

Main switch, 3 pole + 1 N/O, 160 A, STOP function, Lockable in the 0 (Off) position, flush mounting



Part no. P5-160/EA/SVB-SW/HI10 Article no. 280926

Delivery program			
Product range			Main switch maintenance switch Repair switch
Part group reference			P5
Stop Function			STOP function
			With black rotary handle and locking ring
nformation about equipment supplied			Auxiliary contact or neutral conductor fitted by user.
Number of poles			3 pole
Auxiliary contacts			
\'		N/0	1
7		N/C	0
ocking facility			Lockable in the 0 (Off) position
Degree of Protection			Front IP65
Oesign			flush mounting
Contact sequence			0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
unction			O OFF
Motor rating AC-23A, 50 - 60 Hz			
400 V	Р	kW	55

Technical data

Rated uninterrupted current

General			
Standards			IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL 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			
Open		°C	-25 - +50
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	U_{imp}	V AC	8000

160

Mounting position			As required
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Contacts			
Mechanical variables			
Number of poles			3 pole
Auxiliary contacts			
		N/0	1
		N/C	0
Electrical characteristics			
Rated operational voltage	U _e	V AC	690
Rated uninterrupted current	lu	Α	160
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 I _e	2
AB 40 % DF		x l _e	1.6
AB 60 % DF		x I _e	1.3
Short-circuit rating		е	
Fuse		A gG/gL	160
Rated short-time withstand current (1 s current)	I _{cw}	A gu/gL	3000
	'cw	rms	
Note on rated short-time withstand current lcw	la.	LΛ	Current for a time of 1 second
Rated conditional short-circuit current Switching capacity	Iq	kA	30
cos φ rated making capacity as per IEC 60947-3		Α	1050
Rated breaking capacity cos ϕ to IEC 60947-3		Α	
230 V		Α	900
400/415 V		Α	850
500 V		Α	850
690 V		A	340
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at I _e		W	10
Current heat loss per auxiliary circuit at I _e (AC-15/230 V)		CO	0.2
Lifespan, mechanical	Operations		> 0.1
•		x 10 ⁶	
Maximum operating frequency	Operations/h		50
AC			
AC-3	_		
Rating, motor load switch	P	kW	
220 V 230 V	P	kW	30
400 V 415 V	P	kW	45
500 V	P	kW	55
690 V	P	kW	37
Rated operational current motor load switch			
230 V	l _e	Α	103
400V 415 V	l _e	Α	85
500 V	l _e	Α	80
690 V	l _e	Α	42
AC-21A			
Rated operational current switch			
440 V	I _e	Α	160
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	P	kW	30
400 V 415 V	P	kW	55
500 V	Р	kW	75

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200 V 4	690 V	Р	kW	37	
400 V 15 V	Rated operational current motor load switch				
Set V	230 V	I _e	Α	103	
File Co	400 V 415 V	I _e	Α	105	
DC-1, Load draws awterbase 1/9 1 ms Ly A 100 Rand operational currant Ly A 100 DC-12, more hand awterbase 1/9 in secles U 2 DC-12, more hand awterbase 1/9 in secles U 2 AV Based operational current Is A 100 Contacts U 0 100 68 V Contacts U 100 69 V U 100 100 84 State dependonal current Is A 100 Controls U 100 100 Controls U 100 100 Controls U 100 100 Controls U 100 100 Control	500 V	I _e	Α	106	
DC Land bonak contribut 18 = 1 ms Rend operational current Import	690 V	I _e	Α	42	
Rated coperational current	DC				
Voltage per contact pair in series Voltage per contact per contact pair in series Voltage per contact per co	DC-1, Load-break switches L/R = 1 ms				
DC-22A mator load switch LR = 15 ms	Rated operational current	I _e	Α	160	
A 100 Control Co	Voltage per contact pair in series		٧	42	
Rated operational current	DC-23A, motor load switch L/R = 15 ms				
Contacts	24 V				
ASV Rated operational current Contacts Contacts	Rated operational current	I _e	Α	160	
Rated agerational current Fig. Fig. Rated agerational current Fig. Fig. Rated agerational current Fig. Rated agerational current Fig. Fig. Rated agerational current Fig. Fig. Fig. Rated agerational current Fig.	Contacts		Quantity	3	
Contracts	48 V				
Rated operational current	Rated operational current	I _e	Α	160	
Rated operational current	Contacts		Quantity	3	
Contacts Quantity Quantity	60 V				
120	Rated operational current	l _e	Α	160	
120			Quantity	3	
Contracts Quantity Have probability at 24 VDC, 10 mA Face probability at 24 VDC, 10 mA Page probability probability at 24 VDC, 10 mA </td <td>120 V</td> <td></td> <td></td> <td></td>	120 V				
Contacts Quantity Flaver of production of p	Rated operational current	I _e	Α	50	
Control circuit reliability at 24 V D C, 10 mA Fault probability by 10 m (10 m (10 m m)) or probability at 24 V D C, 10 m (10 m m) Flout probability at 24 V D C, 10 m (10 m m) Flout probability at 24 V D C, 10 m (10 m m) Flout probability at 10 m (10 m m) Flout probability			Quantity	3	
Political Capacities Political Capacities		Fault			
Solid or stranded ma* 1x (10 - 95) Flexible with ferrules to DIN 46228 ma* 1x (16 - 70) Capper strip Number of Segments with thickness of th			'	< 10 , < 1 fault in 100000 operations	
Fixible with ferrules to DIN 46288					
Number of segments x width x thickness x width x x w	Solid or stranded		mm ²	1 x (10 - 95) 2 x (10 - 35)	
Copper strip Number of segments segments segments segments thickness Mark segments segments segments thickness Mark segments se	Flexible with ferrules to DIN 46228		mm ²		
Max. tightening torque Nm 14 Technical safety parameters: Notes B10 _d values as per EN ISO 13849-1, table C1 Rating data for approved types Contacts Contacts Contacts Contact Contacts Contact	Copper strip	segments x width x	mm		
Technical safety parameters: Notes B10 _d values as per EN ISO 13849-1, table C1 Rating data for approved types Contacts Rated operational voltage Rated uninterrupted current max. Main conducting paths General use Iu A 200 Auxiliary contacts General Use Pilot Duty Naximum motor rating Single-phase 120 V AC 440 V AC Three-phase 120 V AC Three-phase 120 V AC Three-phase 120 V AC HP 25 Three-phase 120 V AC HP 25 Three-phase 120 V AC HP 25 Three-phase	Terminal screw			Allen screw 5	
Notes B10 _d values as per EN ISO 13849-1, table C1 Rated operational voltage U _e VAC 600 Rated uninterrupted current max. Main conducting paths General use Iu A 200 Auxiliary contacts B10 General Use Iu A 600 Switching capacity A 600 Switching capacity A 600 Maximum motor rating Single-phase 120 V AC HP 10 240 V AC HP 10 277 V AC HP 25 Three-phase HP 25 Three-phase HP 20 240 V AC HP 20 240 V AC HP 25 240 V AC HP 20 240 V AC 4 4 4 <td colspa<="" td=""><td>Max. tightening torque</td><td></td><td>Nm</td><td>14</td></td>	<td>Max. tightening torque</td> <td></td> <td>Nm</td> <td>14</td>	Max. tightening torque		Nm	14
Rating data for approved types Contacts Ue V AC 600 Rated operational voltage Ue V AC 600 Rated uninterrupted current max. V AC 600 Main conducting paths Ue AD 200 Auxiliary contacts Ue A 10 General Use Iu A 10 Switching capacity A 600 A Maximum motor rating B A B Single-phase HP 10 B 120 V AC HP 25 B 277 V AC HP 25 B Three-phase HP 20 B 120 V AC HP 40 B	Technical safety parameters:				
Contacts Ue V AC 600 Rated operational voltage V AC 600 Rated uninterrupted current max. V V C V V C Main conducting paths V V C V V C General use Iu A 200 Auxiliary contacts Iu A 600 Pilot Duty A 600 A 600 Switching capacity H P V 10 Maximum motor rating HP V 10 Single-phase HP D 10 240 V AC HP D 25 277 V AC HP D 25 Three-phase HP D 20 120 V AC HP D 20 120 V AC HP D 20 240 V AC HP D 20				B10 _d values as per EN ISO 13849-1, table C1	
Rated operational voltage Ue V AC 600 Rated uninterrupted current max. Main conducting paths V AC 10 General use Iu A 200 Auxiliary contacts Iu A 10 Pilot Duty A 600 A 600 Switching capacity Waximum motor rating V V V V V V V V V V V V V V V V V V V					
Rated uninterrupted current max. Main conducting paths General use Auxiliary contacts General Use Iu A 600 Switching capacity Maximum motor rating Single-phase 120 V AC 240 V AC Three-phase 120 V AC HP 25 Three-phase 120 V AC HP 20 HP 20 240 V AC HP 20 240 V AC HP 20 240 V AC HP 20 40			V 40		
Main conducting paths Iu A 200 Auxiliary contacts U A 10 General Use Iu A 10 Pilot Duty A 600 Switching capacity A 600 Maximum motor rating B B Single-phase BP 10 120 V AC BP 25 277 V AC BP 25 Three-phase BP 25 120 V AC BP 25 120 V AC BP 25 40 V AC BP 20 240 V AC BP 40		Ue	V AU	OUU	
General use					
Auxiliary contacts General Use Pilot Duty Switching capacity Maximum motor rating Single-phase 120 V AC 240 V AC Three-phase 120 V AC HP 25 Three-phase 120 V AC HP 20 40 40					
Filet Duty A 600 Switching capacity Single-phase Filet Duty A 600 120 V AC		lU	А	200	
Pilot Duty A 600 Switching capacity ————————————————————————————————————					
Switching capacity Maximum motor rating Single-phase HP 120 V AC HP 240 V AC HP 277 V AC HP Three-phase HP 120 V AC HP 240 V AC HP 40 V AC HP		l _U	Α		
Maximum motor rating Single-phase 120 V AC HP 10 240 V AC HP 25 277 V AC HP 25 Three-phase HP 20 120 V AC HP 40				A 600	
Single-phase HP 10 240 V AC HP 25 277 V AC HP 25 Three-phase HP 20 120 V AC HP 40					
120 V AC HP 10 240 V AC HP 25 277 V AC HP 25 Three-phase HP 20 120 V AC HP 40					
240 V AC HP 25 277 V AC HP 25 Three-phase HP 20 120 V AC HP 20 240 V AC HP 40					
277 V AC HP 25 Three-phase HP 20 120 V AC HP 40					
Three-phase					
120 V AC			HP	25	
240 V AC HP 40					
480 V AC HP 60					
	480 V AC		HP	60	

600 V AC	HP	60
Short Circuit Current Rating	SCCR	
Basic Rating	kA	10
max. Fuse	Α	400, RK1
High fault rating	kA	65
max. Fuse	Α	300, Class J
Terminal capacity		
Solid or flexible conductor with ferrule	AWG	3/0
Flexible	AWG	2/0
Terminal screw		Allen screw 5
Tightening torque	lb-in	125

Design verification as per IEC/EN 61439

Design verification as per 120/214 01733			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	160
Heat dissipation per pole, current-dependent	P _{vid}	W	10
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			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.
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. $\label{eq:continuous}$

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])

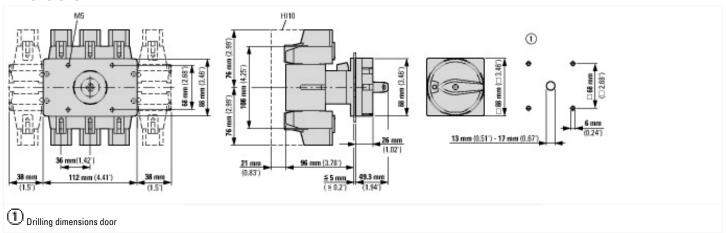
2	
Version as main switch	Yes
Version as maintenance-/service switch	Yes

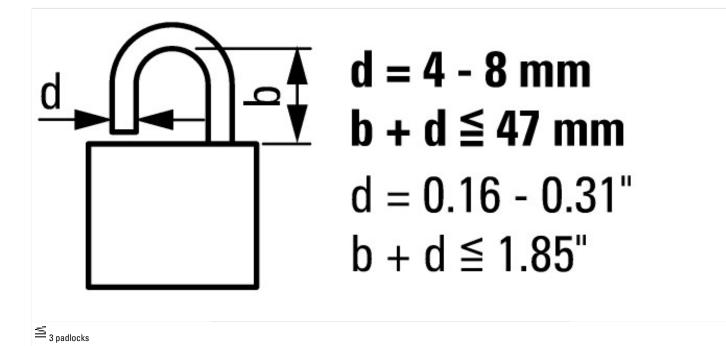
Version as safety switch		No
Version as emergency stop installation		No
Version as reversing switch		No
Max. rated operation voltage Ue AC	V	690
Rated operating voltage	V	690 - 690
Rated permanent current lu	Α	160
Rated permanent current at AC-21, 400 V	Α	160
Rated operation power at AC-3, 400 V	kW	45
Rated short-time withstand current lcw	kA	3
Rated operation power at AC-23, 400 V	kW	55
Switching power at 400 V	kW	55
Conditioned rated short-circuit current Iq	kA	30
Number of poles		3
Number of auxiliary contacts as normally closed contact		0
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 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		Black
Type of control element		Door coupling rotary drive
Interlockable		Yes
Type of electrical connection of main circuit		Frame clamp
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
UL File No.	E36332
UL Category Control No.	NLRV, NLRV7
CSA File No.	223805
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





Additional product information (links)

IL03802010Z Cam Switch: Main switch, On-Off-	switch
IL03802010Z Cam Switch: Main switch, On-Offswitch	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03802010Z2016_05.pdf
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	http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html