

#### Main switch, 3 pole, 25 A, Emergency-Stop function, Lockable in the $\boldsymbol{0}$ (Off) position, flush mounting



Part no. P1-25/EA/SVB Article no. 041097

### **Delivery programme**

Delivery programme			
Product range			Main switch maintenance switch Repair switch
Part group reference			P1
Emergency STOP			Emergency switching off function
			With red rotary handle and yellow locking ring
Information about equipment supplied			Auxiliary contact or neutral conductor fitted by user.
Number of poles			3 pole
Auxiliary contacts			
\ <sup>1</sup>		N/O	0
<b>7</b>		N/C	0
Locking facility			Lockable in the 0 (Off) position
Degree of Protection			Front IP65
Design			flush mounting
Contact sequence			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Function			OFF OFF
Motor rating AC-23A, 50 - 60 Hz			
400 V	P	kW	11
Rated uninterrupted current	Iu	Α	25

# **Technical data**

General			
Standards			IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL Switch-disconnector according to IEC/EN 60947-3 NEMA3R, NEMA12
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature		°C	
Open		°C	-25 - +50
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		9	As required
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Contacts			Triliger and back-or-mand proof
Mechanical variables			
Number of poles			3 pole
Auxiliary contacts			
		N/O	0
		N/C	0
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	Iu	Α	25
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 l <sub>e</sub>	2
AB 40 % DF		x I <sub>e</sub>	1.6
AB 60 % DF		x l <sub>e</sub>	1.3
Short-circuit rating		Ü	
Fuse		A gG/gL	25
Rated short-time withstand current (1 s current)	I <sub>cw</sub>	A <sub>rms</sub>	640
Note on rated short-time withstand current lcw	CAA	11115	Current for a time of 1 second
Rated conditional short-circuit current	Iq	kA	50
Switching capacity	14	IO (	
cos φ rated making capacity as per IEC 60947-3		Α	240
Rated breaking capacity cos φ to IEC 60947-3		Α	
230 V		Α	190
400/415 V		Α	150
500 V		Α	170
690 V		Α	150
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at I <sub>e</sub>		W	1.1
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.3
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	Р	kW	
220 V 230 V	Р	kW	5.5
400 V 415 V	Р	kW	7.5
500 V	P	kW	7.5
690 V	P	kW	7.5
Rated operational current motor load switch			
230 V	I <sub>e</sub>	Α	19.6
400V 415 V	I <sub>e</sub>	Α	15.2
500 V	Ie	Α	12.1
690 V	I <sub>e</sub>	Α	8.8
AC-21A			
Rated operational current switch			
440 V	I <sub>e</sub>	Α	25
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	Р	kW	
230 V	Р	kW	5.5
400 V 415 V	Р	kW	11
500 V	Р	kW	11
400 V 415 V	P	kW	11

690 V	Р	kW	11
Rated operational current motor load switch			
230 V	l <sub>e</sub>	Α	25
400 V 415 V	I <sub>e</sub>	Α	25
500 V	l <sub>e</sub>	Α	17.4
690 V	le	Α	12.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	l <sub>e</sub>	Α	25
Voltage per contact pair in series		V	60
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	l <sub>e</sub>	Α	25
Contacts		Quantity	1
48 V			
Rated operational current	I <sub>e</sub>	Α	25
Contacts		Quantity	2
60 V			
Rated operational current	I <sub>e</sub>	Α	25
Contacts		Quantity	2
120 V			
Rated operational current	I <sub>e</sub>	Α	12
Contacts		Quantity	3
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 <sup>2</sup>	1 x (1,5 - 6) 2 x (1,5 - 6)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (1 - 4) 2 x (1 - 4)
Terminal screw			M4
Max. tightening torque		Nm	1.6
Technical safety parameters:			

## **Design verification as per IEC/EN 61439**

Notes

Fechnical data for design verification			
Rated operational current for specified heat dissipation	In	Α	25
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	1.1
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	50
EC/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.

B10<sub>d</sub> values as per EN ISO 13849-1, table C1

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])

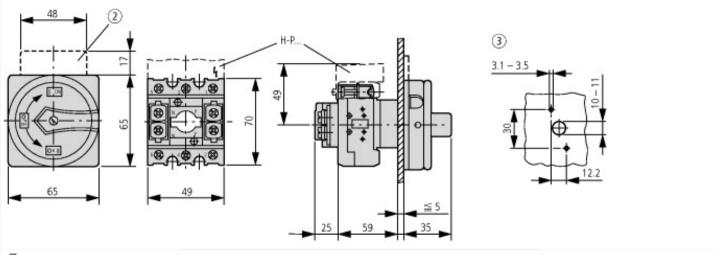
Version as main switch		Yes
Version as maintenance-/service switch		Yes
Version as safety switch		No
Version as emergency stop installation		Yes
Version as reversing switch		No
Max. rated operation voltage Ue AC	V	690
Rated operating voltage	V	690 - 690
Rated permanent current lu	Α	25
Rated permanent current at AC-21, 400 V	Α	25
Rated operation power at AC-3, 400 V	kW	7.5
Rated short-time withstand current lcw	kA	0.64
Rated operation power at AC-23, 400 V	kW	13
Switching power at 400 V	kW	13
Conditioned rated short-circuit current Iq	kA	80
Number of poles		3
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		Built-in device fixed built-in technique
Suitable for ground mounting		No
Suitable for front mounting 4-hole		Yes
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

# **Approvals**

Product Standards	UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking
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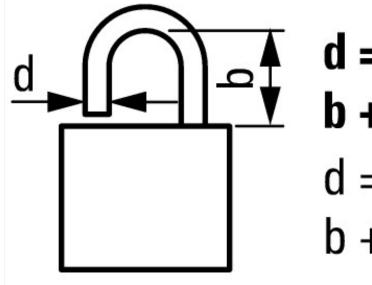
UL File No.	E36332
UL Category Control No.	NLRV
CSA File No.	12528
CSA Class No.	3211-05
North America Certification	UL listed, CSA certified
Suitable for	Branch circuits, suitable as motor disconnect
Degree of Protection	IEC: IP65; UL/CSA Type 1, 12

#### **Dimensions**



2 ZFS-... Label mount not included as standard





d = 4 - 8 mm  $b + d \le 47 \text{ mm}$  d = 0.16 - 0.31 d = 0.85

≦ 3 padlocks

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

IL03802003Z (AWA1150-1890) Switch-Disconnectors for flush mounting		
IL03802003Z (AWA1150-1890) Switch- Disconnectors for flush mounting	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03802003Z2015_02.pdf	
Form for ordering non-standard front plates	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=4.87	
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 Zone 22	http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html	