# DATASHEET - PKZM01-2,5



**Motor-protective circuit-breaker, 440 V: 1.5 kW, Ir= 1.6 - 2.5 A, IP20**

**Part no.** PKZM01-2,5
278481

**EL Number (Norway)** 4365016

## General specifications

| | |
|---|---|
| Product name | Eaton Moeller® series PKZM01 Motor-protective circuit-breaker |
| Part no. | PKZM01-2,5 |
| EAN | 4015082784812 |
| Product Length/Depth | 93 millimetre |
| Product height | 90 millimetre |
| Product width | 45 millimetre |
| Product weight | 0.293 kilogram |
| Certifications | IEC/EN 60947<br>UL File No.: E36332<br>CSA-C22.2 No. 60947-4-1-14<br>CSA Class No.: 3211-05<br>CSA File No.: 165628<br>UL 60947-4-1<br>UL<br>UL Category Control No.: NLRV<br>IEC/EN 60947-4-1<br>CE<br>CSA<br>VDE 0660 |
| Product Tradename | PKZM01 |
| Product Type | Motor-protective circuit-breaker |
| Product Sub Type | None |

## Features & Functions

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|---|---|
| Actuator type | Push 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 |

## General information

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|---|---|
| Connection | Screw terminals |
| Degree of protection | IP20<br>Terminals: IP00 |
| Lifespan, electrical | 50,000 operations (at 400V, AC-3) |
| Lifespan, mechanical | 50,000 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 | 25 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 |

## Climatic environmental conditions

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|---|---|
| Altitude | Max. 2000 m |
| Ambient operating temperature - min | -25 °C |
| Ambient operating temperature - max | 55 °C |
| Ambient operating temperature (enclosed) - min | -25 °C |

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|---|---|
| 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 |
| **Terminal capacities** | |
| Terminal capacity (flexible with ferrule) | 2 x (1 - 6) $mm^2$, ferrule to DIN 46228<br>1 x (1 - 6) $mm^2$, ferrule to DIN 46228 |
| Terminal capacity (solid) | 2 x (1 - 6) $mm^2$<br>1 x (1 - 6) $mm^2$ |
| Terminal capacity (solid/stranded AWG) | 18 - 10 |
| Stripping length (main cable) | 10 mm |
| **Electrical rating** | |
| Rated frequency - min | 50 Hz |
| Rated frequency - max | 60 Hz |
| Rated operational current (Ie) | 2.5 A |
| Rated operational power at AC-3, 220/230 V, 50 Hz | 0.37 kW |
| Rated operational power at AC-3, 380/400 V, 50 Hz | 0.75 kW |
| Rated operational power at AC-3, 440 V, 50 Hz | 1.1 kW |
| Rated operational voltage (Ue) - min | 440 V |
| Rated operational voltage (Ue) - max | 440 V |
| Rated uninterrupted current (Iu) | 2.5 A |
| **Short-circuit rating** | |
| Rated short-circuit breaking capacity Icu at 400 V AC | 50 kA |
| Short-circuit current | 60 kA DC, up to 250 V DC, Main conducting paths |
| Short-circuit current rating (group protection) | 50 kA, 600 V High Fault, CB, SCCR (UL/CSA) with 600 A, 600 V High Fault, CB, SCCR (UL/CSA)<br>50 kA, 600 V High Fault, Fuse, SCCR (UL/CSA) with 600 A, 600 V High Fault, Fuse, SCCR (UL/CSA) |
| Short-circuit release | ± 20% tolerance, Trip blocks<br>Basic device fixed 15.5 x Iu, Trip Blocks<br>38.8 A, Irm, Setting range max. |
| **Switching capacity** | |
| Switching capacity | 2.5 A, AC-3 up to 440 V<br>2.5 A (3 contacts in series), DC-5 up to 250V |
| **Motor rating** | |
| Assigned motor power at 200/208 V, 60 Hz, 3-phase | 0.5 HP |
| Assigned motor power at 230/240 V, 60 Hz, 1-phase | 0.17 HP |
| Assigned motor power at 230/240 V, 60 Hz, 3-phase | 0.5 HP |
| Assigned motor power at 460/480 V, 60 Hz, 3-phase | 1 HP |
| Assigned motor power at 575/600 V, 60 Hz, 3-phase | 1.5 HP |
| **Trip blocks** | |
| Overload release current setting - min | 1.6 A |
| Overload release current setting - max | 2.5 A |
| **Design verification** | |
| Equipment heat dissipation, current-dependent Pvid | 5.16 W |
| Heat dissipation capacity Pdiss | 0 W |
| Heat dissipation per pole, current-dependent Pvid | 1.72 W |
| Rated operational current for specified heat dissipation (In) | 2.5 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. |

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| 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 9.0

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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@ss13-27-37-04-01 [AGZ529021]) | | | |
| Overload release current setting | | A | 1.6 - 2.5 |
| Adjustment range undelayed short-circuit release | | A | 39 - 39 |
| With thermal overload protection | | | No |
| Phase failure sensitive | | | Yes |
| Switch off technique | | | Thermomagnetic |
| Rated operating voltage | | V | 440 - 440 |
| Rated permanent current Iu | | A | 2.5 |
| Rated operation power at AC-3, 230 V | | kW | 0.37 |
| Rated operation power at AC-3, 400 V | | kW | 0.75 |
| Power loss | | W | 5.16 |
| Type of electrical connection of main circuit | | | Screw connection |
| Type of control element | | | Push 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 | 90 |
| Width | | mm | 45 |
| Depth | | mm | 93 |


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