

## Motor-protective circuit-breaker, 12.5 kW, 20 - 25 A, Screw terminals

Part no. **PKZM0-25**  
**046989**  
 EL Number **4355149**  
 (Norway)

| General specifications                 |   |
|--|---|
| Product name                           | Eaton Moeller® series PKZM0 Motor-protective circuit-breaker  |
| Part no.                               | PKZM0-25  |
| EAN                                    | 4015080469896   |
| Product Length/Depth                   | 76 millimetre   |
| Product height                         | 93 millimetre   |
| Product width                          | 45 millimetre   |
| Product weight                         | 0.294 kilogram  |
| Certifications                         | IEC/EN 60947<br>UL<br>UL File No.: E36332<br>VDE 0660<br>CE<br>CSA-C22.2 No. 60947-4-1-14<br>IEC/EN 60947-4-1<br>UL 60947-4-1<br>CSA File No.: 165628<br>CSA<br>CSA Class No.: 3211-05<br>UL Category Control No.: NLRV |
| Product Tradename                      | PKZM0   |
| Product Type                           | Motor-protective circuit-breaker  |
| Product Sub Type                       | None  |
| Catalog Notes                          | IE3-ready devices are identified by the logo on their packaging.  |
| Features & Functions                   |   |
| Actuator type                          | Turn button   |
| Features                               | Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102)  |
| Functions                              | Motor protection<br>Phase failure sensitive   |
| Number of poles                        | Three-pole  |
| General information                    |   |
| Connection                             | Screw terminals   |
| Degree of protection                   | Terminals: IP00<br>IP20   |
| Explosion safety category for dust     | ATEX dust-ex-protection, PTB 10, ATEX 3013, Ex II(2) GD   |
| Lifespan, electrical                   | 100,000 operations  |
| Lifespan, mechanical                   | 100,000 Operations  |
| Mounting position                      | Can be snapped on to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height.  |
| Operating frequency                    | 40 Operations/h   |
| Overvoltage category                   | III   |
| Pollution degree                       | 3   |
| Product category                       | Motor protective circuit breaker  |
| Protection                             | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)  |
| Rated impulse withstand voltage (Uimp) | 6000 V AC   |
| Shock resistance                       | 25 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms   |
| Suitable for                           | Branch circuit: Manual type E if used with terminal, or suitable for group installations, (UL/CSA)<br>Also motors with efficiency class IE3   |
| Temperature compensation               | -25 - 55 °C, Operating range<br>≤ 0.25 %/K, residual error for T > 40°<br>-5 - 40 °C to IEC/EN 60947, VDE 0660  |
| Climatic environmental conditions      |   |
| Altitude                               | Max. 2000 m   |
| Ambient operating temperature - min    | -25 °C  |

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| Ambient operating temperature - max                   |  | 55 °C  |
| Ambient operating temperature (enclosed) - min        |  | 25 °C  |
| Ambient operating temperature (enclosed) - max        |  | 40 °C  |
| Ambient storage temperature - min                     |  | 40 °C  |
| Ambient storage temperature - max                     |  | 80 °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)             |  | 1 x (1 - 6) mm <sup>2</sup> , ferrule to DIN 46228<br>2 x (1 - 6) mm <sup>2</sup> , ferrule to DIN 46228   |
| Terminal capacity (solid)                             |  | 1 x (1 - 6) mm <sup>2</sup><br>2 x (1 - 6) mm <sup>2</sup>   |
| Terminal capacity (solid/stranded AWG)                |  | 18 - 10  |
| Stripping length (main cable)                         |  | 10 mm  |
| Tightening torque                                     |  | 1.7 Nm, Screw terminals, Main cable<br>1 Nm, Screw terminals, Control circuit cables   |
| <b>Electrical rating</b>                              |  |  |
| Rated frequency - min                                 |  | 50 Hz  |
| Rated frequency - max                                 |  | 60 Hz  |
| Rated operational current (Ie)                        |  | 25 A   |
| Rated operational power at AC-3, 220/230 V, 50 Hz     |  | 5.5 kW   |
| Rated operational power at AC-3, 380/400 V, 50 Hz     |  | 12.5 kW  |
| Rated operational power at AC-3, 440 V, 50 Hz         |  | 12.5 kW  |
| Rated operational power at AC-3, 500 V, 50 Hz         |  | 15 kW  |
| Rated operational power at AC-3, 690 V, 50 Hz         |  | 22 kW  |
| Rated operational voltage (Ue) - min                  |  | 690 V  |
| Rated operational voltage (Ue) - max                  |  | 690 V  |
| Rated uninterrupted current (Iu)                      |  | 25 A   |
| <b>Short-circuit rating</b>                           |  |  |
| Rated short-circuit breaking capacity Icu at 400 V AC |  | 50 kA  |
| Rated short-circuit breaking capacity Ics at 400 V AC |  | 38 kA  |
| Rated short-circuit breaking capacity Icu at 440 V AC |  | 10 kA  |
| Rated short-circuit breaking capacity Ics at 440 V AC |  | 3 kA   |
| Rated short-circuit breaking capacity Icu at 500 V AC |  | 3 kA   |
| Rated short-circuit breaking capacity Ics at 500 V AC |  | 3 kA   |
| Rated short-circuit breaking capacity Icu at 690 V AC |  | 3 kA   |
| Rated short-circuit breaking capacity Ics at 690 V AC |  | 1 kA   |
| Short-circuit current                                 |  | 40 kA DC, up to 250 V DC, Main conducting paths  |
| Short-circuit current rating (group protection)       |  | 125 A, 600 V High Fault, max. CB, SCCR (UL/CSA)<br>600 A, 600 V High Fault, max. Fuse with CL, SCCR (UL/CSA)<br>18 kA, 600 V High Fault, CB with CL, SCCR (UL/CSA)<br>10 kA, 600 V High Fault, Fuse, SCCR (UL/CSA)<br>10 kA, 600 V High Fault, CB, SCCR (UL/CSA)<br>150 A, 600 V High Fault, max. Fuse, SCCR (UL/CSA)<br>600 A, 600 V High Fault, max. CB with CL, SCCR (UL/CSA)<br>18 kA, 600 V High Fault, Fuse with CL, SCCR (UL/CSA) |
| Short-circuit current rating (type E)                 |  | 18 kA, 240 V, SCCR (UL/CSA) with contactor DILM25<br>18 kA, 480 Y/277 V, SCCR (UL/CSA) with contactor DILM25   |
| Short-circuit release                                 |  | 388 A, I <sub>rm</sub> , Setting range max.<br>Basic device fixed 15.5 x I <sub>u</sub> , Trip Blocks<br>± 20% tolerance, Trip blocks  |
| <b>Switching capacity</b>                             |  |  |
| Switching capacity                                    |  | 25 A (3 contacts in series), DC-5 up to 250V<br>25 A, AC-3 up to 690 V   |
| <b>Motor rating</b>                                   |  |  |
| Assigned motor power at 115/120 V, 60 Hz, 1-phase     |  | 2 HP   |
| Assigned motor power at 230/240 V, 60 Hz, 3-phase     |  | 7.5 HP   |
| Assigned motor power at 460/480 V, 60 Hz, 3-phase     |  | 15 HP  |
| Assigned motor power at 575/600 V, 60 Hz, 3-phase     |  | 20 HP  |
| <b>Trip blocks</b>                                    |  |  |

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| Overload release current setting - min   |  | 20 A   |
| Overload release current setting - max   |  | 25 A   |
| Tripping characteristic  |  | Overload trigger: tripping class 10 A  |
| <b>Design verification</b>   |  |  |
| Equipment heat dissipation, current-dependent Pvid                               |  | 7.04 W   |
| Heat dissipation capacity Pdis   |  | 0 W  |
| Heat dissipation per pole, current-dependent Pvid                                |  | 2.35 W   |
| Rated operational current for specified heat dissipation (In)                    |  | 25 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                                 |  | Meets the product standard's requirements.   |
| 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 8.0

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| Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)  |    |  |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [AGZ529016]) |    |  |
| Overload release current setting  | A  | 20 - 25                                  |
| Adjustment range undelayed short-circuit release  | A  | 388 - 388                                |
| With thermal protection   |    | No                                       |
| Phase failure sensitive   |    | Yes                                      |
| Switch off technique  |    | Thermomagnetic                           |
| Rated operating voltage   | V  | 690 - 690                                |
| Rated permanent current Iu  | A  | 25                                       |
| Rated operation power at AC-3, 230 V  | kW | 5.5                                      |
| Rated operation power at AC-3, 400 V  | kW | 12.5                                     |
| Type of electrical connection of main circuit   |    | Screw connection                         |
| Type of control element   |    | Turn button                              |
| Device construction   |    | Built-in device fixed built-in technique |
| With integrated auxiliary switch  |    | No                                       |
| With integrated under voltage release   |    | No                                       |
| Number of poles   |    | 3  |
| Rated short-circuit breaking capacity Icu at 400 V, AC  | kA | 50                                       |
| Degree of protection (IP)   |    | IP20                                     |
| Height  | mm | 93                                       |

|       |    |    |
|-------|----|----|
| Width | mm | 45 |
| Depth | mm | 76 |