## **DATASHEET - P1-25/EA/SVB**

Main switch, P1, 25 A, flush mounting, 3 pole, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in the 0 (Off) position



P1-25/EA/SVB Part no. Catalog No. 041097

**EL-Nummer** 1456105 (Norway)

**Delivery program** 

Zonro, program			
Product range			Main switch maintenance 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.
Number of poles			3 pole
Auxiliary contacts			
· ·		N/0	0
<b>7</b>		N/C	0
Locking facility			Lockable in the 0 (Off) position
Degree of Protection			Front IP65
Design			flush mounting
Motor rating AC-23A, 50 - 60 Hz			
400 V	P	kW	11
Rated uninterrupted current	I <sub>u</sub>	Α	25
Note on rated uninterrupted current !u			Rated uninterrupted current $\boldsymbol{I}_{\boldsymbol{u}}$ is specified for max. cross-section.

## **Technical data**

General
Standards

Contra			
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
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	$U_{imp}$	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required
Contacts			
Mechanical variables			
Number of poles			3 pole
Auxiliary contacts			
		N/0	0
		N/C	0
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	I <sub>u</sub>	Α	25
Note on rated uninterrupted current !u			Rated uninterrupted current $\mathbf{I}_{\mathbf{u}}$ 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	
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			Current for a time of 1 second
Rated conditional short-circuit current	Iq	kA	50
Switching capacity cos φ rated making capacity as per IEC 60947-3		Α	240
Rated breaking capacity cos $\phi$ to IEC 60947-3		A	240
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
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.3
		X IU	
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		KVV	1.3
230 V	I <sub>e</sub>	A	19.6
400V 415 V		A	15.2
	l <sub>e</sub>		12.1
500 V	l <sub>e</sub>	A	
690 V	l <sub>e</sub>	Α	8.8
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V 400 V 415 V	P	kW	5.5
400 V 415 V 500 V	P P	kW	11
		kW	11
690 V  Rated operational current motor load switch	P	kW	11
230 V	I <sub>e</sub>	Α	25
400 V 415 V		A	25
	l <sub>e</sub>		
500 V	l <sub>e</sub>	A	17.4
690 V	I <sub>e</sub>	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	l <sub>e</sub>	Α	25
Contacts		Quantity	2

Probability				
Contracts	60 V			
120   V	Rated operational current	I <sub>e</sub>	Α	25
Rated operational current   Contracts	Contacts		Quantity	2
Contractors   Control circular reliability at 24 V D C, 10 mA   Favil probability	120 V			
Paul	Rated operational current	l <sub>e</sub>	Α	12
Probability	Contacts		Quantity	3
Salid or stranded	Control circuit reliability at 24 V DC, 10 mA		H <sub>F</sub>	$< 10^{-5}$ $< 1$ failure in 100,000 switching operations
	Terminal capacities			
Trainial screw	Solid or stranded		mm <sup>2</sup>	1 x (1,5 - 6) 2 x (1,5 - 6)
Tightening torque for terminal screw         Nm         1.8           Hobitical safety parameters:         Nm         18 10½ values as per EN ISO 13849-1, table C1           Rating data for approved types         VAC         500           Contacts         Nm         2 0           Rated operational voltage         VAC         500           Rated uninterrupted current max.         Nm         2 0           Main conducting paths         A         20           General use         A         2 0           Auxiliary contacts         A         20           Pilot Duty         A         20           Switching capacity         A         20           Maximum motor rating         HP         1           Single-phase         HP         2           200 VAC         HP         2           240 VAC         HP         3           Three-phase         HP         3           240 VAC         HP         3           480 VAC         HP         10           960 VAC         HP         10           8 asic Rating         HP         15           9 asic Rating         HP         15           1 max. Fuse	Flexible with ferrules to DIN 46228		mm <sup>2</sup>	
Retail data for approved types         Blog values as per EN ISO 13849-1, table C1           Rated operational voltage         Ua         VAC         600           Rated uninterrupted current max.         Main conducting paths         ————————————————————————————————————	Terminal screw			M4
Notes         Blog values as per EN ISO 13849-1, table C1           Rating data for approved types         Secondaria	Tightening torque for terminal screw		Nm	1.6
Contacts   U	Technical safety parameters:			
Contacts         V AC         600           Rated operational voltage         600         600           Rated uninterrupted current max.         600         600           Maximar contacts         A         20           Auxiliary contacts         600         600           Pilot Duty         A         10           Switching capacity         7000         7000           Maximum motor reting         800         7000           Single-phase         120 V AC         1PP         1           200 V AC         1PP         3           240 V AC         1PP         3           240 V AC         1PP         5           480 V AC         1PP         10           480 V AC         1PP         15           8asic Rating         KA         5           Basic Rating         KA         10           max Fuse         A         10           High fault rating         KA         10           max Fuse         A         10           Terminal capacity         Book Class J	Notes			B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
Rated operational voltage         Ue         VAC         600           Rated uninterrupted current max.         ————————————————————————————————————				
Rated uninterrupted current max.         A         20           Auxiliary contacts         Ju         A         20           Auxiliary contacts         Ju         A         10           Pilot Duty         A         600         600           Switching capacity         Filot Duty         A         600           Maximum motor rating         Filot Duty         P600           Single-phase         FIP         1           120 V AC         HP         2           240 V AC         HP         3           Three-phase         HP         3           200 V AC         HP         5           480 V AC         HP         5           480 V AC         HP         15           600 V AC         HP         15           8 act Circle Current Rating         SCCR         HP         15           Basic Rating         KA         10           max. Fuse         A         10           High fault rating         KA         50 class J           Terminal capacity         E         F         60 class J			V 40	200
Main conducting paths         A         20           Auxiliary contacts         Iu         A         10           Pilot Duty         A600 P600         A600 P600           Switching capacity         P600         A600 P600           Single-phase         P         1           120 V AC         HP         1           200 V AC         HP         2           240 V AC         HP         3           Three-phase         HP         5           200 V AC         HP         5           480 V AC         HP         5           480 V AC         HP         10           480 V AC         HP         15           580 V AC         HP         5           680 V AC         HP         10           580 V AC         HP         15           880 V AC         HP         15           880 V AC         HP         15           19 Basic Rating         KA         5           10 Carrell Rating         KA		U <sub>e</sub>	V AC	600
General use         A         20           Auxiliary contacts         Ignation of Beneral Use         Ignation of Be				
Auxiliary contacts         Iu         A         10           Pilot Duty         A 600 p 800         A 600 p 800           Switching capacity				
			А	20
Pilot Duty         A 600 P 600           Switching capacity         P600           Maximum motor rating         P600           Single-phase         P7           120 V AC         HP         1           200 V AC         HP         2           240 V AC         HP         3           Three-phase         P8         3           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				
Switching capacity         P600           Maximum motor rating         Figure 120 VAC         PP         PR           120 VAC         HP         1         PR		lu	Α	
Maximum motor rating         Head of the parameter of the p	Pilot Duty			
Single-phase         HP         1           120 V AC         HP         2           240 V AC         HP         3           Three-phase         HP         3           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         10           max. Fuse         A         50, Class J           Terminal capacity         A         50, Class J	Switching capacity			
120 V AC       HP       1         200 V AC       HP       2         240 V AC       HP       3         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       SCCR       SCCR	Maximum motor rating			
200 V AC       HP       2         240 V AC       HP       3         Three-phase       HP       3         200 V AC       HP       5         480 V AC       HP       10         480 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       SCCR       SCCR	Single-phase			
240 V AC       HP       3         Three-phase       HP       3         200 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       A       50, Class J	120 V AC		HP	1
Three-phase 200 V AC 480 V AC	200 V AC		HP	2
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       Terminal Capacity       Terminal Capacity	240 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       Terminal Capacity       Terminal Capacity	Three-phase			
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       Terminal Capacity       Terminal Capacity	200 V AC		HP	3
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       Terminal Capacity       Terminal Capacity	240 V AC		HP	5
Short Circuit Current Rating SCCR Basic Rating kA 5 max. Fuse A 110 High fault rating kA 10 max. Fuse A 5 Terminal capacity SCCR	480 V AC		HP	10
Basic Rating  MA 5  max. Fuse  A 110  High fault rating  MA 10  max. Fuse  A 5  Class J  Terminal capacity	600 V AC		HP	15
max. Fuse A 110 High fault rating kA 10 max. Fuse A 50, Class J Terminal capacity	Short Circuit Current Rating		SCCR	
High fault rating kA 10 max. Fuse A 50, Class J Terminal capacity	Basic Rating		kA	5
max. Fuse A 50, Class J Terminal capacity	max. Fuse		Α	110
Terminal capacity	High fault rating		kA	10
	max. Fuse		Α	50, Class J
Solid or flexible conductor with ferrule AWG 14 - 8	Terminal capacity			
	Solid or flexible conductor with ferrule		AWG	14 - 8

## Design verification as per IEC/EN 61439

Terminal screw

Tightening torque

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	25
Heat dissipation per pole, current-dependent	$P_{\text{vid}}$	W	1.1
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50

M4

14.1

lb-in

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	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 observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must 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])

Device construction		Built-in device fixed built-in technique
Voltage release optional		No
Motor drive integrated		No
Motor drive optional		No
Number of auxiliary contacts as change-over contact		0
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
Number of poles		3
Conditioned rated short-circuit current Iq	kA	А 80
Switching power at 400 V	kW	N 13
Rated operation power at AC-23, 400 V	kW	N 13
Rated short-time withstand current lcw	kA	Q 0.64
Rated operation power at AC-3, 400 V	kW	N 7.5
Rated permanent current at AC-21, 400 V	А	25
Rated permanent current at AC-23, 400 V	А	25
Rated permanent current lu	Α	25
Rated operating voltage	V	690 - 690
Max. rated operation voltage Ue AC	V	690
Number of switches		1
Version as reversing switch		No
Version as emergency stop installation		Yes
Version as safety switch		No
Version as maintenance-/service switch		Yes
Version as main switch		Yes

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	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
Degree of protection (NEMA)	12