

Changeoverswitches, T0, 20 A, flush mounting, 3 contact unit(s), Contacts:  
6, 90 °, maintained, Without 0 (Off) position, 1-2, Design number 8222



Powering Business Worldwide™

Part no. T0-3-8222/E

048339

EL Number

1456274

(Norway)

| General specifications                 |   |
|--|---|
| Product name                           | Eaton Moeller® series T0 Changeover switch  |
| Part no.                               | T0-3-8222/E   |
| EAN                                    | 4015080483397   |
| Product Length/Depth                   | 95 millimetre   |
| Product height                         | 48 millimetre   |
| Product width                          | 48 millimetre   |
| Product weight                         | 0.121 kilogram  |
| Certifications                         | IEC/EN 60947<br>IEC/EN 60204<br>CSA Class No.: 3211-05<br>CSA-C22.2 No. 94<br>UL<br>UL 60947-4-1<br>CSA-C22.2 No. 60947-4-1-14<br>UL File No.: E36332<br>CSA File No.: 012528<br>IEC/EN 60947-3<br>VDE 0660<br>CE<br>CSA<br>UL Category Control No.: NLRV |
| Product Tradename                      | T0  |
| Product Type                           | Changeover switch   |
| Product Sub Type                       | None  |
| Catalog Notes                          | Rated Short-time Withstand Current (Icw) for a time of 1 second   |
| Features & Functions                   |   |
| Enclosure material                     | Plastic   |
| Fitted with:                           | Black thumb grip and front plate  |
| Inscription                            | 1-2   |
| Number of poles                        | 3   |
| General information                    |   |
| Degree of protection                   | NEMA 1<br>NEMA 12<br>IP65   |
| Degree of protection (front side)      | IP65<br>NEMA 12   |
| Lifespan, mechanical                   | 400,000 Operations  |
| Model                                  | Reverser  |
| Mounting method                        | Flush mounting  |
| Mounting position                      | As required   |
| Number of contact units                | 3   |
| Operating frequency                    | 1200 Operations/h   |
| Overvoltage category                   | III   |
| Pollution degree                       | 3   |
| Rated impulse withstand voltage (Uimp) | 6000 V AC   |
| Safe isolation                         | 440 V AC, Between the contacts, According to EN 61140   |
| Safety parameter (EN ISO 13849-1)      | B10d values as per EN ISO 13849-1, table C.1  |
| Shock resistance                       | 15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms   |
| Suitable for                           | Branch circuits, suitable as motor disconnect, (UL/CSA)<br>Front mounting   |
| Switching angle                        | 90 °  |
| Type                                   | Changeover switch   |
| Climatic environmental conditions      |   |

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| 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, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78  |
| <b>Terminal capacities</b>   |  |   |
| Terminal capacity (flexible with ferrule)                              |  | 2 x (0.75 - 2.5) mm <sup>2</sup> , ferrules to DIN 46228<br>1 x (0.75 - 2.5) mm <sup>2</sup> , ferrules to DIN 46228                    |
| Terminal capacity (solid/flexible with ferrule AWG)                    |  | 18 - 14   |
| Terminal capacity (solid/stranded)                                     |  | 2 x (1 - 2.5) mm <sup>2</sup><br>1 x (1 - 2.5) mm <sup>2</sup>  |
| Screw size   |  | M3.5, Terminal screw  |
| Tightening torque  |  | 8.8 lb-in, Screw terminals<br>1 Nm, Screw terminals   |
| <b>Electrical rating</b>   |  |   |
| Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)          |  | 100 A   |
| Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)          |  | 110 A   |
| Rated breaking capacity at 500 V (cos phi to IEC 60947-3)              |  | 80 A  |
| Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)          |  | 60 A  |
| Rated operational current (Ie)   |  | 8.5 A at AC-3, 690 V star-delta<br>15.6 A at AC-3, 500 V star-delta<br>20 A at AC-3, 230 V star-delta<br>20 A at AC-3, 400 V star-delta |
| Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V            |  | 11.5 A  |
| Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V            |  | 11.5 A  |
| Rated operational current (Ie) at AC-3, 500 V                          |  | 9 A   |
| Rated operational current (Ie) at AC-3, 660 V, 690 V                   |  | 4.9 A   |
| Rated operational current (Ie) at AC-21, 440 V                         |  | 20 A  |
| Rated operational current (Ie) at AC-23A, 230 V                        |  | 13.3 A  |
| Rated operational current (Ie) at AC-23A, 400 V, 415 V                 |  | 13.3 A  |
| Rated operational current (Ie) at AC-23A, 500 V                        |  | 13.3 A  |
| Rated operational current (Ie) at AC-23A, 690 V                        |  | 7.6 A   |
| Rated operational current (Ie) at DC-1, load-break switches I/r = 1 ms |  | 10 A  |
| Rated operational current (Ie) at DC-13, control switches L/R = 50 ms  |  | 10 A  |
| Rated operational current (Ie) at DC-21, 240 V                         |  | 1 A   |
| Rated operational current (Ie) at DC-23A, 24 V                         |  | 10 A  |
| Rated operational current (Ie) at DC-23A, 48 V                         |  | 10 A  |
| Rated operational current (Ie) at DC-23A, 60 V                         |  | 10 A  |
| Rated operational current (Ie) at DC-23A, 120 V                        |  | 5 A   |
| Rated operational current (Ie) at DC-23A, 240 V                        |  | 5 A   |
| Rated operational power at AC-3, 380/400 V, 50 Hz                      |  | 4 kW  |
| Rated operational power at AC-3, 415 V, 50 Hz                          |  | 5.5 kW  |
| Rated operational power at AC-3, 690 V, 50 Hz                          |  | 4 kW  |
| Rated operational power at AC-23A, 220/230 V, 50 Hz                    |  | 3 kW  |
| Rated operational power at AC-23A, 400 V, 50 Hz                        |  | 5.5 kW  |
| Rated operational power at AC-23A, 500 V, 50 Hz                        |  | 7.5 kW  |
| Rated operational power at AC-23A, 690 V, 50 Hz                        |  | 5.5 kW  |
| Rated operational power star-delta at 220/230 V, 50 Hz                 |  | 5.5 kW  |
| Rated operational power star-delta at 380/400 V, 50 Hz                 |  | 7.5 kW  |
| Rated operational power star-delta at 500 V, 50 Hz                     |  | 7.5 kW  |
| Rated operational power star-delta at 690 V, 50 Hz                     |  | 5.5 kW  |
| Rated operational voltage (Ue) at AC - max                             |  | 690 V   |
| Rated uninterrupted current (Iu)                                       |  | 20 A  |
| Uninterrupted current  |  | Rated uninterrupted current Iu is specified for max. cross-section.   |
| <b>Short-circuit rating</b>  |  |   |
| Rated conditional short-circuit current (Iq)                           |  | 6 kA  |
| Rated short-time withstand current (Icw)                               |  | 320 A, Contacts, 1 second   |

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| Short-circuit current rating (basic rating)                                      | 5 kA, SCCR (UL/CSA)<br>50A, max. Fuse, SCCR (UL/CSA)  |
| Short-circuit current rating (high fault)  | 20 A, Class J, max. Fuse, SCCR (UL/CSA)<br>10 kA, SCCR (UL/CSA)   |
| Short-circuit protection rating  | 20 A gG/gL, Fuse, Contacts  |
| <b>Switching capacity</b>  |   |
| Load rating  | 2 x I# (with intermittent operation class 12, 25 % duty factor)<br>1.6 x I# (with intermittent operation class 12, 40 % duty factor)<br>1.3 x I# (with intermittent operation class 12, 60 % duty factor) |
| Number of contacts in series at DC-21A, 240 V                                    | 1   |
| Number of contacts in series at DC-23A, 24 V                                     | 1   |
| Number of contacts in series at DC-23A, 48 V                                     | 2   |
| Number of contacts in series at DC-23A, 60 V                                     | 3   |
| Number of contacts in series at DC-23A, 120 V                                    | 3   |
| Number of contacts in series at DC-23A, 240 V                                    | 5   |
| Switching capacity (main contacts, general use)                                  | 16 A, Rated uninterrupted current max. (UL/CSA)   |
| Switching capacity (auxiliary contacts, general use)                             | 10A, IU, (UL/CSA)   |
| Switching capacity (auxiliary contacts, pilot duty)                              | P300 (UL/CSA)<br>A600 (UL/CSA)  |
| Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)                    | 130 A   |
| Voltage per contact pair in series   | 60 V  |
| <b>Motor rating</b>  |   |
| Assigned motor power at 115/120 V, 60 Hz, 1-phase                                | 0.5 HP  |
| Assigned motor power at 200/208 V, 60 Hz, 1-phase                                | 1 HP  |
| Assigned motor power at 200/208 V, 60 Hz, 3-phase                                | 3 HP  |
| Assigned motor power at 230/240 V, 60 Hz, 1-phase                                | 1.5 HP  |
| Assigned motor power at 230/240 V, 60 Hz, 3-phase                                | 3 HP  |
| Assigned motor power at 460/480 V, 60 Hz, 3-phase                                | 7.5 HP  |
| Assigned motor power at 575/600 V, 60 Hz, 3-phase                                | 7.5 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   | 6   |
| <b>Actuator</b>  |   |
| Actuator function  | Without 0 (Off) position<br>Maintained  |
| Actuator type  | Short thumb-grip  |
| <b>Design verification</b>   |   |
| Equipment heat dissipation, current-dependent Pvid                               | 0 W   |
| Heat dissipation capacity Pdiss  | 0 W   |
| Heat dissipation per pole, current-dependent Pvid                                | 0.6 W   |
| Rated operational current for specified heat dissipation (In)                    | 20 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.  |

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| 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 8.0

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| 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 / Changeover switch (ecl@ss10.0.1-27-37-14-05 [AKF062013]) |  |    |                  |
| Model   |  |    | Reverser         |
| Number of poles   |  |    | 3                |
| With zero (off) position  |  |    | No               |
| With retraction in 0-position   |  |    | No               |
| Rated permanent current I <sub>u</sub>  |  | A  | 20               |
| Rated operation current I <sub>e</sub> at AC-3, 400 V   |  | A  | 11.5             |
| Rated operation power at AC-3, 400 V  |  | kW | 4                |
| 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               |
| Material housing  |  |    | Plastic          |
| Type of control element   |  |    | Short thumb-grip |
| Type of electrical connection of main circuit   |  |    | Screw connection |