

Specifications



Photo is representative

Eaton 136488

Eaton Moeller® series ZEB Overload relay,
Direct mounting, Earth-fault protection:
none, Ir= 4 - 20 A, 1 N/O, 1 N/C ZEB32-20

General specifications

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| PRODUCT NAME | Eaton Moeller® series ZEB Electronic overload relay |
| CATALOG NUMBER | 136488 |
| MODEL CODE | ZEB32-20 |
| EAN | 4015081332687 |
| PRODUCT LENGTH/DEPTH | 108 mm |
| PRODUCT HEIGHT | 110 mm |
| PRODUCT WIDTH | 45 mm |
| PRODUCT WEIGHT | 0.294 kg |
| CERTIFICATIONS | IEC/EN 60947-4-1 UL UL 508 UL File No.: E1230 CSA Class No.: 3211-03 CSA-C22.2 No. 14 CE VDE 0660 UL Category Control No.: NKCR IEC/EN 60947 CSA CSA File No.: 2290956 |
| CATALOG NOTES | Rated operational current: Switch-on and switch-off conditions based on DC- 13, time constant as specified. |

Features & Functions

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| EARTH FAULT PROTECTION | None |
| FEATURES | Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102) |
| FUNCTIONS | Filament bulb (24 V) |

General

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| CLASS | Adjustable |
| DEGREE OF PROTECTION | IP20 |
| MOUNTING METHOD | Direct attachment Direct mounting |
| OVERLOAD RELEASE CURRENT SETTING - MIN | 4 A |
| OVERLOAD RELEASE CURRENT SETTING - MAX | 20 A |
| OVERVOLTAGE CATEGORY | III |
| POLLUTION DEGREE | 3 |
| PRODUCT CATEGORY | Electronic overload relays ZEB |
| 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 6000 V (auxiliary circuits) |
| SHOCK RESISTANCE | 15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms Mechanical, According to IEC/EN 60068-2-27 |
| SUITABLE FOR | Branch circuits, (UL/CSA) |
| VOLTAGE TYPE | Self powered |

Climatic environmental conditions

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| AMBIENT OPERATING TEMPERATURE - MIN | -25 °C |
| AMBIENT OPERATING TEMPERATURE - MAX | 65 °C |
| AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX | 65 °C |
| CLIMATIC PROOFING | Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78 |

Terminal capacities

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| TERMINAL CAPACITY (FLEXIBLE WITH FERRULE) | 2 x (0.75 - 2.5) mm ² , Control circuit cables |
| TERMINAL CAPACITY (SOLID) | 1 x (1.5 - 16) mm ² , Main cables 2 x (0.75 - 4) mm ² , Control circuit cables |
| TERMINAL CAPACITY (SOLID/STRANDED AWG) | 1 x (14 - 4), Main cables 2 x (18 - 12), Control circuit cables |
| STRIPPING LENGTH (MAIN CABLE) | 13 mm |
| STRIPPING LENGTH (CONTROL CIRCUIT CABLE) | 8 mm |

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| SCREW SIZE | M3.5, Terminal screw, Control circuit cables |
| SCREWDRIVER SIZE | 2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver |
| TIGHTENING TORQUE | 7 lb-in, Screw terminals 0.8 - 1.2 Nm, Screw terminals, Control circuit cables |

Electrical rating

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| CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN) | 5 A |
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| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN | 0 V |
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| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX | 0 V |
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| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN | 0 V |
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| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX | 0 V |
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| RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN | 0 V |
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| RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX | 0 V |
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| RATED FREQUENCY - MIN | 50 Hz |
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| RATED FREQUENCY - MAX | 60 Hz |
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| RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V | 1.5 A |
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| RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V | 1.5 A |
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| RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V | 0.9 A |
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| RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V | 0.4 A |
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| RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V | 0.2 A |
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| RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V | 0.9 A |
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| RATED OPERATIONAL CURRENT (IE) AT DC-13, 60 V | 0.75 A |
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| RATED OPERATIONAL VOLTAGE (UE) AT AC - | 690 V |
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Contacts

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| NUMBER OF AUXILIARY CONTACTS (CHANGE- OVER CONTACTS) | 0 |
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| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
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| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) | 1 |
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|---|---|
| NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
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| NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS) | 1 |
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| MAX | |
| SHORT-CIRCUIT PROTECTION RATING | Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits |
| SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V) | 100 kA, Fuse, SCCR (UL/CSA) 60 A, Class J, max. Fuse, SCCR (UL/CSA) |
| SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY) | B600, AC operated (UL/CSA) R300, DC operated (UL/CSA) |
| VOLTAGE RATING - MAX | 600 V |

Design verification

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID 2.3 W

HEAT DISSIPATION CAPACITY PDISS 0 W

HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID 0.77 W

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) 20 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.

ETIM only

ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT Screw connection

ADJUSTABLE CURRENT RANGE - MIN 4 A

ADJUSTABLE CURRENT RANGE - MAX 20 A

RESET FUNCTION Automatic Push-button

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| 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. |

Resources

BROCHURES

[eaton-motor-starters-system-xstart-brochure-br03407001en-en-us.pdf](#)

[Electronic overload relay ZEB](#)

DRAWINGS

[eaton-tripping-devices-zeb-overload-relay-characteristic-curve.eps](#)

[eaton-tripping-devices-zeb-overload-relay-dimensions-002.eps](#)

[eaton-tripping-devices-zeb-overload-relay-3d-drawing-007.eps](#)

ECAD MODEL

[ETN.ZEB32-20](#)

INSTALLATION INSTRUCTIONS

[IL04210002E](#)

MCAD MODEL

[zeb32.dwg](#) [zeb32.stp](#)

[zeb32_kk.dwg](#)

WIRING DIAGRAMS

[eaton-general-release-zeb-overload-relay-wiring-diagram.eps](#)

[eaton-tripping-devices-overload-relay-zb-overload-relay-wiring-diagram.eps](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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