

**Safety switch, P1, 25 A, 3 pole, 1 N/O, 1 N/C, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in position 0 with cover interlock, with warning label „safety switch”**

**Part no.** P1-25/I2-SI/HI11  
**Catalog No.** 207310

## Delivery program

Product range		safety switch	
Part group reference		P1	
Stop Function		Emergency switching off function	
		With red rotary handle and yellow locking ring	
Information about equipment supplied		Auxiliary contact or neutral conductor fitted by user.	
Notes		with warning label „safety switch”	
Number of poles		3 pole	
<b>Auxiliary contacts</b>			
	N/O	1	
	N/C	1	
Locking facility		Lockable in position 0 with cover interlock	
Degree of Protection		IP65	
Design		surface mounting	
<b>Motor rating AC-23A, 50 - 60 Hz</b>			
400 V	P	kW	11
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.

## Technical data

<b>General</b>			
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		°C	-25 - +40
Enclosed			III/3
Overvoltage category/pollution degree			
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required

## Contacts

<b>Mechanical variables</b>			
Number of poles			3 pole
Auxiliary contacts		N/O	1
		N/C	1
<b>Electrical characteristics</b>			
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.
<b>Load rating with intermittent operation, class 12</b>		x I <sub>e</sub>	2
AB 25 % DF		x I <sub>e</sub>	1.6
AB 40 % DF		x I <sub>e</sub>	

AB 60 % DF		$x I_e$	1.3
Short-circuit rating			
Fuse		A gG/gL	25
Rated short-time withstand current (1 s current)	$I_{cw}$	$A_{rms}$	640
Note on rated short-time withstand current $I_{cw}$			Current for a time of 1 second
Rated conditional short-circuit current	$I_q$	kA	50
<b>Switching capacity</b>			
$\cos \varphi$ rated making capacity as per IEC 60947-3		A	240
Rated breaking capacity $\cos \varphi$ 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 $I_e$		W	1.1
Current heat loss per auxiliary circuit at $I_e$ (AC-15/230 V)		CO	0.2
Lifespan, mechanical	Operations	$\times 10^6$	> 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	$I_e$	A	19.6
400V 415 V	$I_e$	A	15.2
500 V	$I_e$	A	12.1
690 V	$I_e$	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	$I_e$	A	25
400 V 415 V	$I_e$	A	25
500 V	$I_e$	A	17.4
690 V	$I_e$	A	12.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	$I_e$	A	25
Voltage per contact pair in series		V	60
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	$I_e$	A	25
Contacts		Quantity	1
48 V			
Rated operational current	$I_e$	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

Terminal capacity			
Terminal screw			M4
Tightening torque		lb-in	14.128

## 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	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			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 [AKF060013])

Version as main switch		No
Version as maintenance-/service switch		No
Version as safety switch		Yes
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		Complete device in housing
Suitable for floor mounting		Yes
Suitable for front mounting 4-hole		No
Suitable for front mounting centre		No
Suitable for distribution board installation		No
Suitable for intermediate mounting		No
Colour control element		Red
Type of control element		Short thumb-grip
Interlockable		No
Type of electrical connection of main circuit		Screw connection
Degree of protection (IP), front side		IP65
Degree of protection (NEMA)		12