	3	Short type	OTS1600G1S/3	1SCA022871R9600	3	0.37
OT_1000…1600_C	4	Long type	OTS1600G1L/4	1SCA022871R9780	4	0.85
OT_1000…1600_C	4	Short type	OTS1600G1S/4	1SCA022871R9860	4	0.49

Optional accessories for automatic transfer switches
Ordering information for phase barriers



PB_

Phase barriers

The phase barriers designed for ABB Tmax T4-T5 MCCB's can also be used for OT_160...800 change-over switches. 3-pole change-overs need 8 barriers and 4-pole change-overs need 12 barriers for full protection.

Suitable for switches	No. of poles	Height h [mm]	Cutting width W of the phase barrier [mm]	Type	Order number	Units/ type [pcs]
OT_160…250E_C	3	100	55	PB100 low	1SDA054970R1	4
OT_160…250E_C	3	200	55	PB200 high	1SDA054972R1	4
OT_160…250E_C	4	100	55	PB100 low	1SDA054971R1	6
OT_160…250E_C	4	200	55	PB200 high	1SDA054973R1	6
OT_315…400E_C	3	100	67	PB100 low	1SDA054970R1	4
OT_315…400E_C	3	200	67	PB200 high	1SDA054972R1	4
OT_315…400E_C	4	100	67	PB100 low	1SDA054971R1	6
OT_315…400E_C	4	200	67	PB200 high	1SDA054973R1	6
OT_600...800E_C	3	100	90	PB100 low	1SDA054970R1	4
OT_600...800E_C	3	200	90	PB200 high	1SDA054972R1	4
OT_600...800E_C	4	100	90	PB100 low	1SDA054971R1	6
OT_600...800E_C	4	200	90	PB200 high	1SDA054973R1	6

Optional accessories for automatic transfer switches
Ordering information for terminal clamps

OZXB2L

OZXB7L

OZXB9

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]
OT_160...250E_C	10...70	OTS250_L	OZXB1L	1SCA022169R2030	3	1	0.15
OT_160...250E_C	10...70	OTS250_L	OZXB1L/1	1SCA022194R0030	1	50	0.05
OT_160...250E_C	25...120	OZXB2K	OZXB2	1SCA022119R7610	3	1	0.34
OT_160...250E_C	25...120	OZXB2K	OZXB2/1	1SCA022194R0200	1	50	0.12
OT_160...250E_C	25...120	OZXB2K	OZXB2L	1SCA022158R7750	3	1	0.43
OT_160...250E_C	25...120	OZXB2K	OZXB2L/1	1SCA022194R0460	1	50	0.15
OT_160...250E_C	95...185	OTS250_L	OZXB8	1SCA022744R1510	3	1	0.50
OT_160...250E_C	95...185	OTS250_L	OZXB8/1	1SCA022744R1600	1	20	0.15
OT_160...250E_C	95...240	OTS250_L	OZXB9	1SCA022750R3210	3	1	0.50
OT_160...250E_C	95...240	OTS250_L	OZXB9/1	1SCA022750R3300	1	20	0.15
OT_315...400E_C	25...120	OZXB2K	OZXB2L	1SCA022158R7750	3	1	0.43
OT_315...400E_C	25...120	OZXB2K	OZXB2L/1	1SCA022194R0460	1	50	0.15
OT_315...400E_C	70…185	OZXB3K	OZXB3	1SCA022136R8100	3	1	1.28
OT_315...400E_C	70…185	OZXB3K	OZXB3/1	1SCA022194R0620	1	20	0.43
OT_315...400E_C	2x(70…185)	OZXB3K	OZXB4	1SCA022137R4760	3	1	1.71
OT_315...400E_C	2x(70…185)	OZXB3K	OZXB4/1	1SCA022194R0890	1	20	0.57
OT_315...400E_C	120...240	OZXB5K	OZXB7	1SCA022185R0040	3	1	1.00
OT_315...400E_C	120...240	OZXB5K	OZXB7/1	1SCA022194R1430	1	20	0.34
OT_315...400E_C	120...240	OZXB5K	OZXB7L	1SCA022185R7130	3	1	1.17
OT_315...400E_C	120...240	OZXB5K	OZXB7L/1	1SCA022194R1600	1	20	0.40
OT_315...400E_C	95...185	OTS400_L	OZXB8	1SCA022744R1510	3	1	0.50
OT_315...400E_C	95...185	OTS400_L	OZXB8/1	1SCA022744R1600	1	20	0.15
OT_315...400E_C	95...240	OTS400_L	OZXB9	1SCA022750R3210	3	1	0.50
OT_315...400E_C	95...240	OTS400_L	OZXB9/1	1SCA022750R3300	1	20	0.15

Optional accessories for automatic transfer switches
Ordering information for bridging- and reversing bars

OTZC13...34

OTZC43...44

OTZC53...54

Bridging bars

The bridging bars provide a connection link either on the incoming or outcoming side of the switch.

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	3	OTZC13	1SCA022767R6910	3	0.6
OT_160…250_C	4	OTZC14	1SCA022767R7040	4	0.8
OT_315…400_C	3	OTZC23	1SCA022767R7120	3	0.6
OT_315…400_C	4	OTZC24	1SCA022767R7210	4	0.8
OT_600_C…800E_C	3	OTZC33	1SCA022785R7020	3	1.0
OT_600_C…800E_C	4	OTZC34	1SCA022785R7110	4	1.3
OT_1000…1250E_C	3	OTZC43	1SCA022868R0710	3	4.2
OT_1000…1250E_C	4	OTZC44	1SCA022868R0800	4	5.6
OT800U_, OT_1600E_C	3	OTZC53	1SCA022868R0980	3	5.6
OT800U_, OT_1600E_C	4	OTZC54	1SCA022868R1010	4	7.4
OT_2000...2500E_C	3	OTZC63	1SCA022868R1100	3	10.8
OT_2000...2500E_C	4	OTZC64	1SCA022868R1360	4	14.5
OT_3200E_C	3	OTZC73	1SCA128843R1001	3	14.1
OT_3200E_C	4	OTZC74	1SCA128844R1001	4	18.7

OTZR_

Reversing bars

A reversing switch can be built by using phase sequence bars in two phases.
The kit includes two phase sequence conversion bars. The missing bridging bars must be ordered separately, see above. For example 3-pole switches: one 4-pole standard bridging bar kit is required (one bar for the reversing side, three bars for the other side).

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	OTZR1	1SCA100352R1001	2	0.3
OT_315…400_C	OTZR2	1SCA104647R1001	2	0.3
OT_600_C…800E_C	OTZR3	1SCA100355R1001	2	0.4

Optional accessories for automatic transfer switches
Ordering information and technical data for auxiliary contacts

OA1G01
OA7G10

OA1G10
OA8G01

OA2G11

Auxiliary contact blocks for OTM40...125F

Snap-on mounting to the switch, IP 20, max. 2 blocks/ side. I_{th} = 16 A, suitable for cable cross sections max. 2 x 2,5 mm^2. Simultaneous action with the main contacts.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_16...125F_C	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_16...125F_C	1NC	Right	OA8G01	1SCA022744R2240	10	0.03
OT_16...125F_C	1NO	Left	OA7G10	1SCA022673R1140	10	0.03
OT_16...125F_C	1NC	Left	OA1G01	1SCA022353R4890	10	0.03
OT63...125F3C	1NO+1NC	Either	OA2G11[1)]	1SCA022379R8100	10	0.03

[1)] Not mountable on 4-pole change-over switches

Auxiliary contact blocks for OTM160...3200

Mounting on the right side of the switch: Max. 4 auxiliary contact blocks/switch (totally 8 blocks). Types _AU have gold plated contacts for harsh environments and low operating voltages. Simultaneous action with the main contacts, IP20.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_160…3200_	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_160…3200_	1NC	Right	OA3G01	1SCA022456R7410	10	0.03
OT_160…3200_	1NO	Right	OA1G10AU	1SCA022436R7910	10	0.03
OT_160…3200_	1NC	Right	OA3G01AU	1SCA022819R5260	10	0.03

Auxiliary contacts

Technical data for auxiliary contacts according to IEC 60947-5-1, for OA1G_, OA2G_, OA3G_, OA7G_, OA8G_

AC15		DC12			DC13	
U_e/[V]	I_e/[A]	U_e/[V]	I_e/[A]	P/[W]	I_e/[A]	P/[W]
230	6	24	10	240	2	50
400	4	72	4	290	0.8	60
415	4	125	2	250	0.55	70
690	2	250	0.55	140	0.27	70
		440	0.1	44		

Function tables

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch I (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	closed	open
0	open	open	closed
II	closed	open	closed

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch II (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	open	closed
0	open	open	closed
II	closed	closed	open

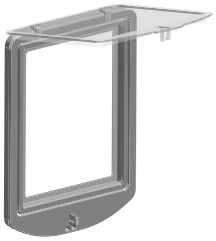
Optional accessories for automatic transfer switches
Ordering information for automatic control units and related accessories

OMD200

OMD300

OMD800

OMZD1



OMZC2

Automatic control units

OMD automatic control units can be used with OTM40...3200 motorized change-over switches in order to assemble an automatic transfer switch. The type and ordering codes include the OMD control unit, PCB connectors and 2 OMZD1 fasteners for door mounting.

If used with OTM40...125_CMA_:

1 x OTM40…125_CMA_ motorized change-over switch and 2 or 3 x OZXT6 terminal clamp sets (including voltage sensing connection) must be ordered separately to be able to assemble an automatic transfer switch.

If used with OTM160...3200_CM_:

1 x OTM160…3200_CM_ motorized change-over switch, 1 x OMZB_ voltage sensing connectors and 2 x OA1G10 auxiliary contacts must be ordered separately to be able to assemble an automatic transfer switch. The control unit can be mounted on a door or on DIN rail.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40…3200_CM_	OMD200E480C-A1	1SCA123789R1001	1	0.8
OTM40…3200_CM_	OMD300E480C-A1	1SCA123790R1001	1	1.0
OTM40…3200_CM_	OMD800E480C-A1	1SCA123791R1001	1	1.3

Panel fasteners

For mounting the OMD automatic control unit on the door. The type and ordering code is for 1 piece, so 2 units must be ordered for mounting the control on the door.

Suitable for OMD control unit	Type	Order number	Units/type [pcs]
OMD200_, OMD300_, OMD800_	OMZD1	1SCA022787R5190	1

Cover plate

Providing protection against accidental contact. Padlockable transparent cover. The type and ordering codes are for 1 piece.

Suitable for OMD control unit	Type	Order number	Units/type [pcs]
OMD200_, OMD300_, OMD800_	OMZC2	1SCA101001R1001	1

Optional accessories for automatic transfer switches
Ordering information for dual power sources

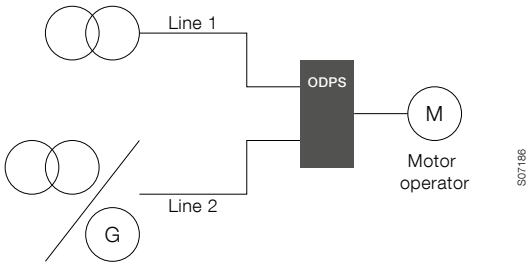
ODPSE230C

Dual power source

Provides power supply to the motor operator by using two lines. The device has two inputs, from line I (LN I) and line II (LN II), and one output for the motor operator. The motor operator is automatically energized whenever power is available in one of the lines. Can be used with 230VAC motor operators. Snap-on mounted PCB connectors are included in the delivery. The device can be DIN-rail or screw mounted.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40…3200_	ODPSE230C	1SCA116892R1001	1	0.3

Connection diagram, ODPSE230C



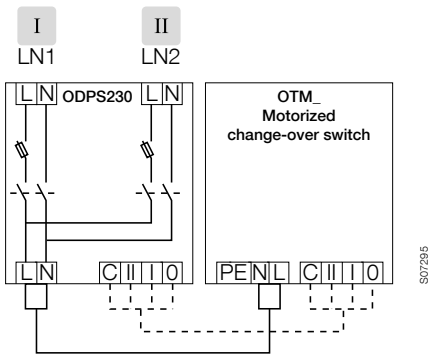
ODPS230

Dual power source including ATS functionality

Similar to previous dual power source but also including ATS (Automatic Transfer Switch) functionality and in-built short-circuit protection. Provides power supply to the motor operator by using two 220...240 V AC lines. Motor operator is automatically energized whenever power is available in one of the lines. The device has a three position (AUTO-MAN-O) DIP switch to choose the correct operating mode. The AUTO position enables and the MAN position disables the ATS functionality when used with OTM motorized change-over switch. The O position is used for safety reasons: it operates the OTM to position 0 to isolate the load from the feeding sources. The device can be DIN-rail or screw mounted.

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OTM40...3200	ODPS230	1SCA122946R1001	1	0.3

Connection diagram, ODPS230



Technical data and dimensional drawings to be found on the following pages.
For further information on dual power sources please refer to page 74.

Optional accessories for automatic transfer switches
Technical data and dimensional drawings for dual power sources

Technical data for dual power source ODPSE230C

Dual power source ODPSE230C	
Rated operational voltage U [V]	220…240 V AC +/- 20%
Rated frequency	50 / 60 Hz +/- 10%
Short-circuit protection device	Max. MCB 4 A
Nominal output current I_n [A]	4 A
Startup time	Max. 1.0 s (with 230 V AC)
Operating transfer time LN1 - LN2 or LN2 - LN1	Max. 0.5 s (with 230 V AC)
Cable size	0,2…2,5 mm^2
Rated impulse withstand voltage, U_{imp}	4 kV
Overvoltage category	III
Pollution degree	3
Protection rating for the front panel	IP20
Operating temperature	– 25...+ 60 °C
Transportation and storage temperature	– 40...+ 70 °C
Altitude	Max. 2 000m

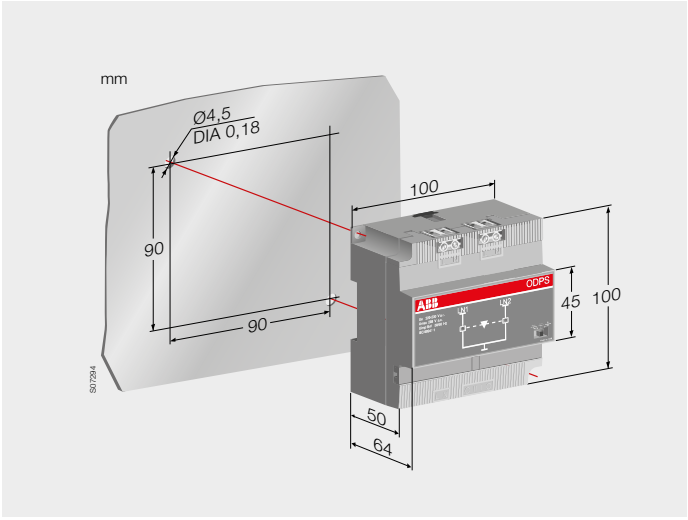
Technical data for new dual power source ODPS230 with ATS functionality

Dual power source ODPS230	
Rated operational voltage U [V]	220…240 V AC, 50 / 60 Hz
Maximum voltage	288 V AC
Pick-up voltage	≥198 V AC
Drop-out voltage	≤154 V AC
Operating time	1 s ± 0.5 s
Nominal output current I_n [A]	3,15 A
Rated conditional short-circuit current, I_p (r.m.s.)	50 kA
Internal fuse	T/3,15A/H*
Fuse size	6,3 x 32 mm
Rated impulse withstand voltage, U_{imp}	4 kV
Overvoltage category	III
Pollution degree	3
Cable size	Max. 6 mm^2
Protection rating for the front panel	IP20
Operating temperature	– 25...+ 60 °C
Transportation and storage temperature	– 40...+ 70 °C
Altitude	Max. 2 000m

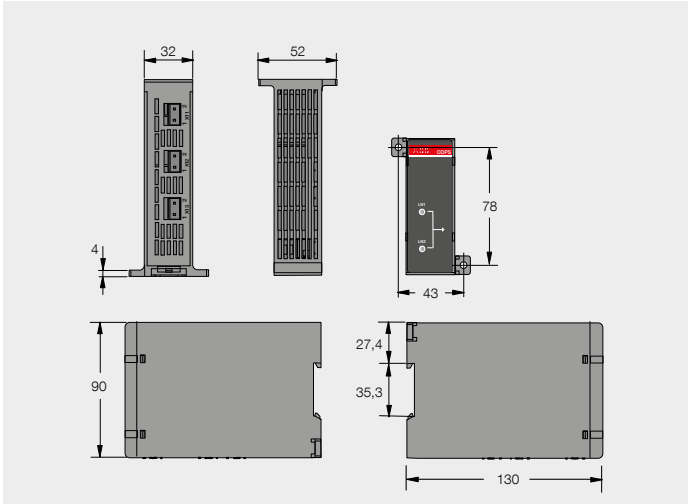
*) The breaking capacity must be 50 kA to achieve 50 kA Ip (r.m.s.) rating

Dimensional drawings for dual power sources

ODPS230



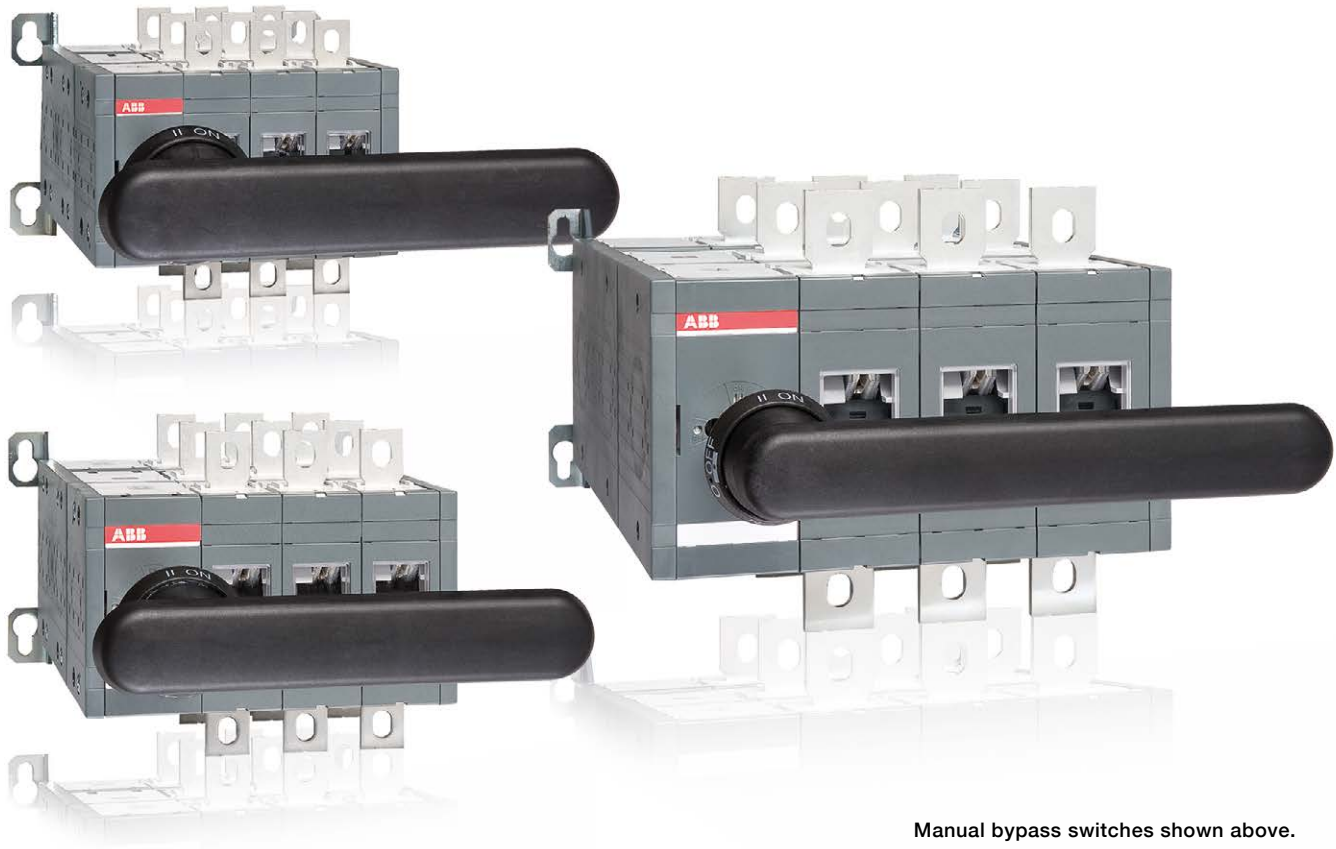
ODPSE230C



Manual and motorized bypass switches
Open transition from 160 to 800 Amperes

ABB’s manual and motorized bypass switches are the best solution for optimized and efficient panel design.

Manual and motorized bypass switches
Optimized performance in a compact device



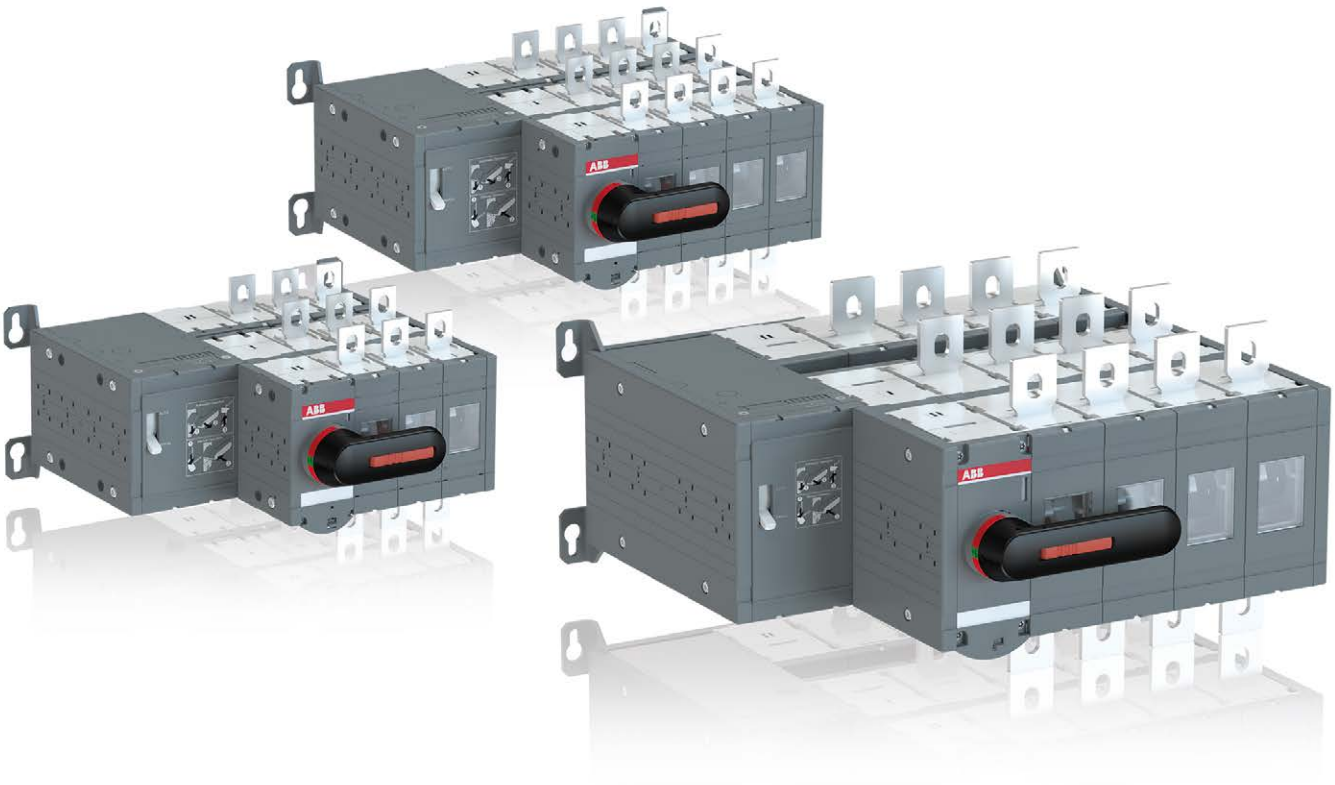
Manual bypass switches shown above.

Our comprehensive range of bypass switches from 160 to 800 Amperes is the best solution for an optimized and efficient panel design, for safe maintenance of critical components. Traditionally, bypass switches were built using individual switch-disconnectors connected with conversion kits. ABB offers a modern solution: one single device, consisting of three switches and no conversion kits. This does not only have a high performance, but optimizes space.

Innovative space saving design
Three switches are stacked on top of each other; so the total footprint is equivalent to only one switch. ABB's bypass switches can be fitted into a smaller cabinet, compared to bypass switches built using conversion kits. This enables the customer to create more compact panels with an optimized design.

Safe operation and maintenance
ABB's bypass switches fulfill isolating requirements according to standard IEC 60947-3, so there is no need for additional isolating devices. The equipment can be safely maintained while the load is being supplied directly from the source.

Manual and motorized bypass switches
Open transition from 160 to 800 Amperes



Motorized bypass switches shown above.



Manual operation, bypass switches, 160-800 A							
Types	OT160_Y			OT315_Y		OT630_Y	
	OT200_Y			OT400_Y		OT800_Y	
	OT250_Y						
I_{th} /A	**160**	**200**	**250**	**315**	**400**	**630**	**800**
I_e /AC-22A, < 415V	160	200	250	315	400	630	800
I_e /AC-23A, < 415V	160	200	250	315	400	630	800



Motorized operation, bypass switches, 160-800 A							
Types	OTM160_Y			OTM315_Y		OTM630_Y	
	OTM200_Y			OTM400_Y		OTM800_Y	
	OTM250_Y						
I_{th} /A	**160**	**200**	**250**	**315**	**400**	**630**	**800**
I_e /AC-22A, < 415V	160	200	250	315	400	630	800
I_e /AC-23A, < 415V	160	200	250	315	400	630	800

Manual and motorized bypass switches
Type codes and functionality in brief

Type codes

Understanding the type code keys below will help you quickly identify the correct product for your needs. The simple naming system allows you to see the products type, Ampere rating, standard classification and number of poles, all in one glance.

Explanation of the manual bypass switces types OT160...3200_C

Option:	OT250	E	03	C	P
Position:	1	2	3	4	5

1	Brand and Switch size / Ampere rating
2	Standard
	E: IEC
3	Number of the poles
	03: 12
	04: 13
	22: 33
4	Bypass switch
5	Included handle
	P: Pistol handle + shaft

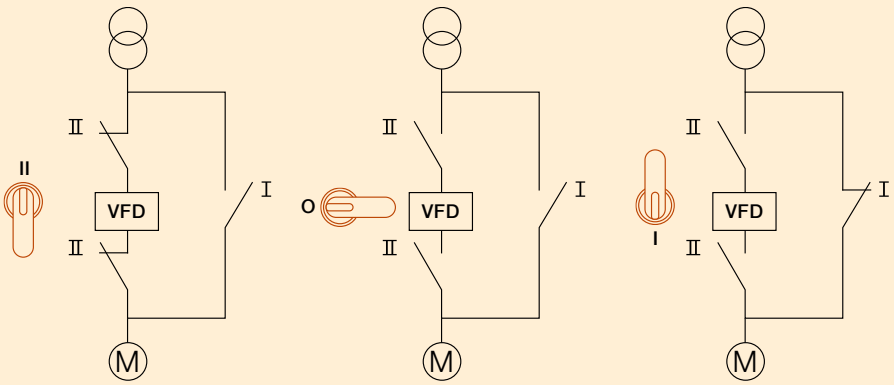
Explanation of the motorized bypass switces types OTM160...2500_C

Option:	OTM250	E	3	Y	M	230C
Position:	1	2	3	4	5	5

1	Brand and Switch size / Ampere rating
2	IEC
	E: IEC
3	Number of the poles
	3: 3-poles
	4: 4-poles
4	Bypass switch
5	Motorized bypass switch
6	Voltage for motor operator
	230C: 220...240 V AC

Functionality in brief

This simplified diagram illustrates the basic functionality and application of these switch products.



Manual and motorized bypass switches
Technical data for OT and OTM160...800_Y_

Manual and motorized bypass switches

Data according to IEC 60947-3				Switch size , OTM_						
				OTM160_	OTM200_	OTM250_	OTM315_	OTM400_	OTM630_	OTM800_
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V	1000	1000	1000	1000	1000	1000	1000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10	10	10
Rated impulse withstand voltage			kV	12	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	/ ambient 40°C	In open air	A	160	200	250	315	400	630	800
	/ ambient 40°C	In enclosure	A	160	200	250	315	400	630	800
..with minimum conductor cross section		Cu	mm^2	70	95	120	185	240	2x185	2x240
Rated operational current, AC-21A		up to 500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current, AC-22A		up to 500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current, AC-23A		up to 415 V	A	160	200	250	315	400	630	800
		440 V	A	160	200	250	315	400	630	800
		500 V	A	160	200	250	315	400	630	800
		690 V	A	160	200	250	315	400	630	800
Rated operational current / poles in series, DC-21A1)		≤ 110 V	A	160/2	200/2	250/2	315/14)	400/14)	630/1	800/1
		220 V	A	160/2	200/2	250/2	315/24)	400/24)	630/1	800/1
		440 V	A	160/3	200/3	230/3	315/3	360/3	630/2	720/2
		660 V	A	160/4	200/4	200/4	315/4	315/4	630/44)	630/44)
Rated operational power, AC-23A[2)] The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asychronous motors		230 V	kW	45	60	75	100	132	200	250
		400 V	kW	90	110	140	160	220	355	450
		415 V	kW	90	110	145	180	230	355	450
		500 V	kW	110	132	170	220	280	400	560
		690 V	kW	160	200	250	315	400	630	800
Rated breaking capacity in category AC-23		up to 415 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
		500 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
		690 V	A	1 280	1 600	2 000	2 520	3 200	5 040	6 400
Rated conditional short-circuit current Ip (r.m.s.) and cut-off current îc (peak) value. The cut-off current îc refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	Ip (r.m.s.) 80 kA, 415 V	îc (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	Max. OFA_ fuse size	gG/aM	A/A	355/315	355/315	355/315	500/500	500/500	800/1 000	800/1 000
	Ip (r.m.s.) 100 kA, 500 V	ic (peak)	kA	40.5	40.5	40.5	61.5	61.5	90	90
	Max. OFA_ fuse size	gG/aM	A	315/315	315/315	315/315	500/450	500/450	800/800	800/800
	Ip (r.m.s.) 80 kA, 690 V	ic (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	Max. OFA_ fuse size	gG/aM	A	355/315	355/315	355/315	500/500	500/500	800/1 000	800/1 000
Rated short-time withstand current	Icw (r.m.s.)	690 V 0.15s	kA	15	15	15	31	31	38	38
		690 V 0.25s	kA	15	15	15	24	24	36	36
		690 V 1s	kA	8	8	8	15	15	20	20
Rated short-time making capacity3)	Icm (peak)4)	690 V	kA	30	30	30	65	65	80	80
Power loss / pole	With rated current		W	2.4	4	6.5	6.5	10	25	40
Mechanical endurance	Number of oper. cycles[5)]		Cycles	8 000	8 000	8 000	8 000	8 000	5 000	5 000
Terminal bolt size	Metric thread diameter x length		mm	M8x25	M8x25	M8x25	M10x30	M10x30	M12x40	M12x40
Terminal tightening torque	Counter torque required		Nm	15-22	15-22	15-22	30-44	30-44	50-75	50-75
Operating torque	Typical for 3-pole bypass switches		Nm	14	14	14	32	32	54	54
Weight without accessories	Manual bypass switches	3-pole switch	kg	4.3	4.3	4.3	8.2	8.2	19.9	19.9
		4-pole switch	kg	5.8	5.8	5.8	11.0	11.0	26.6	26.6

1) Further ratings on request
2) These values are given for guidance and may vary acc. to the motor manufacturer
3) Short circuit duration > 50ms, without fuse protection
4) Max. distance from switch frame to nearest busbar / cable support 150 mm
5) Operating cycle: O - I - O - II - O

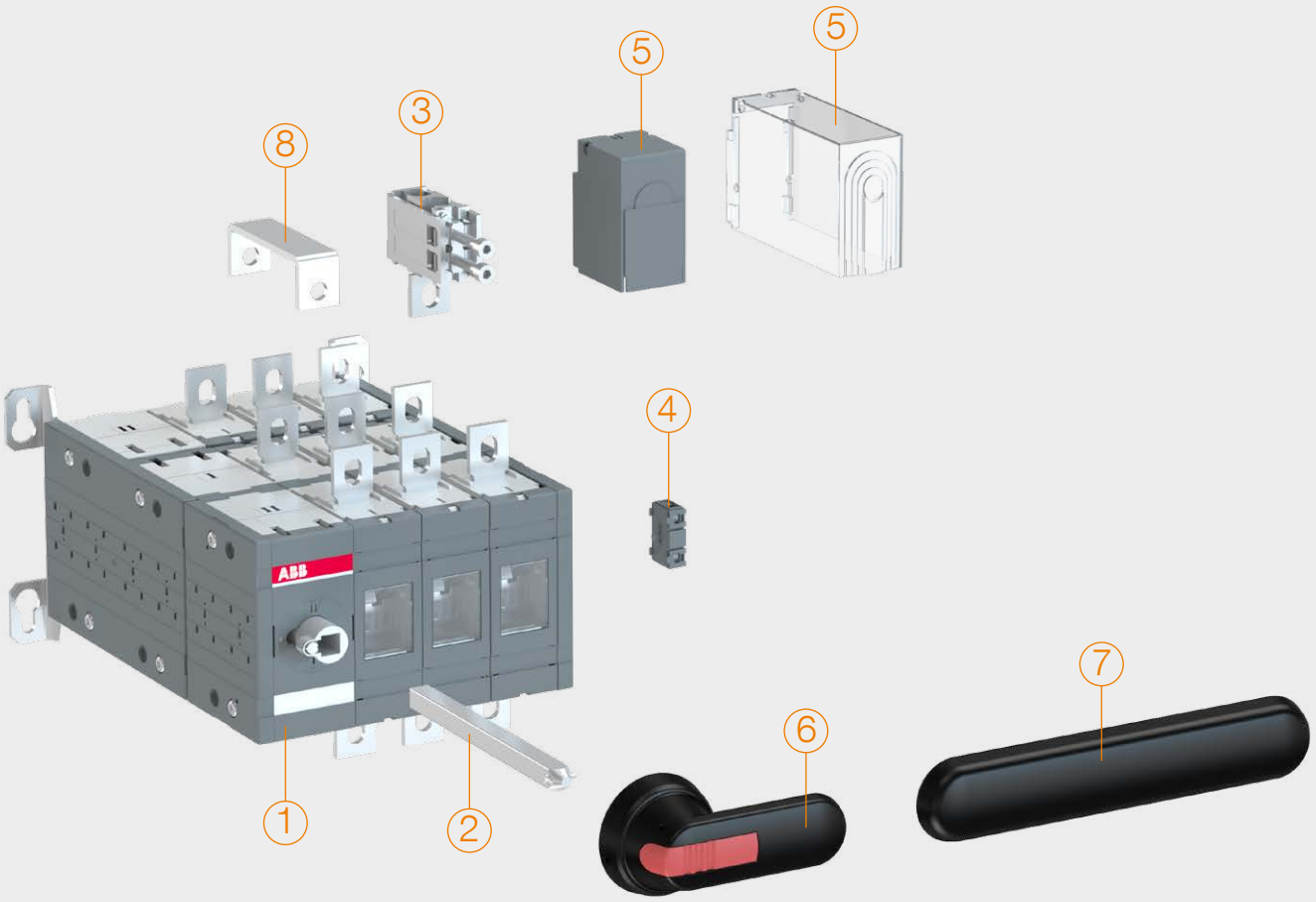
Manual and motorized bypass switches
Technical data for motor operators

Motorized bypass switches, Motor operator

				Switch size		
Data according to IEC 60947				**160…250**	**315...400**	**630…800**
Rated operational voltage Ue	Pollution degree 3	50/60 Hz	V AC	220 - 240		
Operating voltage range				0,85 - 1,1 x Ue		
Operating time1)	90° I-0, 0-I, 0-II, II-0	220-240VAC	s	0.4-1.0	0.4-1.0	0.4-1.0
Operating transfer time1)	180° I-0-II, II-0-I	220-240VAC	s	1.0-2.0	0.9-2.0	0.9-2.0
OFF -time when operating I-II or II-I1)	180° I-II, II-I	220-240VAC	s	0.4-1.0	0.4-1.0	0.4-1.0
Nominal current In1)		220-240VAC	A	0.2	0.5	0.7
Current inrush1)		220-240VAC	A	1.3	2.1	2.8
Overload fuse	Type / In / Capacity	220-240VAC	mA	T/315/H	T/500/H	T/1 000/H
Operating rate	Cycle 0-I-0-II-0,	220-240VAC	cycles/min	1	1	1
Overvoltage category				III		
Rated impulse withstand voltage Uimp			kV	4		
Dielectric strength		50 Hz 1 min.	kV	1.5		
Impulse command		Min. impulse duration	ms	100		
Terminals						
Voltage supply wiring for Ue				PE - N - L		
Cross section		solid/stranded	mm2	1.5 - 2.5		
Short-circuit protection device		max. MCB	A	C16		
Control terminal (no SELV)				C - II - I - 0		
Cross section		solid/stranded	mm2	1.5 - 2.5		
Maximum cable length			m	100		
State information of locking (no SELV)						
Handle attached or motor operator locked		11-12-14 (C/O)		5A/250V/cosφ=1		
Locking motor operator		23-24 (NO)		5A/250V/cosφ=1		
Short-circuit protection device		Max. MCB	A	C2		
Protection degree				IP20		
Operating temperature			°C	-25…+55		
Transportation and storage temperature			°C	-40…+70		
Max. altitude			m	2 000		

1) Under nominal conditions

Manual and motorized bypass switches
Ordering information for OT160...800E03_Y



Bypass switches accessory guide

1. Manual bypass switch
2. Extended shaft
3. Terminal clamp
4. Auxiliary contact
5. Terminal shroud
6. Pistol handle
7. Handle extension
8. Bridging bar

Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.

Manual and motorized bypass switches
Ordering information for manual OT160…800_Y

OT160...250E03_YP

OT315...400E03_YP

OT630...800E03_YP

Manual bypass switches, OT160...800_Y

Delivered with a black plastic IP65 I-0-II pistol handle and a handle extension for enabling smooth manual operation, shaft and bolt set for the cable connection. The handle extension is snap-onmounted on the standard handle for manual operation. The handle extension shall be removed when padlocking the standard handle. Handle padlockable in the 0-position, door interlock in the I- and II-positions and when padlocked.

Open transition

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
3	160	110	160/90	OT160E03YP	1SCA123551R1001	5.6
4	160	110	160/90	OT160E04YP	1SCA123556R1001	7.5
3	200	135	200/110	OT200E03YP	1SCA123552R1001	5.6
4	200	135	200/110	OT200E04YP	1SCA123557R1001	7.5
3	250	170	250/140	OT250E03YP	1SCA123553R1001	5.6
4	250	170	250/140	OT250E04YP	1SCA123558R1001	7.5
3	400	275	400/220	OT400E03YP	1SCA123582R1001	10.1
4	400	275	400/220	OT400E04YP	1SCA124026R1001	13.5
3	630	435	630/355	OT630E03YP	1SCA123590R1001	
4	630	435	630/355	OT630E04YP	1SCA123592R1001	
3	800	550	800/450	OT800E03YP	1SCA123591R1001	
4	800	550	800/450	OT800E04YP	1SCA123593R1001	

OHBZX200

OHBZX275

Closed transition

No. of poles	Rated current and power AC-21A/AC-22A ≤ 415V I[A]	AC-21A/AC-22A 400V S[kVA]	AC-23A 400...415V I[A]/P[kW]	Type	Order number	Weight/ unit [kg]
3	160	110	160/90	OT160E03YLP	1SCA145895R1001	5.6
4	160	110	160/90	OT160E04YLP	1SCA145907R1001	7.5
3	200	135	200/110	OT200E03YLP	1SCA145896R1001	5.6
4	200	135	200/110	OT200E04YLP	1SCA145908R1001	7.5
3	250	170	250/140	OT250E03YLP	1SCA145897R1001	5.6
4	250	170	250/140	OT250E04YLP	1SCA145909R1001	7.5
3	400	275	400/220	OT400E03YLP	1SCA145932R1001	10.1
4	400	275	400/220	OT400E04YLP	1SCA145938R1001	13.5
3	630	435	630/355	OT630E03YLP	1SCA145954R1001	
4	630	435	630/355	OT630E04YLP	1SCA145960R1001	
3	800	550	800/450	OT800E03YLP	1SCA145955R1001	
4	800	550	800/450	OT800E04YLP	1SCA145961R1001	

Shafts, handle, handle extension and bolt kits included as standard

Suitable for switches	Shaft	Handle	Handle extension	Bolt kit
OT160...250_Y	OXP6/12x161C	OHB65J12E011	OHBZX200	M8x25
OT315...400_Y	OXP12x166	OHB95J12E011	OHBZX200	M10x30
OT630...800_Y	OXP12x185	OHB125J12E011	OHBZX275	M12x40

Manual and motorized bypass switches
Ordering information for OTM160...800E_YM_C

Bypass switches accessory guide

1. Manual bypass switch
2. Terminal clamp
3. Auxiliary contact
4. Storage for handle and fuses
5. Terminal shroud
6. Handle extension
7. Voltage sensing connector

Please note that not all listed accessories are automatically included in your order.
See next page for recommendations.

Manual and motorized bypass switches
Ordering information for motorized OTM160…800E_YM_C

OTM160...250E3YM230C

OTM315...400E3YM230C

OTM315...400E4YM230C

OTM630-800E3YM230C

OTM630-800E4YM230C

OTZC13

OTZC23

Motorized bypass switches, open transition, OTM160...800E_YM_C

Included a manual direct handle, bolt set for the cable connection and storage clip for handle and spare fuses. Handle padlockable in the 0-position.

No. of poles	Rated current and power AC-21A...AC-22A AC-23A ≤ 415V I[A]	400V S[kVA]	400...415V I[A] / P[kW]	Type	Order number	Weight/ unit [kg]
Types -W: with wide phase distance.						
3	160	110	160/90	OTM160E3YM230C	1SCA141435R1001	7.72
4	160	110	160/90	OTM160E4YM230C	1SCA141436R1001	8.1
3	200	135	200/110	OTM200E3YM230C	1SCA141437R1001	7.72
4	200	135	200/110	OTM200E4YM230C	1SCA141438R1001	8.1
3	250	170	250/140	OTM250E3YM230C	1SCA141439R1001	7.72
4	250	170	250/140	OTM250E4YM230C	1SCA140870R1001	8.1
3	315	215	315/160	OTM315E3YM230C	1SCA141440R1001	14
4	315	215	315/160	OTM315E4YM230C	1SCA141441R1001	16
3	400	275	400/220	OTM400E3YM230C	1SCA136735R1001	14
4	400	275	400/220	OTM400E4YM230C	1SCA136677R1001	16
3	630	435	630/355	OTM630E3YM230C	1SCA136615R1001	25.9
4	630	435	630/355	OTM630E4YM230C	1SCA136613R1001	28.5
3	800	550	800/450	OTM800E3YM230C	1SCA136616R1001	25.9
4	800	550	800/450	OTM800E4YM230C	1SCA136614R1001	28.5

Recommended accessories: Bridging bars

Please note that two sets of bridging bars are required to make a complete connection.

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C, _Y	3	OTZC13	1SCA022767R6910	3	0.6
OT_160…250_C, _Y	4	OTZC14	1SCA022767R7040	4	0.8
OT_315…400_C, _Y	3	OTZC23	1SCA022767R7120	3	0.6
OT_315…400_C, _Y	4	OTZC24	1SCA022767R7210	4	0.8
OT_600_C…800E_C, _Y	3	OTZC33	1SCA022785R7020	3	1.0
OT_600_C…800E_C, _Y	4	OTZC34	1SCA022785R7110	4	1.3

Recommended accessories: Phase barriers

Suitable for switches	No. of poles	Height h [mm]	Cutting width W of the phase barrier [mm]	Type	Order number	Units/ type [pcs]
OT_160…250E_C	3	100	55	PB100 low	1SDA054970R1	4
OT_160…250E_C	3	200	55	PB200 high	1SDA054972R1	4
OT_160…250E_C	4	100	55	PB100 low	1SDA054971R1	6
OT_160…250E_C	4	200	55	PB200 high	1SDA054973R1	6
OT_315…400E_C	3	100	67	PB100 low	1SDA054970R1	4
OT_315…400E_C	3	200	67	PB200 high	1SDA054972R1	4

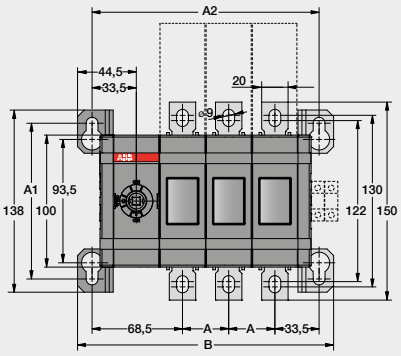
Manual and motorized bypass switches
Dimensional drawings for manual bypass switches

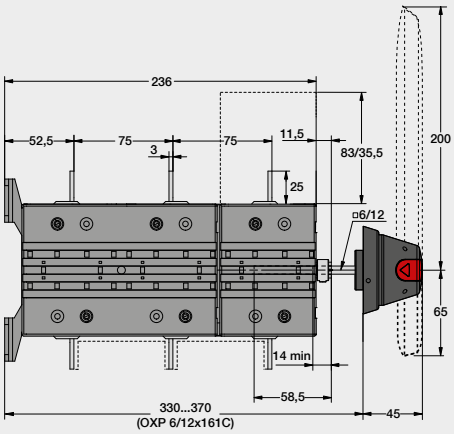
OT160...250E03/04Y

OT160...250_Y_

	E03	E04
A	35	35
A1	118	118
A2	172	207
B	194	229

M00405 / OT160-250E02-04Y A



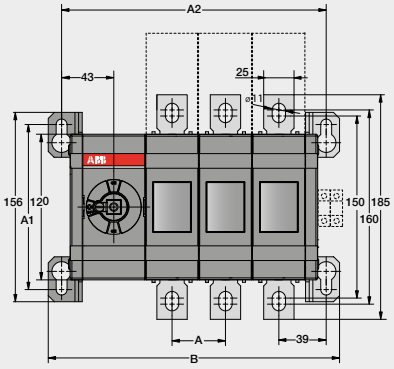


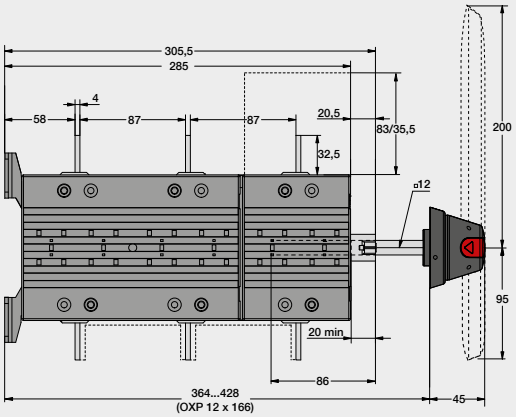
OT315...400E03/04Y

OT315...400E_Y

	E03	E04
A	44	44
A1	136	136
A2	218	262
B	240	284

M00409 / OT315-400E02-04Y B/E



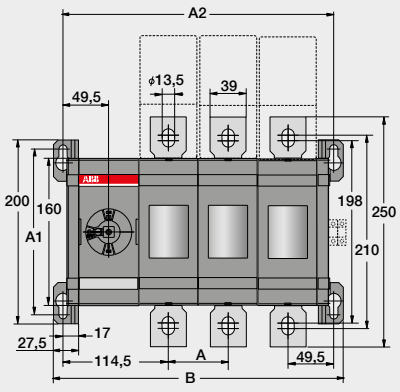


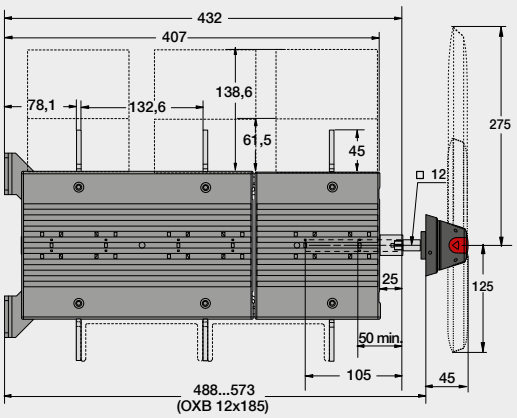
OT630...800E03/04Y

OT630...800E_Y

	E03	E04
A	65	65
A1	180	180
A2	294	359
B	315	380

M00397 / OT630-800E02-04Y B /ES





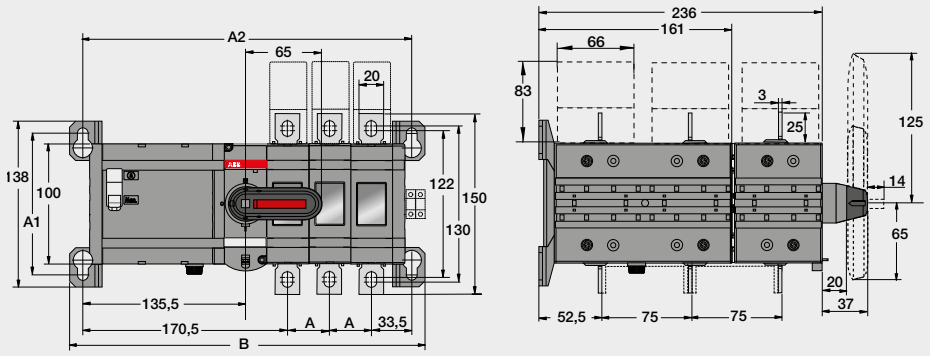
Manual and motorized bypass switches
Dimensional drawings motorized bypass switches

OT160...250E03-04Y

OTM160...250_Y

[mm/In]	E2	E3	E4
A	35	35	35
A1	118	118	118
A2	239	274	309
B	251	296	331

M00339 / OTM160-250E2-4Y A

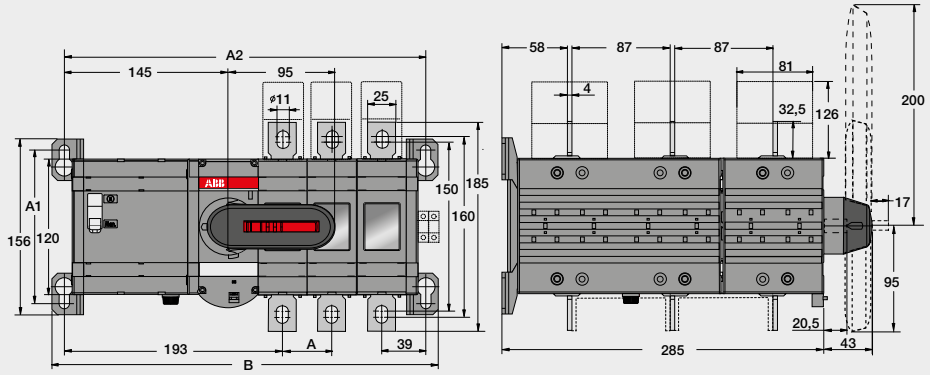


OTM315...400E_Y

OTM315–400E_Y

[mm/In]	E2	E3	E4
A	44	44	44
A1	136	136	136
A2	276	320	364
B	298	342	386

M00401 / OTM315-400E_Y A

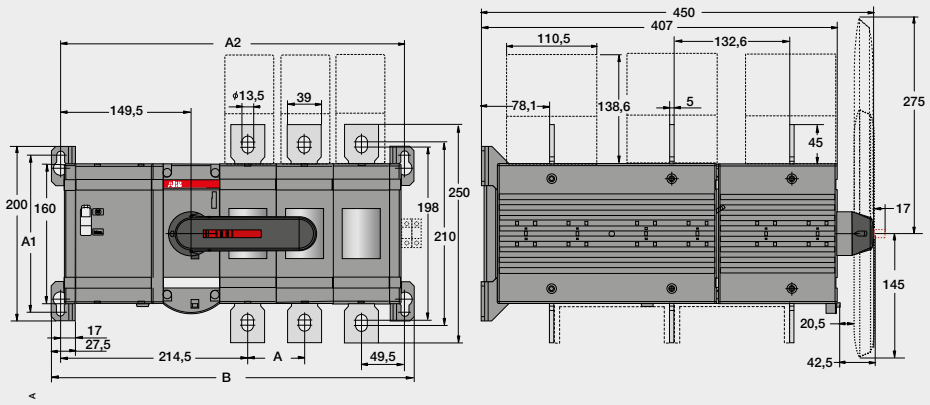


OTM630...800E_Y

OTM630–800E_Y

[mm/In]	E2	E3	E4
A	65	65	65
A1	180	180	180
A2	329	394	459
B	350	415	480

M00404 / OTM630-800E2_4Y A



Optional accessories for manual and motorized bypass switches
Ordering information for external handles

OHBZX200

OHBZX275

Handle extension for bypass switches, plastic

The handle extension is snap-on mounted on the standard handle for manual operation. The handle extension shall be removed when padlocking the standard handle.
Units / type = 1 pcs.

Suitable for switches	Colour	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT160…400E_Y	Black	OHBZX200	1SCA125960R1001	1	0.12
OT630…800E_Y	Black	OHBZX275	1SCA125963R1001	1	0.12

Ordering information for terminal shrouds

OTS_L_

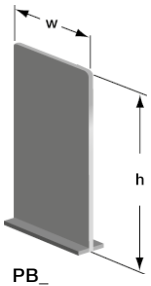
OTS_S_

Terminal shrouds, grey plastic

Snap-on mounting to the switches, IP 20. A kit includes three or four shrouds which can be used on either side of the switch. Suitable for the upperswitch. Transparent shrouds for OT_160…2500 available on request, please replace the letter “G” with “T”.

Suitable for switches	No. of poles	Description	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_Y	3	Long type	OTS250G1L/3	1SCA022731R8150	3	0.09
OT_160…250_Y	3	Short type	OTS250G1S/3	1SCA022731R8310	3	0.06
OT_160…250_Y	4	Long type	OTS250G1L/4	1SCA022731R8230	4	0.12
OT_160…250_Y	4	Short type	OTS250G1S/4	1SCA022731R8400	4	0.08
OT_315…400_Y	3	Long type	OTS400G1L/3	1SCA022736R8840	3	0.15
OT_315…400_Y	3	Short type	OTS400G1S/3	1SCA022736R9060	3	0.09
OT_315…400_Y	4	Long type	OTS400G1L/4	1SCA022736R9490	4	0.20
OT_315…400_Y	4	Short type	OTS400G1S/4	1SCA022736R9650	4	0.12
OT_600…800_Y	3	Long type	OTS800G1L/3	1SCA022776R7890	3	0.32
OT_600…800_Y	3	Short type	OTS800G1S/3	1SCA022776R8190	3	0.17
OT_600…800_Y	4	Long type	OTS800G1L/4	1SCA022776R7970	4	0.42
OT_600…800_Y	4	Short type	OTS800G1S/4	1SCA022776R8270	4	0.26

Optional accessories for manual and motorized bypass switches
Ordering information for phase barriers



PB_

Phase barriers

The phase barriers designed for ABB Tmax T4-T5 MCCB's can also be used for OT_160...800 change-over switches. 3-pole change-overs need 8 barriers and 4-pole change-overs need 12 barriers for full protection.

Suitable for switches	No. of poles	Height h [mm]	Cutting width W of the phase barrier [mm]	Type	Order number	Units/ type [pcs]
OT_160…250E_C	3	100	55	PB100 low	1SDA054970R1	4
OT_160…250E_C	3	200	55	PB200 high	1SDA054972R1	4
OT_160…250E_C	4	100	55	PB100 low	1SDA054971R1	6
OT_160…250E_C	4	200	55	PB200 high	1SDA054973R1	6
OT_315…400E_C	3	100	67	PB100 low	1SDA054970R1	4
OT_315…400E_C	3	200	67	PB200 high	1SDA054972R1	4
OT_315…400E_C	4	100	67	PB100 low	1SDA054971R1	6
OT_315…400E_C	4	200	67	PB200 high	1SDA054973R1	6
OT_600...800E_C	3	100	90	PB100 low	1SDA054970R1	4
OT_600...800E_C	3	200	90	PB200 high	1SDA054972R1	4
OT_600...800E_C	4	100	90	PB100 low	1SDA054971R1	6
OT_600...800E_C	4	200	90	PB200 high	1SDA054973R1	6

Optional accessories for manual and motorized bypass switches
Ordering information for terminal clamps

OZXB2L

OZXB7L

OZXB9

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]
OT100…125F_	10...70		OZXL1	1SCA022439R6770	3	1	0.14
OTM40...125F_	10...70		OZXL1	1SCA022439R6770	3	1	0.14
OT_160...250E_C, _Y	10...70	OTS250_L	OZXB1L	1SCA022169R2030	3	1	0.15
OT_160...250E_C, _Y	10...70	OTS250_L	OZXB1L/1	1SCA022194R0030	1	50	0.05
OT_160...250E_C, _Y	25...120	OZXB2K	OZXB2	1SCA022119R7610	3	1	0.34
OT_160...250E_C, _Y	25...120	OZXB2K	OZXB2/1	1SCA022194R0200	1	50	0.12
OT_160...250E_C, _Y	25...120	OZXB2K	OZXB2L	1SCA022158R7750	3	1	0.43
OT_160...250E_C, _Y	25...120	OZXB2K	OZXB2L/1	1SCA022194R0460	1	50	0.15
OT_160...250E_C, _Y	95...185	OTS250_L	OZXB8	1SCA022744R1510	3	1	0.50
OT_160...250E_C, _Y	95...185	OTS250_L	OZXB8/1	1SCA022744R1600	1	20	0.15
OT_160...250E_C, _Y	95...240	OTS250_L	OZXB9	1SCA022750R3210	3	1	0.50
OT_160...250E_C, _Y	95...240	OTS250_L	OZXB9/1	1SCA022750R3300	1	20	0.15
OT_315...400E_C, _Y	25...120	OZXB2K	OZXB2L	1SCA022158R7750	3	1	0.43
OT_315...400E_C, _Y	25...120	OZXB2K	OZXB2L/1	1SCA022194R0460	1	50	0.15
OT_315...400E_C, _Y	70…185	OZXB3K	OZXB3	1SCA022136R8100	3	1	1.28
OT_315...400E_C, _Y	70…185	OZXB3K	OZXB3/1	1SCA022194R0620	1	20	0.43
OT_315...400E_C, _Y	2x(70…185)	OZXB3K	OZXB4	1SCA022137R4760	3	1	1.71
OT_315...400E_C, _Y	2x(70…185)	OZXB3K	OZXB4/1	1SCA022194R0890	1	20	0.57
OT_315...400E_C, _Y	120...240	OZXB5K	OZXB7	1SCA022185R0040	3	1	1.00
OT_315...400E_C, _Y	120...240	OZXB5K	OZXB7/1	1SCA022194R1430	1	20	0.34
OT_315...400E_C, _Y	120...240	OZXB5K	OZXB7L	1SCA022185R7130	3	1	1.17
OT_315...400E_C, _Y	120...240	OZXB5K	OZXB7L/1	1SCA022194R1600	1	20	0.40
OT_315...400E_C, _Y	95...185	OTS400_L	OZXB8	1SCA022744R1510	3	1	0.50
OT_315...400E_C, _Y	95...185	OTS400_L	OZXB8/1	1SCA022744R1600	1	20	0.15
OT_315...400E_C, _Y	95...240	OTS400_L	OZXB9	1SCA022750R3210	3	1	0.50
OT_315...400E_C, _Y	95...240	OTS400_L	OZXB9/1	1SCA022750R3300	1	20	0.15

Optional accessories for manual and motorized bypass switches
Ordering information for bridging- and reversing bars

OTZC13...34

Bridging bars

The bridging bars provide a connection link either on the incoming or outcoming side of the switch. Please note that two sets of bridging bars are required to make a complete connection.

Suitable for switches	No. of poles	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C, _Y	3	OTZC13	1SCA022767R6910	3	0.6
OT_160…250_C, _Y	4	OTZC14	1SCA022767R7040	4	0.8
OT_315…400_C, _Y	3	OTZC23	1SCA022767R7120	3	0.6
OT_315…400_C, _Y	4	OTZC24	1SCA022767R7210	4	0.8
OT_600_C…800E_C, _Y	3	OTZC33	1SCA022785R7020	3	1.0
OT_600_C…800E_C, _Y	4	OTZC34	1SCA022785R7110	4	1.3

OTZR_

Reversing bars

A reversing switch can be built by using phase sequence bars in two phases.
The kit includes two phase sequence conversion bars. The missing bridging bars must be ordered separately, see above. For example 3-pole switches: one 4-pole standard bridging bar kit is required (one bar for the reversing side, three bars for the other side).

Suitable for switches	Type	Order number	Units/ type [pcs]	Weight/ unit [kg]
OT_160…250_C	OTZR1	1SCA100352R1001	2	0.3
OT_315…400_C	OTZR2	1SCA104647R1001	2	0.3
OT_600_C…800E_C	OTZR3	1SCA100355R1001	2	0.4

Optional accessories for manual and motorized bypass switches
Ordering information and technical data for auxiliary contacts

OA1G01
OA7G10

OA1G10
OA8G01

OA2G11

Auxiliary contact blocks for OT_160...800

Mounting on the right side of the switch: Max. 4 auxiliary contact blocks/switch (totally 8 blocks). Types _AU have gold plated contacts for harsh environments and low operating voltages. Simultaneous action with the main contacts, IP20.
The type and ordering numbers are for one piece.

Suitable for switches	Contact functions	Installation side	Type	Order number	Delivery batch [pcs]	Weight/ unit [kg]
OT_160...800	1NO	Right	OA1G10	1SCA022353R4970	10	0.03
OT_160...800	1NC	Right	OA3G01	1SCA022456R7410	10	0.03
OT_160...800	1NO	Right	OA1G10AU	1SCA022436R7910	10	0.03
OT_160...800	1NC	Right	OA3G01AU	1SCA022819R5260	10	0.03

Auxiliary contacts

Technical data for auxiliary contacts according to IEC 60947-5-1, for OA1G_, OA2G_, OA3G_, OA7G_, OA8G_

AC15		DC12			DC13	
U_e/[V]	I_e/[A]	U_e/[V]	I_e/[A]	P/[W]	I_e/[A]	P/[W]
230	6	24	10	240	2	50
400	4	72	4	290	0.8	60
415	4	125	2	250	0.55	70
690	2	250	0.55	140	0.27	70
		440	0.1	44		

Function tables

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch I (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	closed	open
0	open	open	closed
II	closed	open	closed

Function table of OT160…3200, OT160...800_Y and OTM160…2500 auxiliary contacts / Switch II (max. 2+2)

Handle position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	open	closed
0	open	open	closed
II	closed	closed	open

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

Transfer, change-over and bypass switches
Index

For your notes

For your notes

Contact us

ABB Oy
Protection and Connection
P.O. Box 622
FI-65101 Vaasa, Finland
Phone: +358 10 22 11
Fax: +358 10 22 45708

www.abb.com

Find the address of your local sales organization on the ABB homepage:

www.abb.com/contacts
> Low Voltage Products and Systems

Note: We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

Power and productivity
for a better world™