

Part no. ZB12-0,24
278432

**EL Number
(Norway)** 4131827

| General specifications | | |
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| Product name | | Eaton Moeller® series ZB Thermal overload relay |
| Part no. | | ZB12-0,24 |
| EAN | | 4015082784324 |
| Product Length/Depth | | 88 millimetre |
| Product height | | 67 millimetre |
| Product width | | 45 millimetre |
| Product weight | | 0.141 kilogram |
| Certifications | | CSA-C22.2 No. 60947-4-1-14 UL 60947-4-1 UL VDE 0660 CSA IEC/EN 60947-4-1 IEC/EN 60947 CSA File No.: 012528 CE UL Category Control No.: NKCR UL File No.: E29184 CSA Class No.: 3211-03 |
| 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) PTB: -5 °C - +55 °C Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| Features & Functions | | |
| Features | | Test/off button Trip-free release Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102) Reset pushbutton manual/auto |
| 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 | | IP20 |
| Frame size | | ZB12 |
| Mounting method | | Direct attachment Direct mounting |
| Overload release current setting - min | | 0.16 A |
| Overload release current setting - max | | 0.24 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) | | 6000 V AC 4000 V (auxiliary and control circuits) |
| Shock resistance | | 10 g, Mechanical, Sinusoidal, Shock duration 10 ms |
| Suitable for | | Branch circuits, (UL/CSA) |

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| Temperature compensation | | ≤ 0.25 %/K, residual error for T > 40° Continuous |
| Terminal capacities | | |
| Terminal capacity (flexible with ferrule) | | 1 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (1 - 4) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (1 - 4) 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 (1 - 6) mm ² , Main cables 2 x (1 - 6) mm ² , Main cables |
| Terminal capacity (solid/stranded AWG) | | 18 - 8, Main cables 2 x (18 - 14), Control circuit cables |
| Stripping length (main cable) | | 10 mm |
| Stripping length (control circuit cable) | | 8 mm |
| Screw size | | M4, Terminal screw M3.5, Terminal screw, Control circuit cables |
| Screwdriver size | | 2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver |
| Tightening torque | | 1.2 Nm, Screw terminals, Control circuit cables 1.8 Nm, Screw terminals, Main 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 | | 690 V |
| Safe isolation | | 240 V AC, Between auxiliary contacts, According to EN 61140 440 V AC, Between main circuits, According to EN 61140 440 V AC, Between auxiliary contacts and main contacts, According to EN 61140 |
| Switching capacity (auxiliary contacts, pilot duty) | | B600 at opposite polarity, AC operated (UL/CSA) R300, DC operated (UL/CSA) B300 at opposite polarity, AC operated (UL/CSA) |
| Voltage rating - max | | 600 V AC |
| Short-circuit rating | | |
| Short-circuit current rating (high fault at 600 V) | | 1 A, Class J/CC, max. Fuse, SCCR (UL/CSA) 100 kA, Fuse, SCCR (UL/CSA) |
| Short-circuit protection rating | | Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits 1 A gG/gL, Fuse, Type "2" coordination 25 A gG/gL, Fuse, Type "1" 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} | | 5.4 W |
| Heat dissipation capacity P _{diss} | | 0 W |
| Heat dissipation per pole, current-dependent P _{vid} | | 1.8 W |
| Rated operational current for specified heat dissipation (I _n) | | 0.24 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. |
| 10.2.5 Lifting | | Does not apply, since the entire switchgear needs to be evaluated. |

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| 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 9.0

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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 (ecI@ss13-27-37-15-01 [AKF075019]) | | |
| Adjustable current range | A | 0.16 - 0.24 |
| Max. rated operation voltage U _e | V | 690 |
| 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 |