

Part no. **ZB150-175**
107316

| General specifications | |
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| Product name | Eaton Moeller® series ZB Thermal overload relay |
| Part no. | ZB150-175 |
| EAN | 4015081070794 |
| Product Length/Depth | 134 millimetre |
| Product height | 135 millimetre |
| Product width | 118 millimetre |
| Product weight | 1.21 kilogram |
| Certifications | UL VDE 0660 CSA UL 60947-4-1 CSA Class No.: 3211-03 UL File No.: E29184 IEC/EN 60947-4-1 UL Category Control No.: NKCR CSA File No.: 012528 IEC/EN 60947 CE CSA-C22.2 No. 60947-4-1-14 |
| Product Tradename | ZB |
| Product Type | Thermal overload relay |
| Product Sub Type | None |
| Catalog Notes | Ambient air temperature: Operating range to IEC/EN 60947, PTB: -5°C to +55°C Ambient operating temperature (according to IEC/EN 60947) Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| Features & Functions | |
| Features | Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102) Test/off button Reset pushbutton manual/auto Trip-free release |
| General information | |
| 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 |
| Class | CLASS 10 A |
| Climatic proofing | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| Degree of protection | IP00 |
| Frame size | ZB150 |
| Mounting method | Direct mounting Direct attachment |
| Overload release current setting - min | 145 A |
| Overload release current setting - max | 175 A |
| Overvoltage category | III |
| Pollution degree | 3 |
| Product category | Accessories Overload relay ZB up to 150 A |
| Protection | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |
| Rated impulse withstand voltage (Uimp) | 8000 V AC 4000 V (auxiliary and control circuits) |
| Shock resistance | 10 g, Mechanical, Sinusoidal, Shock duration 10 ms |
| Suitable for | Branch circuits, (UL/CSA) |
| Temperature compensation | Continuous ≤ 0.25 %/K, residual error for T > 40° |

| Terminal capacities | |
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| Terminal capacity (flexible with ferrule) | 1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (4 - 70) mm ² , Main cables 2 x (4 - 70) mm ² , Main cables |
| Terminal capacity (solid) | 2 x (0.75 - 4) mm ² , Control circuit cables 1 x (0.75 - 4) mm ² , Control circuit cables 1 x (4 - 16) mm ² , Main cables 2 x (4 - 16) mm ² , Main cables |
| Terminal capacity (solid/stranded AWG) | 2 x (18 - 14), Control circuit cables 3/0, Main cables |
| Terminal capacity (stranded) | 1 x (16 - 70) mm ² , Main cables 2 x (16 - 70) mm ² , Main cables |
| Stripping length (main cable) | 24 mm |
| Stripping length (control circuit cable) | 8 mm |
| Screw size | M10, Terminal screw, Main cables 5 mm AF, Hexagon socket-head spanner, Terminal screw, Main cables M3.5, Terminal screw, Control circuit cables |
| Screwdriver size | 1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver 2, Terminal screw, Control circuit cables, Pozidriv screwdriver |
| Tightening torque | 10 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables |
| Electrical rating | |
| Conventional thermal current I _{th} of auxiliary contacts (1-pole, open) | 6 A |
| Rated operational current (I _e) at AC-15, 120 V | 1.5 A |
| Rated operational current (I _e) at AC-15, 220 V, 230 V, 240 V | 1.5 A |
| Rated operational current (I _e) at AC-15, 380 V, 400 V, 415 V | 0.9 A |
| Rated operational current (I _e) at DC-13, 110 V | 0.4 A |
| Rated operational current (I _e) at DC-13, 220 V, 230 V | 0.2 A |
| Rated operational current (I _e) at DC-13, 24 V | 0.9 A |
| Rated operational current (I _e) at DC-13, 60 V | 0.75 A |
| Rated operational voltage (U _e) - max | 1000 V |
| Safe isolation | 440 V AC, Between auxiliary contacts and main contacts, According to EN 61140 440 V AC, Between main circuits, According to EN 61140 240 V AC, Between auxiliary contacts, According to EN 61140 |
| Switching capacity (auxiliary contacts, pilot duty) | B300 at opposite polarity, AC operated (UL/CSA) R300, DC operated (UL/CSA) B600 at opposite polarity, AC operated (UL/CSA) |
| Voltage rating - max | 600 V AC |
| Short-circuit rating | |
| Short-circuit current rating (basic rating) | 600 A Class K5, max. Fuse, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) |
| Short-circuit protection rating | Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits 315 A gG/gL, Fuse, Type "1" coordination 250 A gG/gL, Fuse, Type "2" coordination |
| Contacts | |
| Number of auxiliary contacts (change-over contacts) | 0 |
| Number of auxiliary contacts (normally closed contacts) | 1 |
| Number of auxiliary contacts (normally open contacts) | 1 |
| Number of contacts (normally closed contacts) | 1 |
| Number of contacts (normally open contacts) | 1 |
| Design verification | |
| Equipment heat dissipation, current-dependent P _{vid} | 34.5 W |
| Heat dissipation capacity P _{diss} | 0 W |
| Heat dissipation per pole, current-dependent P _{vid} | 11.5 W |
| Rated operational current for specified heat dissipation (I _{in}) | 175 A |
| Static heat dissipation, non-current-dependent P _{vs} | 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. |

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| 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) / Thermal overload relay (EC000106) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Thermal overload relay (ecl@ss10.0.1-27-37-15-01 [AKF075014]) | | |
| Adjustable current range | A | 145 - 175 |
| Max. rated operation voltage U _e | V | 1000 |
| Mounting method | | Direct attachment |
| Type of electrical connection of main circuit | | Screw connection |
| Number of auxiliary contacts as normally closed contact | | 1 |
| Number of auxiliary contacts as normally open contact | | 1 |
| Number of auxiliary contacts as change-over contact | | 0 |
| Release class | | CLASS 10 A |
| Reset function input | | No |
| Reset function automatic | | Yes |
| Reset function push-button | | Yes |