

On-Off switch, P5, 160 A, flush mounting, 3 pole, with black thumb grip and front plate

Part no. **P5-160/E**
280921

General specifications		
Product name		Eaton Moeller® series P5 On-Off switch
Part no.		P5-160/E
EAN		4015082809218
Product Length/Depth		90 millimetre
Product height		140 millimetre
Product width		100 millimetre
Product weight		1.11 kilogram
Compliances		CE Marked
Certifications		IEC 60947 UL 508 CSA Std. C22.2 No. 14-05 EN 60947-3 VDE IEC/EN 60204 CSA File No.: 223805 UL Category Control No.: NLRV CSA-C22.2 No. 14-05 CSA Class No.: 3211-05 UL File No.: E36332 CE CSA-C22.2 No. 94 CSA IEC/EN 60947-3 IEC/EN 60947 UL VDE 0660
Product Tradename		P5
Product Type		On-Off switch
Product Sub Type		None
Catalog Notes		Rated Short-time Withstand Current (Icw) for a time of 1 second
Features & Functions		
Fitted with:		Black thumb grip and front plate
Number of poles		3
General information		
Accessories		Auxiliary contact or neutral conductor fitted by user.
Degree of protection		NEMA 12
Degree of protection (front side)		IP65
Lifespan, mechanical		100,000 Operations
Mounting method		Flush mounting
Mounting position		As required
Operating frequency		50 Operations/h
Overvoltage category		III
Pollution degree		3
Rated impulse withstand voltage (Uimp)		8000 V AC
Safe isolation		440 V AC, Between the contacts, According to EN 61140
Safety parameter (EN ISO 13849-1)		B10d values as per EN ISO 13849-1, table C.1
Suitable for		Front mounting 4-hole Branch circuits, suitable as motor disconnect, (UL/CSA)
Climatic environmental conditions		
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		50 °C
Ambient operating temperature (enclosed) - min		-25 °C
Ambient operating temperature (enclosed) - max		40 °C
Climatic proofing		Damp heat, cyclic, to IEC 60068-2-30

		Damp heat, constant, to IEC 60068-2-78
Terminal capacities		
Terminal capacity		1 x 13 x 3 mm Number of segments x width x thickness, copper strip 2 x 25 mm ² , flexible with ferrules to DIN 46228 2/0 AWG, flexible 3/0 AWG, solid or flexible conductor with ferrule 2 x 35 mm ² , solid or stranded 2 x 13 x 1.5 mm Number of segments x width x thickness, copper strip 1 x 70 mm ² , flexible with ferrules to DIN 46228 1 x 95 mm ² , solid or stranded
Screw size		5 mm AF, Hexagon socket-head spanner, Terminal screw
Tightening torque		14 Nm, Screw terminals 125 lb-in, Screw terminals
Electrical rating		
Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)		900 A
Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)		850 A
Rated breaking capacity at 500 V (cos phi to IEC 60947-3)		850 A
Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)		340 A
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V		103 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V		85 A
Rated operational current (Ie) at AC-3, 500 V		80 A
Rated operational current (Ie) at AC-3, 660 V, 690 V		42 A
Rated operational current (Ie) at AC-21, 440 V		160 A
Rated operational current (Ie) at AC-23A, 230 V		103 A
Rated operational current (Ie) at AC-23A, 400 V, 415 V		105 A
Rated operational current (Ie) at AC-23A, 500 V		106 A
Rated operational current (Ie) at AC-23A, 690 V		42 A
Rated operational current (Ie) at DC-1, load-break switches l/r = 1 ms		160 A
Rated operational current (Ie) at DC-23A, 24 V		160 A
Rated operational current (Ie) at DC-23A, 48 V		160 A
Rated operational current (Ie) at DC-23A, 60 V		160 A
Rated operational current (Ie) at DC-23A, 120 V		50 A
Rated operational power at AC-3, 380/400 V, 50 Hz		45 kW
Rated operational power at AC-3, 415 V, 50 Hz		45 kW
Rated operational power at AC-3, 500 V, 50 Hz		55 kW
Rated operational power at AC-3, 690 V, 50 Hz		37 kW
Rated operational power at AC-23A, 220/230 V, 50 Hz		30 kW
Rated operational power at AC-23A, 400 V, 50 Hz		55 kW
Rated operational power at AC-23A, 500 V, 50 Hz		75 kW
Rated operational power at AC-23A, 690 V, 50 Hz		37 kW
Rated operational voltage (Ue) at AC - max		690 V
Rated uninterrupted current (Iu)		160 A
Uninterrupted current		Rated uninterrupted current Iu is specified for max. cross-section.
Short-circuit rating		
Rated conditional short-circuit current (Iq)		30 kA
Rated short-time withstand current (Icw)		3 kA, Contacts, 1 second 3 kA
Short-circuit current rating (basic rating)		400A Class RK1, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA)
Short-circuit current rating (high fault)		65 kA, SCCR (UL/CSA) 300 A, Class J, max. Fuse, SCCR (UL/CSA)
Short-circuit protection rating		160 A gG/gL, Fuse, Contacts
Switching capacity		
Load rating		1.3 x I# (with intermittent operation class 12, 60 % duty factor) 2 x I# (with intermittent operation class 12, 25 % duty factor) 1.6 x I# (with intermittent operation class 12, 40 % duty factor)
Number of contacts in series at DC-23A, 24 V		3
Number of contacts in series at DC-23A, 48 V		3
Number of contacts in series at DC-23A, 60 V		3
Number of contacts in series at DC-23A, 120 V		3

Switching capacity (main contacts, general use)	200 A, Rated uninterrupted current max. (UL/CSA)
Switching capacity (auxiliary contacts, general use)	10A, IU, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)	A600 (UL/CSA)
Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)	1050 A
Voltage per contact pair in series	42 V
Motor rating	
Assigned motor power at 115/120 V, 60 Hz, 1-phase	10 HP
Assigned motor power at 115/120 V, 60 Hz, 3-phase	20 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase	25 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase	40 HP
Assigned motor power at 277 V, 60 Hz, 1-phase	25 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	60 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase	60 HP
Contacts	
Control circuit reliability	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
Number of auxiliary contacts (change-over contacts)	0
Number of auxiliary contacts (normally closed contacts)	0
Number of auxiliary contacts (normally open contacts)	0
Actuator	
Actuator color	Black
Actuator type	Short thumb-grip
Design verification	
Equipment heat dissipation, current-dependent Pvid	5 W
Heat dissipation capacity Pdis	0 W
Heat dissipation per pole, current-dependent Pvid	5 W
Rated operational current for specified heat dissipation (In)	160 A
Static heat dissipation, non-current-dependent Pvs	0 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 disconnecter (EC000216)

Version as main switch		No
Version as maintenance-/service switch		No
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	160
Rated permanent current at AC-23, 400 V	A	160
Rated permanent current at AC-21, 400 V	A	160
Rated operation power at AC-3, 400 V	kW	45
Rated short-time withstand current Icw	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		0
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		Short thumb-grip
Interlockable		No
Type of electrical connection of main circuit		Frame clamp
Degree of protection (IP), front side		IP65
Degree of protection (NEMA)		12