Specifications

Photo is representative

Eaton 280961

Eaton Moeller® series P5 Main switch, P5, 315 A, rear mounting, 3 pole + N, STOP function, With black rotary handle and locking ring, Lockable in the 0 (Off) position

General specifications

PRODUCT NAME	Eaton Moeller® series P5 Main switch
CATALOG NUMBER	280961
EAN	4015082809614
PRODUCT LENGTH/DEPTH	200 mm
PRODUCT HEIGHT	150 mm
PRODUCT WIDTH	130 mm
PRODUCT WEIGHT	2.448 kg
COMPLIANCES	CE Marked
CERTIFICATIONS	IEC 60947 EN 60947-3 CSA Std. C22.2 No. 14-05 UL 508 VDE CE CSA Class No.: 3211-05 CSA-C22.2 No. 14-05 CSA File No.: 223805 CSA-C22.2 No. 94 IEC/EN 60204 CSA IEC/EN 60947 IEC/EN 60947-3 UL File No.: E36332 UL VDE 0660 UL Category Control No.: NLRV, NLRV7
CATALOG NOTES	Rated Short-time Withstand Current (Icw) for a time of 1 second
MODEL CODE	P5-315/V/SVB-SW/N

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Features & Functions

FEATURES	Version as maintenance-/service switch Version as main switch
FITTED WITH:	Black rotary handle and locking ring
FUNCTIONS	STOP function Interlockable
LOCKING FACILITY	Lockable in the 0 (Off) position
NUMBER OF POLES	4

General

ACCESSORIES	Auxiliary contact fitted by user.
DEGREE OF PROTECTION	NEMA 12
DEGREE OF PROTECTION (FRONT SIDE)	IP65
LIFESPAN, MECHANICAL	80,000 Operations
MOUNTING METHOD	Rear mounting
MOUNTING POSITION	As required
OPERATING FREQUENCY	50 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Main switch
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	Branch circuits, suitable as motor disconnect, (UL/CSA) Intermediate mounting

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	2 x 50 mm^2, flexible with ferrules to DIN 46228 2 x 70 mm^2, solid or stranded 350 MCM (AWG), solid or flexible conductor with ferrule 1 x 185 mm^2, solid or stranded 1 x 20 x 5 mm Number of segments x width x thickness, copper strip 2 x 20 x 3 mm Number of segments x width x thickness, copper strip 1 x 120 mm^2, flexible with ferrules to DIN 46228 300 MCM (AWG), flexible
SCREW SIZE	6 mm AF, Hexagon socket-head spanner, Terminal

	screw
TIGHTENING TORQUE	140 lb-in, Screw terminals 16 Nm, Screw terminals

Electrical rating

RATED BREAKING CAPACITY AT 220/230 V (COS PHI TO IEC 60947-3)	1800 A
RATED BREAKING CAPACITY AT 400/415 V (COS PHI TO IEC 60947-3)	1650 A
RATED BREAKING CAPACITY AT 500 V (COS PHI TO IEC 60947-3)	1550 A
RATED BREAKING CAPACITY AT 660/690 V (COS PHI TO IEC 60947-3)	400 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	147 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	138 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	135 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	50 A
RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V	315 A
RATED OPERATIONAL CURRENT (IE) AT AC-23A, 230 V	182 A
RATED OPERATIONAL CURRENT (IE) AT AC-23A, 400 V, 415 V	205 A
RATED OPERATIONAL CURRENT (IE) AT AC-23A, 500 V	184 A
RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V	50 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, LOAD-BREAK SWITCHES L/R = 1 MS	315 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V	315 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V	315 A

Short-circuit rating

RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	15 kA
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	5,8 kA, Contacts, 1 second 5.8 kA
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	10 kA, SCCR (UL/CSA) 800A Class RK1, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT)	65 kA, SCCR (UL/CSA) 400 A, Class J, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING	315 A gG/gL, Fuse, Contacts

RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V	315 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V	100 A
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	75 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	75 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	45 kW
RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ	55 kW
RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ	110 kW
RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ	132 kW
RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ	45 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RATED UNINTERRUPTED CURRENT (IU)	315 A
UNINTERRUPTED CURRENT	Rated uninterrupted current Iu is specified for max. cross-section.

Switching capacity

LOAD RATING	1.6 x I_e (with intermittent operation class 12, 40 % duty factor) 1.3 x I_e (with intermittent operation class 12, 60 % duty factor) 2 x I_e (with intermittent operation class 12, 25 % 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)	300 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)	2050 A
VOLTAGE PER CONTACT PAIR IN SERIES	42 V

Motor rating

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	20 HP
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 3-PHASE	40 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	35 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	75 HP
ASSIGNED MOTOR POWER AT 277 V, 60 HZ, 1-PHASE	35 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	100 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	100 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	Door coupling rotary drive

Design verification

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	12.7 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	12.7 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	315 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.

Resources

BROCHURES	Brochure - T Rotary Cam switch and P Switch-disconnector
CATALOGUES	P Switch-disconnectors and T Rotary cam switches catalogue CA042001EN
DECLARATIONS OF CONFORMITY	DA-DC-00004930.pdf DA-DC-00004899.pdf
DRAWINGS	eaton-rotary-switches-padlock-t0-main-switch-dimensions.eps eaton-rotary-switches-mounting-p5-main-switch-dimensions-002.eps eaton-rotary-switches-mounting-p1-main-switch-3d-drawing-002.eps eaton-rotary-switches-t0-main-switch-symbol.eps eaton-general-mounting-p1-main-switch-symbol-002.eps
ECAD MODEL	ETN.280961.edz
INSTALLATION INSTRUCTIONS	IL03802011Z2021_10.pdf
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	p5_315_v_svb_n_sw p5_315_v_svb_sw_n
WIRING DIAGRAMS	eaton-rotary-switches-p5-main-switch-wiring-diagram-002.eps

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.

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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