DATASHEET - P1-32/XM

Main switch, P1, 32 A, rear mounting, 3 pole

Part no. **P1-32/XM**
172835

General specifications

Product name	Eaton Moeller® series P1 Main switch
Part no.	P1-32/XM
EAN	4015081694181
Product Length/Depth	75 millimetre
Product height	70 millimetre
Product width	49 millimetre
Product weight	0.13 kilogram
Certifications	UL 60947-4-1 VDE 0660 UL File No.: E36332 CSA CSA File No.: 012528 CE UL Category Control No.: NLRV IEC/EN 60947-3 IEC/EN 60947 IEC/EN 60204 CSA-C22.2 No. 94 UL CSA Class No.: 3211-05 CSA-C22.2 No. 60947-4-1-14
Product Tradename	P1
Product Type	Main switch
Product Sub Type	None
Catalog Notes	Rated Short-time Withstand Current (Icw) for a time of 1 second

Features & Functions

Features	Version as maintenance-/service switch Version as main switch
Number of poles	3

General information

Accessories	Auxiliary contact or neutral conductor fitted by user.
Degree of protection	NEMA 1
Degree of protection (front side)	IP65
Lifespan, mechanical	300,000 Operations
Mounting method	Rear mounting
Mounting position	As required
Operating frequency	1200 Operations/h
Overvoltage category	III
Pollution degree	3
Rated impulse withstand voltage (Uimp)	6000 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
Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
Suitable for	Ground mounting Intermediate mounting 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 (1.5 - 6) mm², solid or stranded 2 x (1.5 - 6) mm², solid or stranded 1 x (1 - 4) mm², flexible with ferrules to DIN 46228 14 - 8 AWG, solid or flexible with ferrule 2 x (1 - 4) mm², flexible with ferrules to DIN 46228
Screw size	M4, Terminal screw
Tightening torque	14.1 lb-in, Screw terminals 1.6 Nm, Screw terminals

Electrical rating

Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)	260 A
Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)	300 A
Rated breaking capacity at 500 V (cos phi to IEC 60947-3)	290 A
Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)	250 A
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V	26.4 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V	26.4 A
Rated operational current (Ie) at AC-3, 500 V	23.4 A
Rated operational current (Ie) at AC-3, 660 V, 690 V	14.7 A
Rated operational current (Ie) at AC-21, 440 V	32 A
Rated operational current (Ie) at AC-23A, 230 V	32 A
Rated operational current (Ie) at AC-23A, 400 V, 415 V	32 A
Rated operational current (Ie) at AC-23A, 500 V	30 A
Rated operational current (Ie) at AC-23A, 690 V	19.8 A
Rated operational current (Ie) at DC-1, load-break switches l/r = 1 ms	32 A
Rated operational current (Ie) at DC-23A, 24 V	25 A
Rated operational current (Ie) at DC-23A, 48 V	25 A
Rated operational current (Ie) at DC-23A, 60 V	25 A
Rated operational current (Ie) at DC-23A, 120 V	12 A
Rated operational power at AC-3, 380/400 V, 50 Hz	13 kW
Rated operational power at AC-3, 415 V, 50 Hz	13 kW
Rated operational power at AC-3, 500 V, 50 Hz	18.5 kW
Rated operational power at AC-3, 690 V, 50 Hz	15 kW
Rated operational power at AC-23A, 220/230 V, 50 Hz	7.5 kW
Rated operational power at AC-23A, 400 V, 50 Hz	15 kW
Rated operational power at AC-23A, 500 V, 50 Hz	18.5 kW
Rated operational power at AC-23A, 690 V, 50 Hz	15 kW
Rated operational voltage (Ue) at AC - max	690 V
Rated uninterrupted current (Iu)	32 A
Uninterrupted current	Rated uninterrupted current Iu is specified for max. cross-section.

Short-circuit rating

Rated conditional short-circuit current (Iq)	80 kA
Rated short-time withstand current (Icw)	0.64 kA 640 A, Contacts, 1 second
Short-circuit current rating (basic rating)	110A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA)
Short-circuit current rating (high fault)	50 A, Class J, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA)
Short-circuit protection rating	50 A gG/gL, Fuse, Contacts

Switching capacity

Load rating	2 x I# (with intermittent operation class 12, 25 % duty factor) 1.3 x I# (with intermittent operation class 12, 60 % duty factor) 1.6 x I# (with intermittent operation class 12, 40 % duty factor)
Number of contacts in series at DC-23A, 24 V	1
Number of contacts in series at DC-23A, 48 V	2
Number of contacts in series at DC-23A, 60 V	2
Number of contacts in series at DC-23A, 120 V	3
Switching capacity (main contacts, general use)	30 A, Rated uninterrupted current max. (UL/CSA)
Switching capacity (auxiliary contacts, general use)	10A, IU, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)	P600 (UL/CSA) A600 (UL/CSA)

Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)	320 A
Voltage per contact pair in series	60 V
Motor rating	
Assigned motor power at 115/120 V, 60 Hz, 1-phase	1 HP
Assigned motor power at 200/208 V, 60 Hz, 1-phase	2 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase	3 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase	3 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase	7.5 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	10 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase	15 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	Other
Actuator type	Other
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	1.8 W
Rated operational current for specified heat dissipation (In)	32 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 9.0

Low-voltage industrial components (EG000017) / Switch disconnector (low voltage) (EC000216)
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss13-27-37-14-03 [AKF060018])

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
Number of switches		1
Max. rated operation voltage Ue AC	V	690
Rated operating voltage	V	690 - 690
Rated permanent current Iu	A	32
Rated permanent current at AC-23, 400 V	A	32
Rated permanent current at AC-21, 400 V	A	32
Rated operation power at AC-3, 400 V	kW	13
Rated short-time withstand current Icw	kA	0.64
Rated operation power at AC-23, 400 V	kW	15
Switching power at 400 V	kW	15
Conditioned rated short-circuit current Iq	kA	80
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		Yes
Suitable for front mounting 4-hole		No
Suitable for front mounting centre		No
Suitable for distribution board installation		No
Suitable for intermediate mounting		Yes
Colour control element		Other
Type of control element		Other
Interlockable		No
Type of electrical connection of main circuit		Screw connection
With pre-assembled cabling		No
Degree of protection (IP), front side		IP65
Degree of protection (NEMA)		1
Width	mm	49
Height	mm	70
Depth	mm	75
Width in number of modular spacings		