

# Main switch, 3 pole + 1 N/O, 20 A, Emergency-Stop function, 90 °, Lockable in the 0 (Off) position, surface mounting



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Part no. T0-2-15679/11/SVB Article no. 207149

Delivery programme			
Product range			Main switch maintenance switch Repair switch
Part group reference			ТО
STOPP-Funktion			Emergency switching off function
			With red rotary handle and yellow locking ring
Number of poles			3 pole
Auxiliary contacts			
\ <sup>1</sup>		N/0	1
<b>7</b>		N/C	0
Locking facility			Lockable in the 0 (Off) position
Degree of Protection			IP65
			totally insulated
Design			surface mounting
Contact sequence			000000000000000000000000000000000000000
Switching angle		0	90
Function			OFF ION
Motor rating AC-23A, 50 - 60 Hz			
400 V	Р	kW	5.5
Rated uninterrupted current	I <sub>u</sub>	Α	20
Number of contact units		contact	2
		unit(s)	

## 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 <sub>imp</sub>	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			3
Mechanical variables			
Number of poles			3 pole
Auxiliary contacts			
		N/0	1
		N/C	0
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	I <sub>u</sub>	Α	20
Note on rated uninterrupted current !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 l <sub>e</sub>	1.6
AB 60 % DF		x l <sub>e</sub>	1.3
Short-circuit rating		^ ·e	
Fuse		A gG/gL	20
Rated short-time withstand current (1 s current)			320
	I <sub>cw</sub>	A <sub>rms</sub>	
Note on rated short-time withstand current lcw	I.	1. 4	Current for a time of 1 second
Rated conditional short-circuit current Switching capacity	Iq	kA	6
cos φ rated making capacity as per IEC 60947-3		Α	130
Rated breaking capacity cos φ to IEC 60947-3		A	
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
		x 10°	
Maximum operating frequency	Operations/h		1200
AC			
AC-3	D	1.147	
Rating, motor load switch	P	kW	
220 V 230 V	P	kW	3
230 V Star-delta	P	kW	5.5
400 V 415 V	P	kW	5.5
400 V Star-delta	P	kW	7.5
500 V	P	kW	5.5
500 V Star-delta	P	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>	Α	11.5
230 V star-delta	I <sub>e</sub>	Α	20
400V 415 V	le	Α	11.5

400 V star-delta	l <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	l <sub>e</sub>	Α	8.5
AC-21A			
Rated operational current switch			
440 V	l <sub>e</sub>	Α	20
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	Р	kW	3
400 V 415 V	Р	kW	5.5
500 V	Р	kW	7.5
690 V	Р	kW	5.5
Rated operational current motor load switch			
230 V	l <sub>e</sub>	Α	13.3
400 V 415 V	I <sub>e</sub>	Α	13.3
500 V	I <sub>e</sub>	Α	13.3
690 V	l <sub>e</sub>	Α	7.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	l <sub>e</sub>	Α	10
Voltage per contact pair in series		V	60
DC-21A	I <sub>e</sub>	Α	
Rated operational current	l <sub>e</sub>	Α	1
Contacts		Quantity	1
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	l <sub>e</sub>	Α	10
Contacts		Quantity	1
48 V			
Rated operational current	l <sub>e</sub>	Α	10
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>	$< 10^{-5}$ , $< 1$ fault in 100000 operations
Terminal capacities			
Solid or stranded		$mm^2$	1 x (1 - 2.5)
Florible with formulas to DIN 40000		2	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:**

roominous cures, parameters.		
Notes		B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
Approbierte Leistungsdaten		
Terminal capacity		
Terminal screw		M3.5
Tightening torque	lb-in	8.83

### Design verification as per IEC/EN 61439

Design verification as per IEC/EN 61439			
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
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	40
IEC/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 switch gear must be observed. $\label{eq:constraint}$
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:constraint}$
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

#### **Technical data ETIM 6.0**

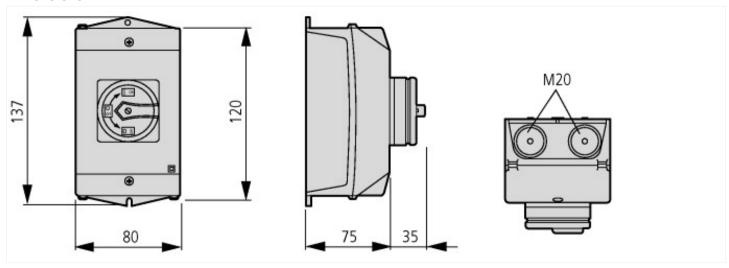
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)

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])

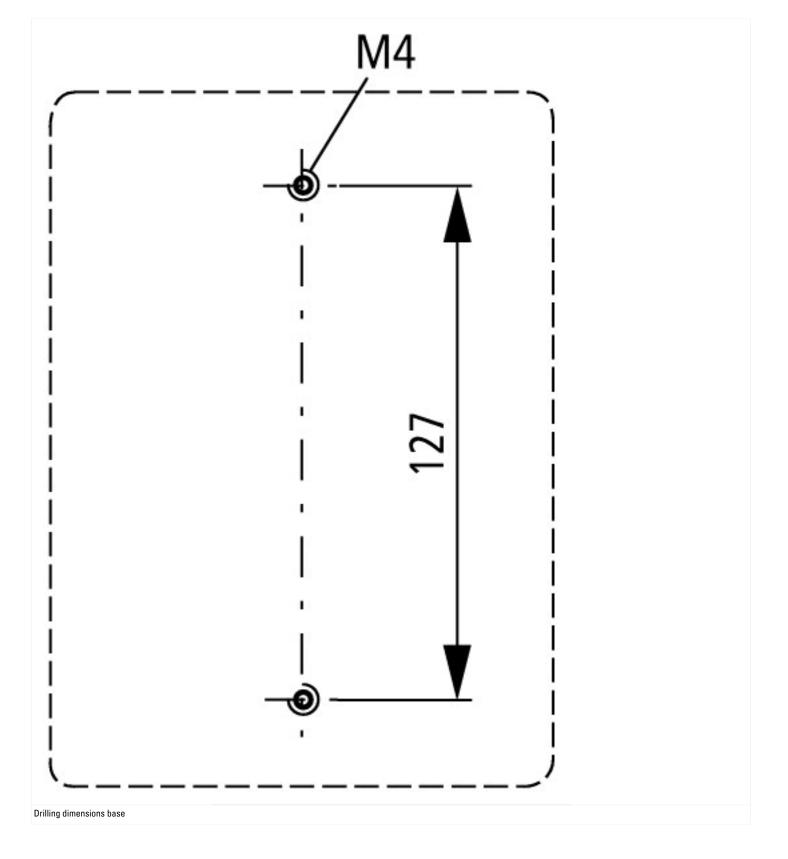
[AKF060010])		
Version as main switch		Yes
Version as maintenance-/service switch		Yes
Version as safety switch		No
Version as emergency stop installation		Yes
Version as reversing switch		No
Max. rated operation voltage Ue AC	V	690
Rated operating voltage	V	690 - 690
Rated permanent current lu	Α	20

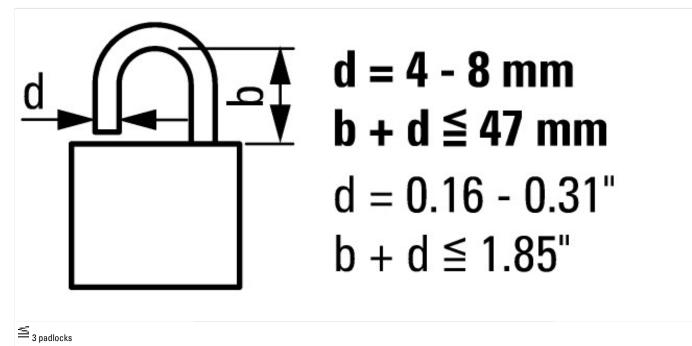
Rated opermanent current at AC-21, 400 V         A         20           Rated operation power at AC-34, 400 V         kM         5.5           Rated short-time withstand current lew         kM         5.5           Rated operation power at AC-24, 400 V         kW         5.5           Switching power at 400 V         kW         5.5           Conditioned rated short-circuit current lq         kW         6           Number of poles         3         3           Number of auxiliary contacts as normally open contact         W         1           Number of auxiliary contacts as change-over contact         K         7           Motor drive optional         K         No           Motor drive optional         K         No           Motor drive optional         K         No           Device construction         K         No           Suitable for ground mounting         K         Yes           Suitable for front mounting 4-hole         K         No           Suitable for front mounting enter         K         No           Suitable for intermediate mounting         K         No           Colour control element         K         Red           Linterfockable         K         Red			
Rated short-time withstand current Icw         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         3         3           Number of auxiliary contacts as normally closed contact         P         1           Number of auxiliary contacts as snormally open contact         P         1           Number of auxiliary contacts as change-over contact         P         No           Motor drive optional         P         No           Motor drive optional         P         No           Voltage release optional         P         No           Device construction         P         Yes           Suitable for ground mounting         P         Yes           Suitable for front mounting 4-hole         P         No           Suitable for first muniting center         P         No           Suitable for intermediate mounting	Rated permanent current at AC-21, 400 V	А	20
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         3         3           Number of auxiliary contacts as normally closed contact         4         6           Number of auxiliary contacts as normally open contact         4         6           Number of auxiliary contacts as change-over contact         4         1           Motor drive optional         6         No           Motor drive integrated         7         No           Voltage release optional         7         No           Device construction         6         Complete device in housing           Suitable for ground mounting         7         Yes           Suitable for front mounting 4-hole         No         No           Suitable for intermediate mounting         No         No           Suitable for intermediate mounting         No         No           Suitable for intermediate mounting         No         No           Colour control element         No         No           Type of control element         No         No           Type of control element         No	Rated operation power at AC-3, 400 V	kW	5.5
Switching power at 400 V         kW         5.5           Conditioned rated short-circuit current Iq         kA         6           Number of poles         3         3           Number of auxiliary contacts as normally closed contact         0         1           Number of auxiliary contacts as normally open contact         1         1           Number of auxiliary contacts as change-over contact         0         0           Motor drive optional         No         No           Motor drive integrated         No         No           Voltage release optional         Complete device in housing           Suitable for ground mounting         Yes         No           Suitable for front mounting 4-hole         No         No           Suitable for distribution board installation         No         No           Suitable for distribution board installation         No         No           Suitable for intermediate mounting         No         No           Colour control element         No         Red           Type of control element         Poor coupling rotary drive           Interlockable         Yes           Type of electrical connection of main circuit         Serew connection	Rated short-time withstand current lcw	kA	0.32
Conditioned rated short-circuit current Iq	Rated operation power at AC-23, 400 V	kW	5.5
Number of poles Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts No	Switching power at 400 V	kW	5.5
Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Notor drive optional  Notor drive integrated  Notor drive integrated  Notor drive integrated  Notor drive construction  Device construction  Suitable for ground mounting  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting enter  Suitable for firnt mounting center  Suitable for intermediate mounting  Suitable for distribution board installation  Suitable for intermediate mounting  Colour control element  Type of control element  Type of electrical connection of main circuit  Screw connection	Conditioned rated short-circuit current Iq	kA	6
Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  No  Motor drive optional  No  No  No  No  Device construction  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting center  Suitable for front mounting center  No  Suitable for front mounting center  No  Suitable for distribution board installation  Suitable for distribution board installation  Suitable for intermediate mounting  No  Colour control element  Type of control element  Type of control element  Type of electrical connection of main circuit  Screw connection  Type of electrical connection of main circuit	Number of poles		3
Number of auxiliary contacts as change-over contact  Motor drive optional  Motor drive integrated  No  Voltage release optional  Device construction  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting center  Suitable for front mounting center  Suitable for intermediate mounting  No  Colour control element  Yes  Type of control element  Suitable for intermediate mounting  Suitable for intermediate mounting  No  Suit	Number of auxiliary contacts as normally closed contact		0
Motor drive optional Motor drive integrated Motor drive integrated No Voltage release optional Device construction Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting center Suitable for front mounting center Suitable for intermediate mounting Suitable for front mounting 4-hole Suitable for front mounting 4-hole No Suitable for front mounting 4-hole	Number of auxiliary contacts as normally open contact		1
Motor drive integratedNoVoltage release optionalNoDevice constructionComplete device in housingSuitable for ground mountingYesSuitable for front mounting 4-holeNoSuitable for front mounting centerNoSuitable for distribution board installationNoSuitable for intermediate mountingNoColour control elementRedType of control elementDoor coupling rotary driveInterlockableYesType of electrical connection of main circuitScrew connection	Number of auxiliary contacts as change-over contact		0
Voltage release optional  Device construction  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting center  Suitable for distribution board installation  Suitable for intermediate mounting  Colour control element  Type of control element  Interlockable  Type of electrical connection of main circuit  No  Complete device in housing  No  Sombetted device in housing  No  No  Red  No  Door coupling rotary drive  Yes  Screw connection	Motor drive optional		No
Device construction  Complete device in housing  Yes  Suitable for ground mounting 4-hole Suitable for front mounting center Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit  Complete device in housing  Yes  No  Red  No  Red  Door coupling rotary drive Yes  Screw connection	Motor drive integrated		No
Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting center Suitable for front mounting center Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit  Yes  Yes  Yes  Yes  Yes  Screw connection	Voltage release optional		No
Suitable for front mounting 4-hole Suitable for front mounting center No Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit  No Screw connection Screw connection	Device construction		Complete device in housing
Suitable for front mounting center  Suitable for distribution board installation  Suitable for intermediate mounting  Colour control element  Type of control element  Interlockable  Type of electrical connection of main circuit  No  No  Red  Door coupling rotary drive  Yes  Type of electrical connection of main circuit  Screw connection	Suitable for ground mounting		Yes
Suitable for distribution board installation  Suitable for intermediate mounting  Colour control element  Type of control element  Interlockable  Type of electrical connection of main circuit  No  Red  Door coupling rotary drive  Yes  Screw connection	Suitable for front mounting 4-hole		No
Suitable for intermediate mounting  Colour control element  Type of control element  Interlockable  Type of electrical connection of main circuit  No  Red  Door coupling rotary drive  Yes  Type of electrical connection of main circuit  Screw connection	Suitable for front mounting center		No
Colour control element Type of control element Door coupling rotary drive Interlockable Type of electrical connection of main circuit  Screw connection	Suitable for distribution board installation		No
Type of control element Interlockable Type of electrical connection of main circuit  Door coupling rotary drive Yes  Screw connection	Suitable for intermediate mounting		No
Interlockable Yes Type of electrical connection of main circuit Screw connection	Colour control element		Red
Type of electrical connection of main circuit  Screw connection	Type of control element		Door coupling rotary drive
	Interlockable		Yes
Degree of protection (IP), front side IP65	Type of electrical connection of main circuit		Screw connection
	Degree of protection (IP), front side		IP65

### **Dimensions**



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#### **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	

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