

**Spring-return switch, TM, 10 A, center mounting, 2 contact unit(s),
Contacts: 4, 60 °, momentary/maintained, With 0 (Off) position, with
spring-return from both directions, START>1-0-2<START, Design number
8177**

Part no. TM-2-8177/EZ
016838
EL Number 1456172
(Norway)

General specifications	
Product name	Eaton Moeller® series TM Insulated enclosure
Part no.	TM-2-8177/EZ
EAN	4015080168386
Product Length/Depth	87 millimetre
Product height	30 millimetre
Product width	30 millimetre
Product weight	0.044 kilogram
Certifications	Certified by UL for use in Canada CSA-C22.2 No. 94 VDE 0660 CSA UL 508 IEC/EN 60947-5-1 UL Category Control No.: NLRV UL File No.: E36332 CSA-C22.2 No. 14-05 UL report applies to both US and Canada IEC/EN 60947 UL CE IEC/EN 60947-3
Product Tradename	TM
Product Type	Insulated enclosure
Product Sub Type	None
Features & Functions	
Fitted with:	Black thumb grip and front plate 0 (off) position
Inscription	" START>1-0-2<START "
Number of poles	Two-pole
General information	
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	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
Climatic environmental conditions	
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	50 °C
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78

Terminal capacities	
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
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 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 (auxiliary contacts, general use)	10A, IU, (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	4
Actuator	
Actuator function	With 0 (Off) position Spring-return from both directions Maintained/momentary
Actuator type	Toggle
Number of switch positions	5
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdis	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.

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Control switch (EC002611)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss13-27-37-14-14 [ACN998016])		
Type of switch		On/Off switch
Number of poles		2
Max. rated operation voltage U _e AC	V	500
Rated permanent current I _u	A	10
Number of switch positions		5
With zero (off) position		Yes
With retraction in 0-position		No
Device construction		Built-in device
Width in number of modular spacings		0
Suitable for floor mounting		No
Suitable for front mounting		Yes
Suitable for distribution board installation		No
Suitable for intermediate mounting		No
Complete device in housing		No
Type of control element		Toggle
Front shield size		48x48 mm
Degree of protection (IP), front side		IP65
Degree of protection (NEMA), front side		12