

Protection and Connection

Motorized and automatic transfer switches IEC 61439 Technical guide

Motorized change-over switches

Uninterrupted power supply with motorized functionality

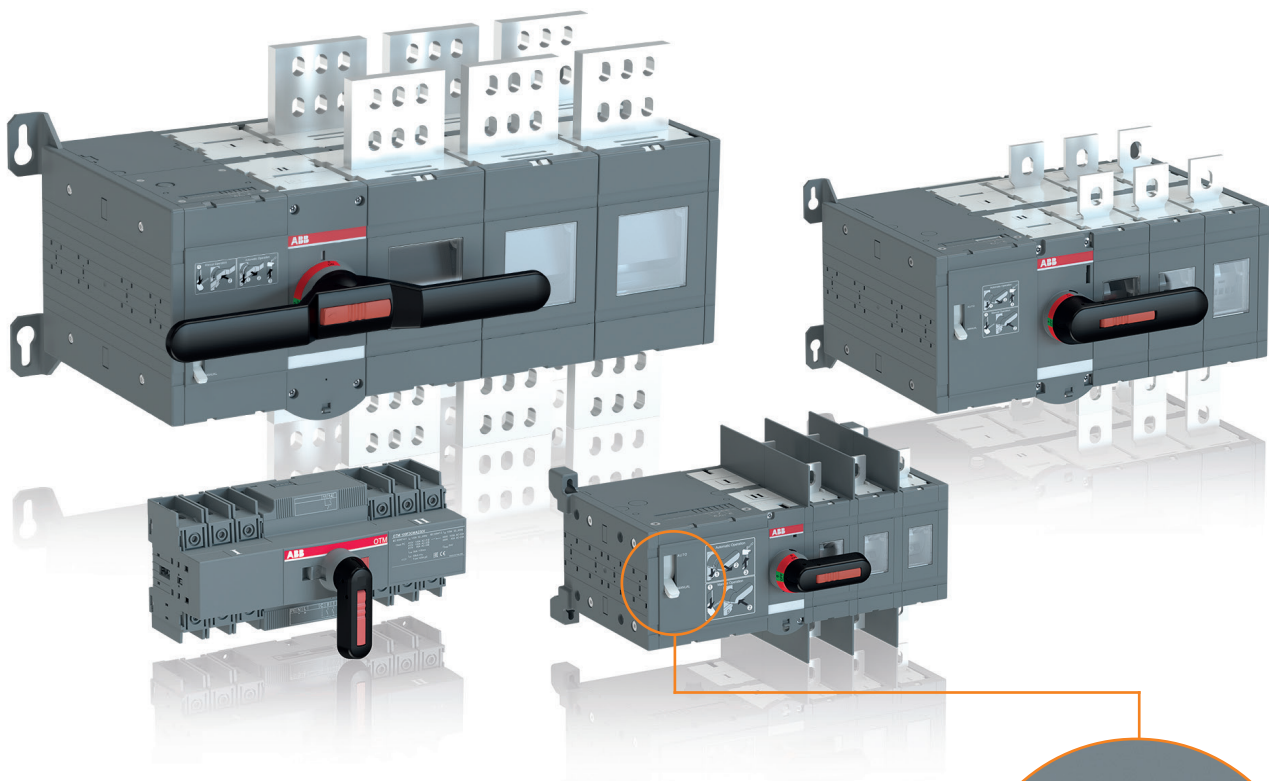
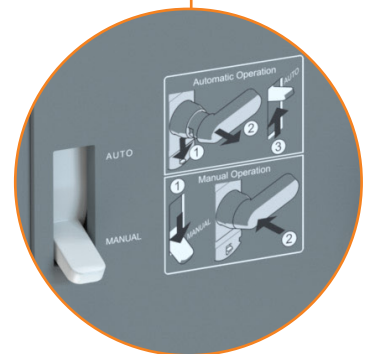


ABB offers a wide variety of open transition motorized change-over switches from 40 to 3200 Amperes in range. All of our visually redesigned motorized change-over switches now come equipped with a new cover with clear operating instructions and enhanced motor operator performance.



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.

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.



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.



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.



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.

Motorized change-over switches

Technical data for OTM16...125_C

Motorized change-over switches

Data according to IEC 60947-3				Switch size				
				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 asynchronous 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
Rated short-time withstand current	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 making capacity ²⁾	I_{cw} (r.m.s.)	690 V 1s	kA	2.5	2.5	2.5	2.5	2.5
Power loss / pole	I_{cm} (peak)	690 V	kA	3.6	3.6	3.6	3.6	3.6
Mechanical endurance	With rated current		W	1.6	2.8	3.5	4.0	6.3
Cable size	Number of oper. cycles ³⁾		Cycles	10 000	10 000	10 000	10 000	10 000
	Cu-wire size suitable for terminal clamps		mm ²	2.5-25/2x2.5-16	10-70	10-70	10-70	10-70
Terminal tightening torque			AWG	14-4/2x14-6	8-00	8-00	8-00	8-00
Operating torque	Counter torque required		Nm	6	6	6	6	6
	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_{sc} (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

Data according to IEC 60947-3				Switch size						
				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 ..with minimum conductor cross section	/ ambient 40°C / ambient 40°C	In open air In enclosure	A	160 160	200 200	250 250	315 315	400 400	630 630	800 800
		Cu	mm ²	70	95	120	185	240	2x185	2x240
Rated operational current, AC-21A		up to 500 V 690 V	A	160 160	200 200	250 250	315 315	400 400	630 630	800 800
Rated operational current, AC-22A		up to 500 V 690 V	A	160 160	200 200	250 250	315 315	400 400	630 630	800 800
Rated operational current, AC-23A		up to 415 V 440 V 500 V 690 V	A	160 160 160 160	200 200 200 200	250 250 250 250	315 315 315 315	400 400 400 400	630 630 630 630	800 800 800 800
Rated operational current / poles in series, DC-21A ⁴⁾		≤ 110 V 220 V 440 V 660 V	A	160/2 160/2 160/3 160/4	200/2 200/2 200/3 200/4	250/2 250/2 230/3 200/4	315/1 ¹⁾ 315/2 ¹⁾ 315/3 315/4	400/1 ¹⁾ 400/2 ¹⁾ 360/3 315/4	630/1 630/1 630/2 630/4 ¹⁾	800/1 800/1 720/2 630/4 ¹⁾
Rated operational power, AC-23A ²⁾ The kW-ratings are accurate for 3-phase 1500 R.P.M. standard asynchronous motors		230 V 400 V 415 V 500 V 690 V	kW	45 90 90 110 160	60 110 110 132 200	75 140 145 170 250	100 160 180 220 315	132 220 230 280 400	200 355 355 400 630	250 450 450 560 800
Rated breaking capacity in category AC-23		up to 415 V 500 V 690 V	A	1 280 1 280 1 280	1 600 1 600 1 600	2 000 2 000 2 000	2 520 2 520 2 520	3 200 3 200 3 200	5 040 5 040 5 040	6 400 6 400 6 400
Rated conditional short-circuit current I_p (r.m.s.) and cut-off current I_c (peak) value. The cut-off current I_c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269).	I_p (r.m.s.) 80 kA, 415 V Max. OFA_fuse size	i_c (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	I_p (r.m.s.) 100 kA, 500 V Max. OFA_fuse size	i_c (peak)	kA	40.5	40.5	40.5	61.5	61.5	90	90
	I_p (r.m.s.) 80 kA, 690 V Max. OFA_fuse size	i_c (peak)	kA	40.5	40.5	40.5	59	59	83.5	83.5
	I_p (r.m.s.) 100 kA, 500 V Max. OFA_fuse size	i_c (peak)	kA	315/315	315/315	315/315	500/450	500/450	800/800	800/800
Rated short-time withstand current	I_{cw} (r.m.s.)	690 V 0.15s 690 V 0.25s 690 V 1s	kA	15 15 8	15 15 8	15 15 8	31 24 15	31 24 15	38 36 20	38 36 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 4-pole switch		kg	5.7 6.4	5.7 6.4	5.7 6.4	10.2 11.4	10.2 11.4	17.5 20.4	17.5 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

Data according to IEC 60947-3				Switch size					
				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
..with minimum conductor cross section	/ ambient 40°C	In enclosure	A						
Rated operational current, AC-21A		Cu	mm ²	2x300	2x400	2x500	3x500	4x500	4x1 000
		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 asynchronous 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 Max. OFA_ fuse size	\hat{i}_c (peak) gG/aM	kA A/A	100 1 250/1 250	100 1 250/1 250	100 1 250/1 250			
	I_p (r.m.s.) 100 kA, 500 V Max. OFA_ fuse size	\hat{i}_c (peak) gG/aM	kA A	106 1 250/1 250	106 1 250/1 250	106 1 250/1 250			
	I_p (r.m.s.) 80 kA, 690 V Max. OFA_ fuse size	\hat{i}_c (peak) gG/aM	kA 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	400
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

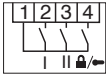
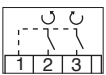
⁴⁾ Operating cycle: O - I - O - II - O

⁵⁾ Category AC-21B, up to 415V

Motorized change-over switches

Motor operator performance data for OTM40...125_C

Motor operator

Data according to IEC 60947				Switch size
				40...125
Rated operational voltage U_e	Pollution degree 3 50/60 Hz		V AC/DC V DC	110 - 240 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 24 V DC	s s	0.5-1.0 0.6-1.3
Operating transfer time ¹⁾	180° I-II, II-I	110...240 V AC/DC 24 V DC	s s	1.2-1.5 1.4-2.1
OFF -time when operating I-II or II-I ¹⁾	180° I-II, II-I	110...240 V AC/DC 24 V DC	s s	0.4-0.8 0.6-1.0
Nominal current I_n ¹⁾		110...240 V AC/DC 24 V DC	A A	0.2-0.5 0.6
Current inrush ¹⁾		110...240 V AC/DC 24 V DC	A A	1.5-3.0 3.6
Operating rate	Cycle 0-I-0-II-0	Max. continuous Max. short-time ≤ 10 cycles	cycles/min cycles/min	1 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				
Cross section		Solid/stranded	mm ²	PE - N - L 1.5 - 2.5
Short-circuit protection device		Max. MCB	A	C16
Control terminal				
Cross section		Solid/stranded	mm ²	C - II - I - 0 1.5 - 2.5
Maximum cable length			m	100
Terminal for state information				
Terminal for state information		Solid/stranded Rating	mm ² A	1.5 3 AC-1/250V
Also used with the OMD automatic control unit				
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 mW	24 500
Close switch II or open switch I	3		V DC mW	24 500
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

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

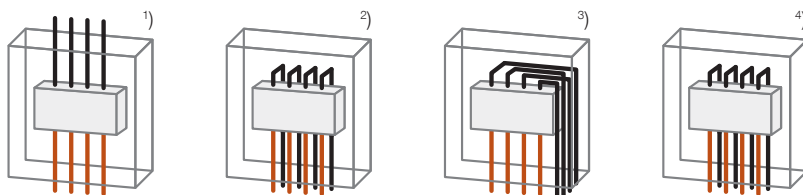
¹⁾ Under nominal conditions

Product integration data in compliance with IEC / EN 61439-1

Motorized change-over and automatic transfer switches

Dimensions of the functional unit			Max operational current I _e (A)							
			OT_125_	OT_160_	OT_200_	OT_250_	OT_315_	OT_400_	OT_630_	OT_800_
Height (mm)	Width (mm)	Depth (mm)	Frame R0	Frame R1	Frame R1	Frame R1	Frame R2	Frame R2	Frame R3	Frame R3
350	300	200	125	160	200	250				
700	600	300					315	400		
800	600	330							630	800
500	500	210	125	160	200	250	315	400		
760	600	300							630	720
1200	600	500								
500	500	210	125	160	200	250	315	400		
800	600	300								
Cable size		mm ²		1 x 70	1 x 95	1 x 120	1 x 185	1 x 240	2 x 185	2 x 240
Cu Busbar		mm ²						2 x 120		
Heat dissipation with rated current		W / pole	6,3	2,4	4	6,5	6,5	10	25	40
Terminal bolt size		mm		M8 x 25	M8 x 25	M8 x 25	M10 x 30	M10 x 30	M12 x 40	M12 x 40
Terminal tightening torque		Nm	6	15-22	15-22	15-22	30-44	30-44	50-75	50-75
Min distance to first cable fixing support		mm		150	150	150	150	150	150	150

Dimensions of the functional unit			Max operational current I _e (A)				
			OT_1000_	OT_1250_	OT_1600_	OT_2000_	OT_2500_
Height (mm)	Width (mm)	Depth (mm)	Frame R4	Frame R4	Frame R4	Frame R5	Frame R5
1800	1005	775	1000	1250	1600*		
1600	800	600	1000	1250	1600*		
1800	1000	1000				2000	2200
*bottom in top out ventilation							
Cable size		mm ²	4 x 240	4 x 240	4 x 240	8 x 240	8 x 240
Cu Busbar		mm ²	2 x 300	2 x 400	2 x 500	3 x 500	4 x 500
Heat dissipation with rated current		W / pole	19	29	48	55	85
Terminal bolt size		mm	M12 x 60	M12 x 60	M12 x 60	M12 x 60	M12 x 60
Terminal tightening torque		Nm	50-75	50-75	50-75	50-75	50-75
Min distance to first cable fixing support		mm	150	150	150	150	150



Circuit breaker protected short-circuit withstand*

Subjected to MCCB's short circuit current limiting curves reading precision and data. T stands for coordination possible up to the Max Icu value of the breaker. Values are based on breaker manufacturers published characteristics at the time of the publication.

ABB

Serie	In \ Icu	XT1					XT2					XT3	
		B 18 kA	C 25 kA	N 36 kA	S 50 kA	H 70 kA	N 36 kA	S 50 kA	H 70 kA	L 120 kA	V 150 kA	N 36 kA	S 50 kA
OTM	160 A	T	T	T	T	50	T	T	50	50	50	T	T
	200 A	T	T	T	T	50	T	T	50	50	50	T	T
	250 A	T	T	T	T	50	T	T	50	50	50	T	T
	315 A	T	T	T	T	T	T	T	T	T	100	T	T
	400 A	T	T	T	T	T	T	T	T	T	100	T	T
	630 A	T	T	T	T	T	T	T	T	T	T	T	T
	800 A	T	T	T	T	T	T	T	T	T	T	T	T
	1000 A	T	T	T	T	T	T	T	T	T	T	T	T
	1250 A	T	T	T	T	T	T	T	T	T	T	T	T
	1600 A	T	T	T	T	T	T	T	T	T	T	T	T
	2000 A	T	T	T	T	T	T	T	T	T	T	T	T
	2500 A	T	T	T	T	T	T	T	T	T	T	T	T
3200 A	T	T	T	T	T	T	T	T	T	T	T	T	

ABB

Serie	In \ Icu	XT4					T5				
		N 36 kA	S 50 kA	H 70 kA	L 120 kA	V 150 kA	N 36 kA	S 50 kA	H 70 kA	L 120 kA	V 200 kA
OTM	160 A	T	T	50	50	50	T	T	50	50	50
	200 A	T	T	50	50	50	T	T	50	50	50
	250 A	T	T	50	50	50	T	T	50	50	50
	315 A	T	T	T	100	100	T	T	T	100	100
	400 A	T	T	T	100	100	T	T	T	100	100
	630 A	T	T	T	T	T	T	T	T	T	T
	800 A	T	T	T	T	T	T	T	T	T	T
	1000 A	T	T	T	T	T	T	T	T	T	T
	1250 A	T	T	T	T	T	T	T	T	T	T
	1600 A	T	T	T	T	T	T	T	T	T	T
	2000 A	T	T	T	T	T	T	T	T	T	T
	2500 A	T	T	T	T	T	T	T	T	T	T
3200 A	T	T	T	T	T	T	T	T	T	T	

ABB

Serie	In \ Icu	T6				T7				E1.2	
		N 36 kA	S 50 kA	H 70 kA	L 100 kA	S 50 kA	H 70 kA	L 120 kA	V 150 kA	L 150 kA	L 150 kA
OTM	160 A	22	22	22	22						
	200 A	22	22	22	22						
	250 A	22	22	22	22						
	315 A	28	28	28	28	30	30	30	30		
	400 A	28	28	28	28	30	30	30	30		
	630 A	T	T	60	60	40	40	40	40		
	800 A	T	T	60	60	40	40	40	40		
	1000 A	T	T	T	T	T	T	100	100	50	50
	1250 A	T	T	T	T	T	T	100	100	50	50
	1600 A	T	T	T	T	T	T	100	100	50	50
	2000 A	T	T	T	T	T	T	100	100	100	100
	2500 A	T	T	T	T	T	T	100	100	100	100
3200 A	T	T	T	T	T	T	100	100	100	100	

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