

# Main switch, 2 pole, 20 A, Emergency-Stop function, 90 °, Lockable in the 0 (Off) position, surface mounting

Powering Business Worldwide\*

Part no. T0-1-102/I1/SVB Article no. 207143

Delivery			
Delivery programme			Maria de la companya della companya
Product range			Main switch maintenance switch Repair switch
Part group reference			ТО
Emergency STOP			Emergency switching off function
			With red rotary handle and yellow locking ring
Number of poles			2 pole
Locking facility			Lockable in the 0 (Off) position
Degree of Protection			IP65
			totally insulated
Design			surface mounting
Contact sequence			0 0 0 0 0 0 1 X X
Switching angle		0	90
Function			OFF O
Motor rating AC-23A, 50 - 60 Hz			
400 V	P	kW	5.5
Rated uninterrupted current	I <sub>u</sub>	Α	20
Number of contact units		contact unit(s)	1

#### Technical data General

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Standards			IEC/EN 60947, VDE 0660, IEC/EN 60204 Switch-disconnector according to IEC/EN 60947-3
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	$U_{imp}$	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required

Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Contacts			
Mechanical variables			
Number of poles			2 pole
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	l <sub>u</sub>	Α	20
Note on rated uninterrupted current $!_{\rm u}$			Rated uninterrupted current lu is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		x I <sub>e</sub>	2
AB 40 % DF		x I <sub>e</sub>	1.6
AB 60 % DF		x I <sub>e</sub>	1.3
Short-circuit rating			
Fuse		A gG/gL	20
Rated short-time withstand current (1 s current)	I <sub>cw</sub>	A <sub>rms</sub>	320
Note on rated short-time withstand current lcw			Current for a time of 1 second
Rated conditional short-circuit current	Iq	kA	6
Switching capacity			
cos φ rated making capacity as per IEC 60947-3		Α	130
Rated breaking capacity cos φ to IEC 60947-3		Α	
230 V		Α	100
400/415 V		Α	110
500 V		Α	80
690 V		Α	60
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at I <sub>e</sub>		W	0.6
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	0.6
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.4
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	Р	kW	
220 V 230 V	P	kW	3
230 V Star-delta	P	kW	5.5
400 V 415 V	Р	kW	5.5
400 V Star-delta	P	kW	7.5
500 V	P	kW	5.5
500 V Star-delta	Р	kW	7.5
690 V	P	kW	4
690 V Star-delta	Р	kW	5.5
Rated operational current motor load switch			
230 V	l <sub>e</sub>	A	11.5
230 V star-delta	l <sub>e</sub>	Α	20
400V 415 V	l <sub>e</sub>	Α	11.5
400 V star-delta	I <sub>e</sub>	Α	20
500 V	l <sub>e</sub>	Α	9
500 V star-delta	l <sub>e</sub>	Α	15.6
690 V	l <sub>e</sub>	Α	4.9
690 V star-delta	I <sub>e</sub>	Α	8.5
AC-21A			
Rated operational current switch			
440 V	l <sub>e</sub>	Α	20

Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	P	kW	3
400 V 415 V	P	kW	5.5
500 V	P	kW	7.5
690 V	P	kW	5.5
Rated operational current motor load switch			
230 V	l <sub>e</sub>	Α	13.3
400 V 415 V	l <sub>e</sub>	Α	13.3
500 V	I <sub>e</sub>	Α	13.3
690 V	I <sub>e</sub>	A	7.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	l <sub>e</sub>	A	10
Voltage per contact pair in series		V	60
DC-21A	I <sub>e</sub>	A	
Rated operational current	I <sub>e</sub>	A	1
Contacts	-е	Quantity	
DC-23A, motor load switch L/R = 15 ms		Quantity	
24 V			
Rated operational current		A	10
	le		
Contacts		Quantity	1
48 V		۸	10
Rated operational current	l <sub>e</sub>	A	
Contacts		Quantity	2
60 V			
Rated operational current	l <sub>e</sub>	Α	10
Contacts		Quantity	3
120 V			
Rated operational current	l <sub>e</sub>	Α	5
Contacts		Quantity	3
240 V			
Rated operational current	l <sub>e</sub>	Α	5
Contacts		Quantity	5
DC-13, Control switches L/R = 50 ms			
Rated operational current	l <sub>e</sub>	Α	10
Voltage per contact pair in series		V	32
Control circuit reliability at 24 V DC, 10 mA	Fault probability	H <sub>F</sub>	< 10 <sup>-5</sup> , < 1 fault in 100000 operations
Terminal capacities			
Solid or stranded		mm <sup>2</sup>	1 x (1 - 2,5) 2 x (1 - 2,5)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Terminal screw			M3.5
Max. tightening torque		Nm	1
Technical safety parameters:			

# Design verification as per IEC/EN 61439

Notes

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	20
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.6
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0

 $\mathrm{B10_{d}}$  values as per EN ISO 13849-1, table C1

Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	40
C/EN 61439 design verification		
10.2 Strength of materials and parts		
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Please enquire
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES		Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances		Meets the product standard's requirements.
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9 Insulation properties		
10.9.2 Power-frequency electric strength		Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

### **Technical data ETIM 6.0**

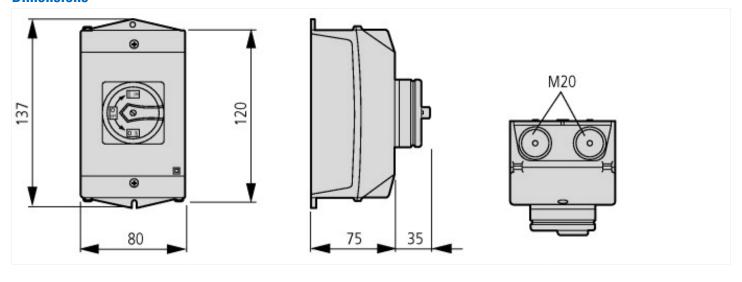
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)

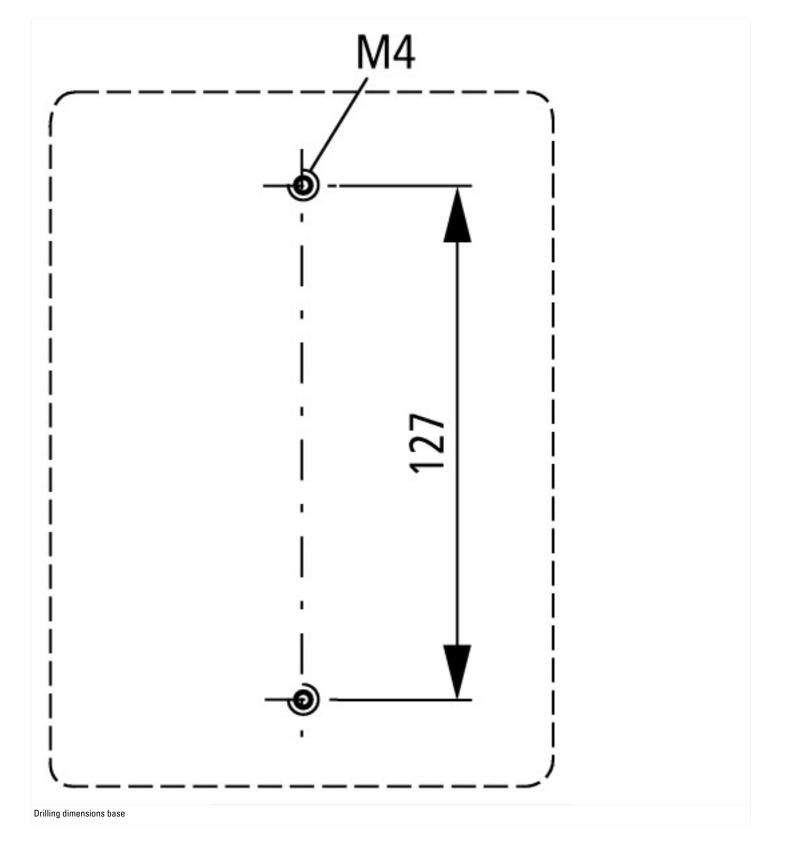
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss8.1-27-37-14-03 [AKF060010])

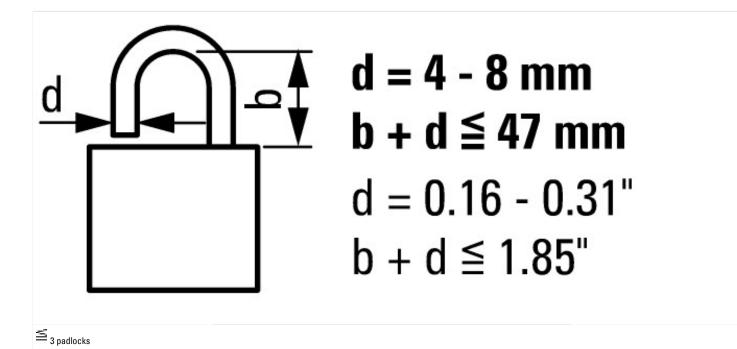
Version as main switch		Yes
Version as maintenance-/service switch		Yes
Version as safety switch		No
Version as emergency stop installation		Yes
Version as reversing switch		No
Max. rated operation voltage Ue AC	V	690
Rated operating voltage	V	690 - 690
Rated permanent current lu	Α	20
Rated permanent current at AC-21, 400 V	Α	20
Rated operation power at AC-3, 400 V	kW	5.5
Rated short-time withstand current lcw	kA	0.32
Rated operation power at AC-23, 400 V	kW	5.5
Switching power at 400 V	kW	5.5
Conditioned rated short-circuit current Iq	kA	6
Number of poles		2
Number of auxiliary contacts as normally closed contact		0
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as change-over contact		0
Motor drive optional		No
Motor drive integrated		No
Voltage release optional		No
Device construction		Complete device in housing

Suitable for ground mounting	Yes
Suitable for front mounting 4-hole	No
Suitable for front mounting center	No
Suitable for distribution board installation	No
Suitable for intermediate mounting	No
Colour control element	Red
Type of control element	Door coupling rotary drive
Interlockable	Yes
Type of electrical connection of main circuit	Screw connection
Degree of protection (IP), front side	IP65

## **Dimensions**







#### **Additional product information (links)**

IL03801007Z (AWA1150-1687) Cam switch: Surface mounting enclosure		
IL03801007Z (AWA1150-1687) Cam switch: Surface mounting enclosure	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801007Z2015_08.pdf	
Form for ordering non-standard front plates	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=4.87	
Display flip catalog page.	http://ecat.moeller.net/flip-cat/?edition=K115A&startpage=40	
Technical overview cam switch, switch-disconnector	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.2	
System overview cam switch T	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.4	
System overview switch-disconnector P	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.6	
Key to part numbers Cam switch	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8	
Key to part numbers Switch-disconnector	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8	
Switches for ATEX	http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html	
UL/CSA: Rating data for approved types	http://ecat.moeller.net/flip-cat/?edition=HPLTF&startpage=4.98	