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## Eaton 038847

Eaton Moeller® series T0 Changeover switch, 20 A, flush mounting, 2 contact units, Contacts: 4, 90 °, maintained, 1-2, Design number 8221

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<b>PRODUCT NAME</b>	Eaton Moeller® series T0 Changeover switch
<b>CATALOG NUMBER</b>	038847
<b>PRODUCT LENGTH/DEPTH</b>	86 mm
<b>PRODUCT HEIGHT</b>	48 mm
<b>PRODUCT WIDTH</b>	48 mm
<b>PRODUCT WEIGHT</b>	0.108 kg
<b>CERTIFICATIONS</b>	CSA File No.: 012528 VDE 0660 UL 60947-4-1 CSA CSA-C22.2 No. 94 IEC/EN 60947 IEC/EN 60204 IEC/EN 60947-3 UL CE CSA Class No.: 3211-05 CSA-C22.2 No. 60947-4-1-14 UL Category Control No.: NLRV UL File No.: E36332
<b>CATALOG NOTES</b>	Rated Short-time Withstand Current (Icw) for a time of 1 second



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<b>TYPE</b>	Changeover switch
<b>PRODUCT CATEGORY</b>	Control switches
<b>ACTUATOR FUNCTION</b>	Maintained Without 0 (Off) position
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	UV resistance only in connection with protective shield.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF</b>	Does not apply, since the entire switchgear needs to

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<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">eaton-step-switch-declaration-of-conformity-uk251327en.pdf</a>
□□□□□	<a href="#">IL03801020Z</a>
□□□	<a href="#">eaton-rotary-switches-contact-t0-changeover-switch-wiring-diagram-004.eps</a>
□□	<a href="#">eaton-rotary-switches-mounting-t0-step-switch-dimensions-025.eps</a>  <a href="#">eaton-rotary-switches-front-plate-t0-changeover-switch-symbol-014.eps</a>

<b>ASSEMBLIES</b>	be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Black thumb grip and front plate
<b>OPERATING FREQUENCY</b>	1200 Operations/h
<b>POLLUTION DEGREE</b>	3
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>ENCLOSURE MATERIAL</b>	Plastic
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V AC
<b>ACTUATOR TYPE</b>	Short thumb-grip
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	50 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	-25 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	0.5 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 1-PHASE</b>	1 HP

<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	1.5 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	7.5 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	7.5 HP
<b>EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID</b>	0 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID</b>	0.6 W
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE- OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0
<b>NUMBER OF CONTACT UNITS</b>	2
<b>RATED SHORT-TIME WITHSTAND CURRENT (ICW)</b>	320 A, Contacts, 1 second
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>MOUNTING POSITION</b>	As required
<b>RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)</b>	6 kA
<b>MOUNTING METHOD</b>	Flush mounting
<b>OVERVOLTAGE CATEGORY</b>	III
<b>CONTROL CIRCUIT RELIABILITY</b>	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
<b>NUMBER OF POLES</b>	2

<b>DEGREE OF PROTECTION</b>	NEMA 1 NEMA 12 IP65
<b>NUMBER OF CONTACTS</b>	4
<b>MODEL</b>	Reverser
<b>DEGREE OF PROTECTION (FRONT SIDE)</b>	IP65 NEMA 12
<b>INSCRIPTION</b>	1-2
<b>LIFESPAN, MECHANICAL</b>	400,000 Operations
<b>SAFE ISOLATION</b>	440 V AC, Between the contacts, According to EN 61140
<b>RATED OPERATIONAL CURRENT (IE)</b>	20 A at AC-3, 400 V star-delta 15.6 A at AC-3, 500 V star-delta 8.5 A at AC-3, 690 V star-delta 20 A at AC-3, 230 V star-delta
<b>SCREW SIZE</b>	M3.5, Terminal screw
<b>SHOCK RESISTANCE</b>	15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
<b>LOAD RATING</b>	2 x I <sub>e</sub> (with intermittent operation class 12, 25 % duty factor) 1.6 x I <sub>e</sub> (with intermittent operation class 12, 40 % duty factor) 1.3 x I <sub>e</sub> (with intermittent operation class 12, 60 % duty factor)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b>	10A, IU, (UL/CSA)
<b>TIGHTENING TORQUE</b>	1 Nm, Screw terminals 8.8 lb-in, Screw terminals
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	A600 (UL/CSA) P300 (UL/CSA)
<b>NUMBER OF CONTACTS IN SERIES AT DC-21A, 240 V</b>	1
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 120 V</b>	3
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 24 V</b>	1
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 240 V</b>	5

<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 48 V</b>	2
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 60 V</b>	3
<b>RATED BREAKING CAPACITY AT 220/230 V (COS PHI TO IEC 60947-3)</b>	100 A
<b>RATED BREAKING CAPACITY AT 400/415 V (COS PHI TO IEC 60947-3)</b>	110 A
<b>RATED BREAKING CAPACITY AT 500 V (COS PHI TO IEC 60947-3)</b>	80 A
<b>RATED BREAKING CAPACITY AT 660/690 V (COS PHI TO IEC 60947-3)</b>	60 A
<b>RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947-3)</b>	130 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V</b>	20 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 230 V</b>	13.3 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 400 V, 415 V</b>	13.3 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 500 V</b>	13.3 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V</b>	7.6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V</b>	11.5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	11.5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	9 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	4.9 A
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	16 A, Rated uninterrupted current max. (UL/CSA)
<b>SAFETY PARAMETER (EN ISO 13849-1)</b>	B10d values as per EN ISO 13849-1, table C.1

<b>SHORT-CIRCUIT PROTECTION RATING</b>	20 A gG/gL, Fuse, Contacts
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	1 x (0.75 - 2.5) mm <sup>2</sup> , ferrules to DIN 46228 2 x (0.75 - 2.5) mm <sup>2</sup> , ferrules to DIN 46228
<b>SUITABLE FOR</b>	Branch circuits, suitable as motor disconnect, (UL/CSA) Front mounting
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, LOAD-BREAK SWITCHES L/R = 1 MS</b>	10 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, CONTROL SWITCHES L/R = 50 MS</b>	10 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-21, 240 V</b>	1 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V</b>	5 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V</b>	10 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 240 V</b>	5 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V</b>	10 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V</b>	10 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	20 A
<b>RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ</b>	3 kW
<b>RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ</b>	7.5 kW
<b>RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 380/400</b>	4 kW

<b>V, 50 HZ</b>	
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	4 kW
<b>RATED OPERATIONAL POWER STAR-DELTA AT 220/230 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER STAR-DELTA AT 380/400 V, 50 HZ</b>	7.5 kW
<b>RATED OPERATIONAL POWER STAR-DELTA AT 500 V, 50 HZ</b>	7.5 kW
<b>RATED OPERATIONAL POWER STAR-DELTA AT 690 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
<b>RATED UNINTERRUPTED CURRENT (IU)</b>	20 A
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W
<b>SWITCHING ANGLE</b>	90 °
<b>VOLTAGE PER CONTACT PAIR IN SERIES</b>	60 V
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT)</b>	20 A, Class J, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	50A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA)
<b>TERMINAL CAPACITY (SOLID/FLEXIBLE WITH FERRULE AWG)</b>	18 - 14
<b>TERMINAL CAPACITY (SOLID/STRANDED)</b>	1 x (1 - 2.5) mm <sup>2</sup> 2 x (1 - 2.5) mm <sup>2</sup>
<b>UNINTERRUPTED CURRENT</b>	Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.
<b>DESIGN</b>	8221



