# DATASHEET - PKZM0-25/AK

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

**Part no.** **PKZM0-25/AK**
**265344**

| | |
|---|---|
| Product name | Eaton Moeller® series PKZM0 Motor-protective circuit-breaker |
| Part no. | PKZM0-25/AK |
| EAN | 4015082653446 |
| Product Length/Depth | 76 millimetre |
| Product height | 93 millimetre |
| Product width | 45 millimetre |
| Product weight | 0.301 kilogram |
| Certifications | IEC/EN 60947<br>CSA<br>CSA File No.: 165628<br>CSA Class No.: 3211-05<br>CE<br>UL 60947-4-1<br>IEC/EN 60947-4-1<br>UL File No.: E36332<br>UL<br>VDE 0660<br>UL Category Control No.: NLRV<br>CSA-C22.2 No. 60947-4-1-14 |
| 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. |
| | |
| Actuator type | Turn button |
| Features | Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102) |
| Functions | Phase failure sensitive<br>Motor protection |
| Number of poles | Three-pole |
| | |
| Connection | Screw terminals |
| Degree of protection | IP20<br>Terminals: IP00 |
| Explosion safety category for dust | ATEX dust-ex-protection, PTB 10, ATEX 3013, Ex II(2) GD |
| Lifespan, electrical | 100,000 operations (at 400V, AC-3) |
| Lifespan, mechanical | 100,000 Operations (Main conducting paths) |
| 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 | -5 - 40 °C to IEC/EN 60947, VDE 0660<br>≤ 0.25 %/K, residual error for T > 40°<br>-25 - 55 °C, Operating range |
| | |
| Altitude | Max. 2000 m |
| Ambient operating temperature - min | -25 °C |

| | |
|---|---|
| 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, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |
| | |
| Terminal capacity (flexible with ferrule) | 1 x (1 - 6) $mm^2$, ferrule to DIN 46228<br>2 x (1 - 6) $mm^2$, ferrule to DIN 46228 |
| Terminal capacity (solid) | 1 x (1 - 6) $mm^2$<br>2 x (1 - 6) $mm^2$ |
| Terminal capacity (solid/stranded AWG) | 18 - 10 |
| Stripping length (main cable) | 10 mm |
| Tightening torque | 1 Nm, Screw terminals, Control circuit cables<br>1.7 Nm, Screw terminals, Main cable |
| | |
| 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 |
| | |
| 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) | 10 kA, 600 V High Fault, CB, SCCR (UL/CSA)<br>18 kA, 600 V High Fault, Fuse with CL, SCCR (UL/CSA)<br>18 kA, 600 V High Fault, CB with CL, SCCR (UL/CSA)<br>600 A, 600 V High Fault, max. CB with CL, SCCR (UL/CSA)<br>150 A, 600 V High Fault, max. Fuse, SCCR (UL/CSA)<br>600 A, 600 V High Fault, max. Fuse with CL, SCCR (UL/CSA)<br>10 kA, 600 V High Fault, Fuse, SCCR (UL/CSA)<br>125 A, 600 V High Fault, max. CB, 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, Irm, Setting range max.<br>± 20% tolerance, Trip blocks<br>Basic device fixed 15.5 x Iu, Trip Blocks |
| | |
| Switching capacity | 25 A, AC-3 up to 690 V<br>25 A (3 contacts in series), DC-5 up to 250V |
| | |
| 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 |
| | |
| Overload release current setting - min | 20 A |

| | | | |
|---|---|---|---|
| Overload release current setting - max | | | 25 A |
| Tripping characteristic | | | Overload trigger: tripping class 10 A |
| | | | |
| Equipment heat dissipation, current-dependent Pvid | | | 7.04 W |
| Heat dissipation capacity Pdiss | | | 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

| | | | |
|---|---|---|---|
| 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 |


© 04/2023 by Eaton Industries GmbH