

**Main switch, P1, 25 A, flush mounting, 3 pole, 1 N/O, 1 N/C, STOP function,  
With black rotary handle and locking ring, Lockable in the 0 (Off) position**



**Part no. P1-25/EA/SVB-SW/HI11  
Catalog No. 070194**

## Delivery program

Product range		Main switch maintenance switch
Part group reference		P1
Stop Function		STOP function
		With black rotary handle and locking ring
Information about equipment supplied		Auxiliary contact or neutral conductor fitted by user.
Number of poles		3 pole
<b>Auxiliary contacts</b>		
	N/O	1
	N/C	1
Locking facility		Lockable in the 0 (Off) position
Degree of Protection		Front IP65
Design		flush mounting
<b>Motor rating AC-23A, 50 - 60 Hz</b>		
400 V	P	kW
Rated uninterrupted current	I <sub>u</sub>	A
Note on rated uninterrupted current I <sub>u</sub>		Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.

## Technical data

General			
Standards			IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL Switch-disconnector according to IEC/EN 60947-3 NEMA12
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	-25 - +40
Overtoltage 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

## Contacts

Mechanical variables			
Number of poles			3 pole
Auxiliary contacts			
	N/O	1	
	N/C	1	
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	I <sub>u</sub>	A	25
Note on rated uninterrupted current I <sub>u</sub>			Rated uninterrupted current I <sub>u</sub> 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	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 I <sub>cw</sub>			Current for a time of 1 second
Rated conditional short-circuit current	I <sub>q</sub>	kA	50

### Switching capacity

cos φ rated making capacity as per IEC 60947-3		A	240
Rated breaking capacity cos φ to IEC 60947-3		A	
230 V		A	190
400/415 V		A	150
500 V		A	170
690 V		A	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
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	0.2
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.3
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	P	kW	
220 V 230 V	P	kW	5.5
400 V 415 V	P	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>	A	19.6
400V 415 V	I <sub>e</sub>	A	15.2
500 V	I <sub>e</sub>	A	12.1
690 V	I <sub>e</sub>	A	8.8
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	P	kW	5.5
400 V 415 V	P	kW	11
500 V	P	kW	11
690 V	P	kW	11
Rated operational current motor load switch			
230 V	I <sub>e</sub>	A	25
400 V 415 V	I <sub>e</sub>	A	25
500 V	I <sub>e</sub>	A	17.4
690 V	I <sub>e</sub>	A	12.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	I <sub>e</sub>	A	25
Voltage per contact pair in series		V	60
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	I <sub>e</sub>	A	25
Contacts		Quantity	1
48 V			
Rated operational current	I <sub>e</sub>	A	25
Contacts		Quantity	2
60 V			

Rated operational current	$I_e$	A	25
Contacts		Quantity	2
120 V			
Rated operational current	$I_e$	A	12
Contacts		Quantity	3
Control circuit reliability at 24 V DC, 10 mA	Fault probability	$H_F$	$< 10^{-5}, < 1$ failure in 100,000 switching 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
Tightening torque for terminal screw		Nm	1.6

### Technical safety parameters:

Notes		B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
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### Rating data for approved types

Contacts			
Rated operational voltage	$U_e$	V AC	600
Rated uninterrupted current max.			
Main conducting paths		A	20
General use			
Auxiliary contacts			
General Use	$I_u$	A	10
Pilot Duty			A 600 P 600
Switching capacity			
Maximum motor rating			
Single-phase			
120 V AC		HP	1
200 V AC		HP	2
240 V AC		HP	3
Three-phase			
200 V AC		HP	3
240 V AC		HP	5
480 V AC		HP	10
600 V AC		HP	15
Short Circuit Current Rating		SCCR	
Basic Rating		kA	5
max. Fuse		A	110
High fault rating		kA	10
max. Fuse		A	50, Class J
Terminal capacity			
Solid or flexible conductor with ferrule		AWG	14 - 8
Terminal screw			M4
Tightening torque		lb-in	14.1

### Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	25
Heat dissipation per pole, current-dependent	$P_{vid}$	W	1.1
Equipment heat dissipation, current-dependent	$P_{vid}$	W	0
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50
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	UV resistance only in connection with protective shield.
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 8.0

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@ss10.0.1-27-37-14-03 [AKFO60013])	
Version as main switch	Yes
Version as maintenance-/service switch	Yes
Version as safety switch	No
Version as emergency stop installation	No
Version as reversing switch	No
Number of switches	1
Max. rated operation voltage Ue AC	V 690
Rated operating voltage	V 690 - 690
Rated permanent current Iu	A 25
Rated permanent current at AC-23, 400 V	A 25
Rated permanent current at AC-21, 400 V	A 25
Rated operation power at AC-3, 400 V	kW 7.5
Rated short-time withstand current Icw	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	1
Number of auxiliary contacts as normally open contact	1
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 floor mounting	No

Suitable for front mounting 4-hole	Yes
Suitable for front mounting centre	No
Suitable for distribution board installation	No
Suitable for intermediate mounting	No
Colour control element	Black
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
Degree of protection (NEMA)	1