

Specifications



Powering Business Worldwide

Eaton 016838

Eaton Moeller series TM Spring-return switch, 10 A,
Center mounting, 2 contact unit(s), Contacts: 4,
Maintained/momentary, START>1-0-2

General specifications

PRODUCT NAME	Eaton Moeller® series TM Insulated enclosure
CATALOG NUMBER	016838
MODEL CODE	TM-2-8177/EZ
EAN	4015080168386
PRODUCT LENGTH/DEPTH	87 mm
PRODUCT HEIGHT	30 mm
PRODUCT WIDTH	30 mm
PRODUCT WEIGHT	0.044 kg
CERTIFICATIONS	IEC/EN 60947-3 IEC/EN 60947-5-1 UL UL Category Control No.: NLRV Certified by UL for use in Canada CE IEC/EN 60947 UL 508 CSA CSA-C22.2 No. 14-05 CSA-C22.2 No. 94 UL File No.: E36332 VDE 0660 UL report applies to both US and Canada

Actuator

ACTUATOR FUNCTION	With 0 (Off) position Spring-return from both directions Maintained/momentary
ACTUATOR TYPE	Toggle
NUMBER OF SWITCH POSITIONS	5

Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX	50 °C
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AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
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AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
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AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-25 °C
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CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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Contacts

CONTROL CIRCUIT RELIABILITY	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
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NUMBER OF CONTACTS	4
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Design verification

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.
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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
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

Electrical rating

RATED OPERATING VOLTAGE (UE) AT AC - MAX	500 V
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.

Features & functions

FITTED WITH:	Black thumb grip and front plate
	0 (off) position
INSCRIPTION	" START>1-0-2
NUMBER OF POLES	Two-pole

General information

DEGREE OF PROTECTION	IP65
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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	2
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	60 °
TYPE	Spring-return switch

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

Short-circuit rating

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

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

Terminal capacities

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

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-step-switch-declaration-of-conformity-uk251335en.pdf](#)
[eaton-step-switch-declaration-of-conformity-eu250852en.pdf](#)

DRAWINGS [eaton-rotary-switches-mounting-tm-step-switch-dimensions-012.eps](#)
[eaton-rotary-switches-mounting-tm-step-switch-dimensions-002.eps](#)
[eaton-rotary-switches-mounting-tm-step-switch-dimensions-018.eps](#)
[eaton-rotary-switches-front-plate-tm-insulated-enclosure-symbol.eps](#)

PROJECT NAME: [eaton-general-rotary-switch-t0-step-switch-symbol-004.eps](#)

PROJECT NUMBER:

ECAD MODEL [DA-CS-ETN-TM2-0177-EZ](#)

PREPARED BY:

DATE:

INSTALLATION VIDEOS [Eaton's P Switch-disconnectors used in a factory](#)

MCAD MODEL [DA-CS-tm2_ez](#)
[eaton-universal-control-switches-mcad-drawings-tm2-ez.dwg](#)

PRODUCT NOTIFICATIONS [Eaton Corporation plc Eaton House 30 Pembroke Road Dublin 4, Ireland Eaton.com](#)
[MZ008005ZU Orderform Customized Switch.pdf](#)
[MZ008006ZU Orderform Customized Switch.pdf](#)

WIRING DIAGRAMS [eaton-rotary-switches-switch-t0-main-switch-wiring-diagram-008.eps](#)

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