

## Eaton 278477

Eaton Moeller® series PKZM01 Motor-protective circuit-breaker, 440 V: 0.12 kW, I<sub>r</sub> = 0.25 - 0.4 A, IP20

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| <b>PRODUCT NAME</b>         | Eaton Moeller® series PKZM01 Motor-protective circuit-breaker                                                                                                                                                           |
| <b>CATALOG NUMBER</b>       | 278477                                                                                                                                                                                                                  |
| <b>PRODUCT LENGTH/DEPTH</b> | 93 mm                                                                                                                                                                                                                   |
| <b>PRODUCT HEIGHT</b>       | 90 mm                                                                                                                                                                                                                   |
| <b>PRODUCT WIDTH</b>        | 45 mm                                                                                                                                                                                                                   |
| <b>PRODUCT WEIGHT</b>       | 0.259 kg                                                                                                                                                                                                                |
| <b>CERTIFICATIONS</b>       | UL 60947-4-1<br>CSA-C22.2 No. 60947-4-1-14<br>IEC/EN 60947-4-1<br>CSA<br>UL<br>UL File No.: E36332<br>CSA Class No.: 3211-05<br>IEC/EN 60947<br>CSA File No.: 165628<br>VDE 0660<br>UL Category Control No.: NLRV<br>CE |

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| <b>FEATURES</b>                                                                         | Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102)                                                     |
| <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>                                 | Meets the product standard's requirements.                                                                                       |
| <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.                                                                                       |

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| <b>CHARACTERISTIC CURVE</b>       | <a href="#">eaton-manual-motor-starters-characteristic-characteristic-curve-003.eps</a><br><a href="#">eaton-manual-motor-starters-characteristic-characteristic-curve-008.eps</a>              |
| <b>DECLARATIONS OF CONFORMITY</b> | <a href="#">eaton-motor-protective-circuit-breaker-declaration-of-conformity-uk251175en.pdf</a><br><a href="#">IL122012ZU</a><br><a href="#">IL03407011Z.pdf</a><br><a href="#">IL03402034Z</a> |

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| <b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>                  | Does not apply, since the entire switchgear needs to 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>OPERATING FREQUENCY</b>                                      | 25 Operations/h                                                                |
| <b>POLLUTION DEGREE</b>                                         | 3                                                                              |
| <b>CLIMATIC PROOFING</b>                                        | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78 |
| <b>ACTUATOR TYPE</b>                                            | Push button                                                                    |
| <b>TRIPPING CHARACTERISTIC</b>                                  | Overload trigger: tripping class 10 A                                          |
| <b>ADJUSTMENT RANGE UNDELAYED SHORT-CIRCUIT RELEASE - MAX</b>   | 6.2 A                                                                          |
| <b>ADJUSTMENT RANGE UNDELAYED SHORT-CIRCUIT RELEASE - MIN</b>   | 6.2 A                                                                          |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                      | 55 °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                                                                         |

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| <b>AMBIENT STORAGE TEMPERATURE - MAX</b>                  | 80 °C                                                                         |
| <b>AMBIENT STORAGE TEMPERATURE - MIN</b>                  | -40 °C                                                                        |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b> | 5.22 W                                                                        |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                    | 0 W                                                                           |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>  | 1.74 W                                                                        |
| <b>INTERNAL RESISTANCE</b>                                | 10500 mΩ                                                                      |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>             | 6000 V AC                                                                     |
| <b>ALTITUDE</b>                                           | Max. 2000 m                                                                   |
| <b>DEVICE CONSTRUCTION</b>                                | Built-in device fixed built-in technique                                      |
| <b>CONNECTION</b>                                         | Screw terminals                                                               |
| <b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>         | Screw connection                                                              |
| <b>MOUNTING POSITION</b>                                  | Can be snapped on to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height.      |
| <b>LIFESPAN, MECHANICAL</b>                               | 50,000 Operations (Main conducting paths)                                     |
| <b>OVERVOLTAGE CATEGORY</b>                               | III                                                                           |
| <b>DEGREE OF PROTECTION</b>                               | IP20<br>Terminals: IP00                                                       |
| <b>NUMBER OF POLES</b>                                    | Three-pole                                                                    |
| <b>LIFESPAN, ELECTRICAL</b>                               | 50,000 operations (at 400V, AC-3)                                             |
| <b>SHOCK RESISTANCE</b>                                   | 25 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms |
| <b>FUNCTIONS</b>                                          | Motor protection<br>Phase failure sensitive                                   |
| <b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>             | 18 - 10                                                                       |
| <b>SWITCHING CAPACITY</b>                                 | 0.4 A (3 contacts in series),<br>DC-5 up to 250V<br>0.4 A, AC-3 up to 440 V   |
| <b>OVERLOAD RELEASE CURRENT SETTING - MAX</b>             | 0.4 A                                                                         |

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| <b>OVERLOAD RELEASE<br/>CURRENT SETTING - MIN</b>                            | 0.25 A                                                                                                           |
| <b>RATED FREQUENCY -<br/>MAX</b>                                             | 60 Hz                                                                                                            |
| <b>RATED FREQUENCY - MIN</b>                                                 | 50 Hz                                                                                                            |
| <b>RATED OPERATIONAL<br/>VOLTAGE (UE) - MAX</b>                              | 440 V                                                                                                            |
| <b>RATED OPERATIONAL<br/>VOLTAGE (UE) - MIN</b>                              | 440 V                                                                                                            |
| <b>RATED OPERATIONAL<br/>CURRENT FOR SPECIFIED<br/>HEAT DISSIPATION (IN)</b> | 0.4 A                                                                                                            |
| <b>RATED OPERATIONAL<br/>POWER AT AC-3E,<br/>220/230 V, 50 HZ</b>            | 0.06 kW                                                                                                          |
| <b>RATED OPERATIONAL<br/>POWER AT AC-3E,<br/>380/400 V, 50 HZ</b>            | 0.09 kW                                                                                                          |
| <b>RATED UNINTERRUPTED<br/>CURRENT (IU)</b>                                  | 0.4 A                                                                                                            |
| <b>STATIC HEAT<br/>DISSIPATION, NON-<br/>CURRENT-DEPENDENT<br/>PVS</b>       | 0 W                                                                                                              |
| <b>STRIPPING LENGTH<br/>(MAIN CABLE)</b>                                     | 10 mm                                                                                                            |
| <b>PRODUCT CATEGORY</b>                                                      | Motor protective circuit<br>breaker                                                                              |
| <b>PROTECTION</b>                                                            | Finger and back-of-hand<br>proof, Protection against<br>direct contact when<br>actuated from front (EN<br>50274) |
| <b>RATED OPERATIONAL<br/>POWER AT AC-3E, 440 V,<br/>50 HZ</b>                | 0.12 kW                                                                                                          |
| <b>RATED SHORT-CIRCUIT<br/>BREAKING CAPACITY ICU<br/>AT 400 V AC</b>         | 50 kA                                                                                                            |
| <b>RATED SHORT-CIRCUIT<br/>BREAKING CAPACITY ICS<br/>AT 400 V AC</b>         | 50 kA                                                                                                            |
| <b>RATED SHORT-CIRCUIT<br/>BREAKING CAPACITY ICU<br/>AT 440 V AC</b>         | 50 kA                                                                                                            |
| <b>RATED SHORT-CIRCUIT<br/>BREAKING CAPACITY ICS<br/>AT 440 V AC</b>         | 50 kA                                                                                                            |
| <b>SUITABLE FOR</b>                                                          | Branch circuit: Manual                                                                                           |

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|                                                        | <p>type E if used with terminal, or suitable for group installations, (UL/CSA)</p> <p>Also motors with efficiency class IE3</p>                                                                         |
|                                                        | Basic device fixed 15.5 x lu                                                                                                                                                                            |
| <b>SHORT-CIRCUIT RELEASE</b>                           | <p>± 20% tolerance</p> <p>6.2 A, I<sub>rm</sub></p>                                                                                                                                                     |
| <b>TERMINAL CAPACITY (SOLID)</b>                       | <p>2 x (1 - 6) mm<sup>2</sup></p> <p>1 x (1 - 6) mm<sup>2</sup></p>                                                                                                                                     |
| <b>RATED OPERATIONAL CURRENT (IE)</b>                  | 0.4 A                                                                                                                                                                                                   |
| <b>TEMPERATURE COMPENSATION</b>                        | <p>-5 - 40 °C to IEC/EN 60947, VDE 0660</p> <p>≤ 0.25 %/K, residual error for T &gt; 40°</p> <p>-25 - 55 °C, Operating range</p>                                                                        |
| <b>SHORT-CIRCUIT CURRENT</b>                           | 60 kA DC, up to 250 V DC, Main conducting paths                                                                                                                                                         |
| <b>SHORT-CIRCUIT CURRENT RATING (GROUP PROTECTION)</b> | <p>50 kA, 600 V High Fault, Fuse, SCCR (UL/CSA) with 600 A, 600 V High Fault, Fuse, SCCR (UL/CSA)</p> <p>50 kA, 600 V High Fault, CB, SCCR (UL/CSA) with 600 A, 600 V High Fault, CB, SCCR (UL/CSA)</p> |
| <b>TIGHTENING TORQUE</b>                               | 1.7 Nm, Screw terminals, Main cable                                                                                                                                                                     |
| <b>SWITCH OFF TECHNIQUE</b>                            | Thermomagnetic                                                                                                                                                                                          |
| <b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>       | <p>2 x (1 - 6) mm<sup>2</sup>, ferrule to DIN 46228</p> <p>1 x (1 - 6) mm<sup>2</sup>, ferrule to DIN 46228</p>                                                                                         |
| <b>POWER LOSS</b>                                      | 5.22 W                                                                                                                                                                                                  |

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| PROJECT NAME:   |
| PROJECT NUMBER: |
| PREPARED BY:    |
| :               |



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