Specifications



Eaton 046125

Eaton Moeller series TM Step switch, 10 A, Center mounting, 5 contact unit(s), Contacts: 9, Maintained, 0-3, Design: 8281

General specifications	
PRODUCT NAME	Eaton Moeller® series TM Step switch
CATALOG NUMBER	046125
MODEL CODE	TM-5-8281/EZ
EAN	4015080461258
PRODUCT LENGTH/DEPTH	122 mm
PRODUCT HEIGHT	30 mm
PRODUCT WIDTH	30 mm
PRODUCT WEIGHT	0.077 kg
CERTIFICATIONS	UL File No.: E36332 VDE 0660 UL CSA UL Category Control No.: NLRV CE CSA-C22.2 No. 14-05 IEC/EN 60947-5-1 CSA-C22.2 No. 94 UL 508 UL report applies to both US and Canada Certified by UL for use in Canada IEC/EN 60947 IEC/EN 60947-3

Features & Functions

FITTED WITH:	0 (off) position Black thumb grip and front plate
INSCRIPTION	0-3
NUMBER OF POLES	Three-pole

General

DEGREE OF PROTECTION	IP65
DEGREE OF PROTECTION (FRONT SIDE)	IP65 NEMA 12
LIFESPAN, MECHANICAL	1,000,000 Operations
MOUNTING METHOD	Center mounting
MOUNTING POSITION	As required
NUMBER OF CONTACT UNITS	5
OPERATING FREQUENCY	1200 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Control switches
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4000 V AC
SUITABLE FOR	Front mounting
SWITCHING ANGLE	45 °
TYPE	Step switch

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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30

Terminal capacities

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x 1.0 mm², ferrules to DIN 46228 2 x 1.0 mm², ferrules to DIN 46228
TERMINAL CAPACITY (FLEXIBLE)	2 x 1.5 mm² 1 x 1.5 mm²
TERMINAL CAPACITY (SOLID/FLEXIBLE WITH FERRULE AWG)	14
TERMINAL CAPACITY (SOLID/STRANDED)	2 x 1,5 mm² 1 x 1.5 mm²
SCREW SIZE	M2.5, Terminal screw
TIGHTENING TORQUE	3.5 lb-in, Screw terminals 0.4 Nm, Screw terminals

Electrical rating

RATED OPERATING VOLTAGE (UE) AT AC - MAX	500 V
RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V	10 A
RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ	3 kW
RATED UNINTERRUPTED CURRENT (IU)	10 A
UNINTERRUPTED CURRENT	Rated uninterrupted current Iu is specified for max. cross-section.

Short-circuit rating

SHORT-CIRCUIT PROTECTION RATING	10 A gG/gL, Fuse, Contacts

Switching capacity

SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	10 A, Rated uninterrupted current max. (UL/CSA)
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	10 A, Rated uninterrupted current max. (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	A300 (UL/CSA)

Motor rating

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	0.33 HP
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 3-PHASE	0.75 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	0.75 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	1 HP
ASSIGNED MOTOR POWER AT 277 V, 60 HZ, 1-PHASE	0.75 HP

Contacts

CONTROL CIRCUIT RELIABILITY	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
NUMBER OF CONTACTS	9

Actuator

ACTUATOR FUNCTION	Maintained With 0 (Off) position
ACTUATOR TYPE	Toggle
NUMBER OF STEPS	3 (45°)
NUMBER OF SWITCH POSITIONS	4

Design verification

HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.15 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	10 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.

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	eaton-changeover-switch-declaration-of-conformity-uk260201en.pdf eaton-changeover-switch-declaration-of-conformity-eu260191en.pdf
DRAWINGS	eaton-rotary-switches-mounting-tm-step-switch-dimensions-002.eps eaton-rotary-switches-mounting-tm-step-switch-dimensions-015.eps eaton-rotary-switches-mounting-tm-step-switch-dimensions-021.eps eaton-rotary-switches-mounting-t0-changeover-switch-3d-drawing-003.eps eaton-rotary-switches-front-plate-tm-step-switch-symbol-007.eps eaton-general-rotary-switch-t0-step-switch-symbol-004.eps
ECAD MODEL	DA-CE-ETN.TM-5-8281_EZ
INSTALLATION INSTRUCTIONS	IL03801026Z
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	DA-CS-tm5_ez
PRODUCT NOTIFICATIONS	MZ008005ZU_Orderform_Customized_Switch.pdf MZ008006ZU_Orderform_Customized_Switch.pdf
WIRING DIAGRAMS	eaton-rotary-switches-changeover-switch-t0-step-switch-wiring-diagram-005.eps

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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