

Changeoverswitches, TM, 10 A, flush mounting, 1 contact unit(s),  
 Contacts: 2, 60 °, maintained, Without 0 (Off) position, 1-2, Design number  
 8220

Part no. **TM-1-8220/E**  
**081996**

<b>General specifications</b>	
Product name	Eaton Moeller® series TM Changeover switch
Part no.	TM-1-8220/E
EAN	4015080819967
Product Length/Depth	62 millimetre
Product height	30 millimetre
Product width	30 millimetre
Product weight	0.029 kilogram
Certifications	IEC/EN 60947-3 CSA-C22.2 No. 94 UL Category Control No.: NLRV IEC/EN 60947 UL Certified by UL for use in Canada VDE 0660 CSA IEC/EN 60947-5-1 CE UL 508 CSA-C22.2 No. 14-05 UL File No.: E36332 UL report applies to both US and Canada
Product Tradename	TM
Product Type	Changeover switch
Product Sub Type	None
<b>Features &amp; Functions</b>	
Enclosure material	Plastic
Fitted with:	Black thumb grip and front plate
Inscription	1-2
Number of poles	1
<b>General information</b>	
Degree of protection	IP65
Degree of protection (front side)	IP65 NEMA 12
Lifespan, mechanical	1,000,000 Operations
Model	Reverser
Mounting method	Flush mounting
Mounting position	As required
Number of contact units	1
Operating frequency	1200 Operations/h
Overvoltage category	III
Pollution degree	3
Rated impulse withstand voltage (Uimp)	4000 V AC
Suitable for	Front mounting
Switching angle	60 °
Type	Changeover switch
<b>Climatic environmental conditions</b>	
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
<b>Terminal capacities</b>	
Terminal capacity (flexible with ferrule)	2 x 1.0 mm <sup>2</sup> , ferrules to DIN 46228

		1 x 1.0 mm <sup>2</sup> , ferrules to DIN 46228
Terminal capacity (flexible)		2 x 1.5 mm <sup>2</sup> 1 x 1.5 mm <sup>2</sup>
Terminal capacity (solid/flexible with ferrule AWG)		14
Terminal capacity (solid/stranded)		2 x 1,5 mm <sup>2</sup> 1 x 1.5 mm <sup>2</sup>
Screw size		M2.5, Terminal screw
Tightening torque		0.4 Nm, Screw terminals 3.5 lb-in, Screw terminals
<b>Electrical rating</b>		
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V		0 A
Rated operational power at AC-3, 380/400 V, 50 Hz		1.1 kW
Rated operational power at AC-23A, 400 V, 50 Hz		3 kW
Rated operational voltage (Ue) at AC - max		500 V
Rated uninterrupted current (Iu)		10 A
Uninterrupted current		Rated uninterrupted current Iu is specified for max. cross-section.
<b>Short-circuit rating</b>		
Short-circuit protection rating		10 A gG/gL, Fuse, Contacts
<b>Switching capacity</b>		
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)
<b>Motor rating</b>		
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
<b>Contacts</b>		
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
Number of contacts		2
<b>Actuator</b>		
Actuator function		Without 0 (Off) position Maintained
Actuator type		Short thumb-grip
<b>Design verification</b>		
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) / Off-load switch (EC001105)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Load-break switch (ec!@ss13-27-37-14-05 [AKF062018])		
Model		Reverser
Number of poles		1
With zero (off) position		No
With retraction in 0-position		No
Rated permanent current I <sub>u</sub>	A	10
Rated operation current I <sub>e</sub> at AC-3, 400 V	A	0
Rated operation power at AC-3, 400 V	kW	1.1
Degree of protection (IP), front side		IP65
Degree of protection (NEMA), front side		12
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
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
Housing material		Plastic
Type of control element		Short thumb-grip
Type of electrical connection of main circuit		Screw connection