

**DATASHEET - P1-25/I2H/SVB/N**



**Main switch, P1, 25 A, surface mounting, 3 pole + N, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in the 0 (Off) position, hard knockout version**



**Part no. P1-25/I2H/SVB/N**  
**Catalog No. 227860**

**Delivery program**

Product range			Main switch maintenance switch Repair switch
Part group reference			P1
Stop Function			Emergency switching off function
Information about equipment supplied			With red rotary handle and yellow locking ring
Notes			auxiliary contact fitted by user.
Number of poles			hard knockout version
			3 pole + N
<b>Auxiliary contacts</b>			
		N/O	0
		N/C	0
Locking facility			Lockable in the 0 (Off) position
Degree of Protection			IP65
Design			<b>totally insulated</b> surface mounting
Contact sequence			 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0
Function			
<b>Motor rating AC-23A, 50 - 60 Hz</b>			
400 V	P	kW	11
Rated uninterrupted current	$I_u$	A	25
Note on rated uninterrupted current $I_u$			Rated uninterrupted current $I_u$ 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			
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 + N
Auxiliary contacts			
		N/O	0
		N/C	0
Electrical characteristics			
Rated operational voltage	$U_e$	V AC	690
Rated uninterrupted current	$I_u$	A	25
Note on rated uninterrupted current $I_u$			Rated uninterrupted current $I_u$ is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		$\times I_e$	2
AB 40 % DF		$\times I_e$	1.6
AB 60 % DF		$\times I_e$	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

### Switching capacity

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	
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-21A				
Rated operational current switch				
440 V	$I_e$	A	25	
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 <sub>e</sub>	A	25
Contacts		Quantity	2
120 V			
Rated operational current	I <sub>e</sub>	A	12
Contacts		Quantity	3
Control circuit reliability at 24 V DC, 10 mA	Fault probability	H <sub>F</sub>	< 10 <sup>-5</sup> , < 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:

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

### Rating data for approved types

Contacts			
Rated operational voltage	U <sub>e</sub>	V AC	600
Rated uninterrupted current max.			
Main conducting paths			
General use		A	20
Auxiliary contacts			
General Use	I <sub>U</sub>	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	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 7.0

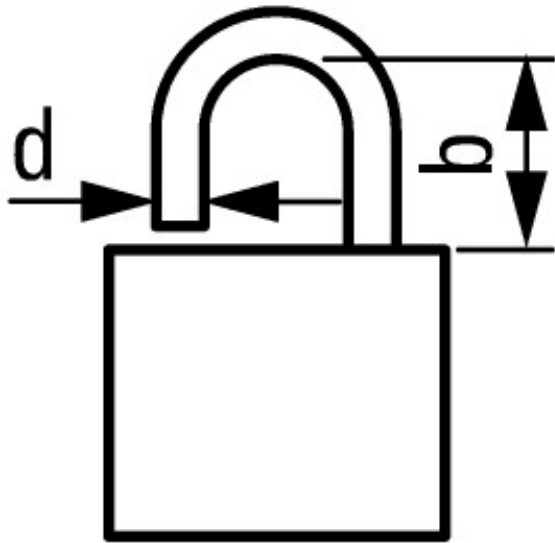
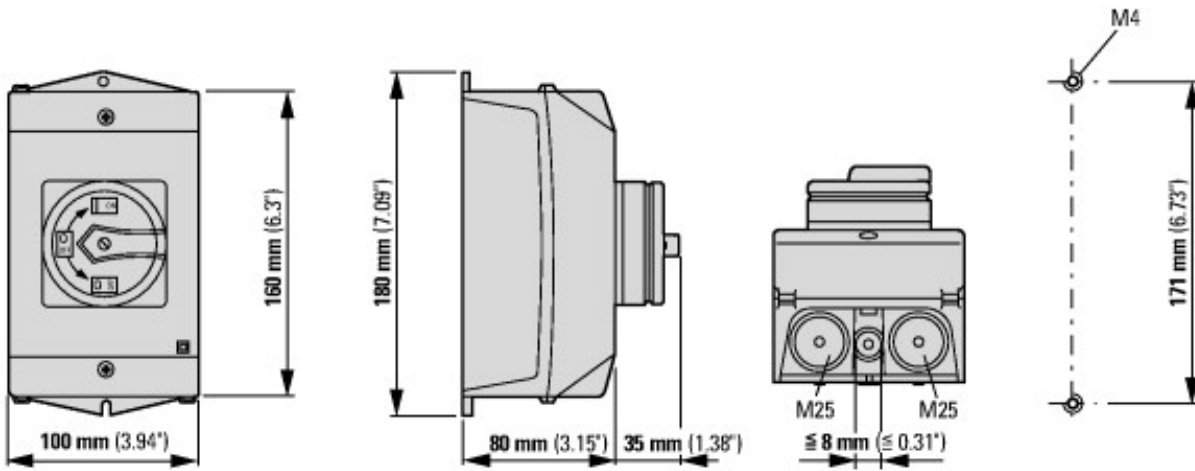
Low-voltage industrial components (EG000017) / Switch disconnecter (EC000216)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ecl@ss10.0.1-27-37-14-03 [AKF060013])			
Version as 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
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		4
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		Complete device in housing
Suitable for ground 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		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

## Approvals

Product Standards		UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking
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
Specially designed for North America		Yes, additional labeling according to UL on the enclosure in combination with "+NA-I2" (105866)
Suitable for		Branch circuits, suitable as motor disconnect
Degree of Protection		IEC: IP65; UL/CSA Type 1, 12

Dimensions



**$d = 4 - 8$  mm**

**$b + d \leq 47$  mm**

**$d = 0.16 - 0.31$ "**

**$b + d \leq 1.85$ "**

$\leq 3$  padlocks



# SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

# [www.scatts.co.uk](http://www.scatts.co.uk)