

BIMETAL OVERLOAD RELAYS

278439



Overview



Specifications



Resources

How to buy

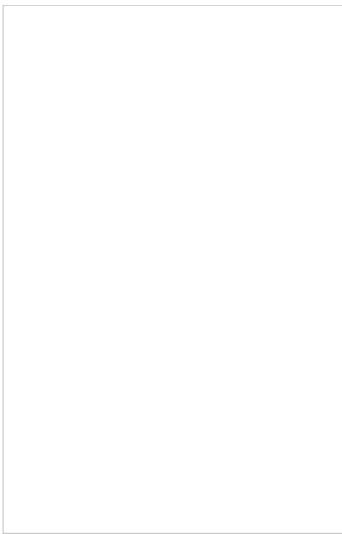


Photo is representative

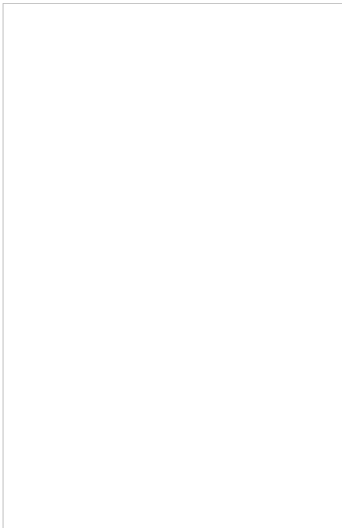


Photo is representative

278439

Eaton Moeller® series ZB Overload relay, ZB12, Ir-
Direct mounting, IP20

How to buy

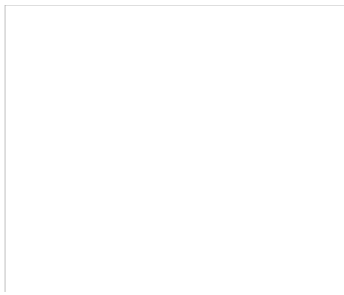


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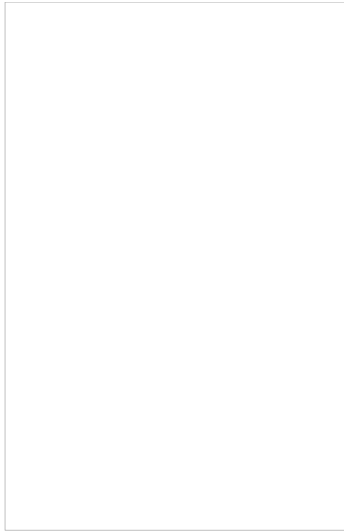


Photo is representative



Designed to work together

Discover other Eaton products and accessories built to enhance this product.

106361

Eaton Moeller® series DILM Contactor, 380 V 400 V 4 kW, 2 N/O, 2 NC, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals

276935

Eaton Moeller® series DILM Contactor, 380 V 400 V 5.5 kW, 3 N/O, 2 NC, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals

276775

Eaton Moeller® series DILM Contactor, 380 V 400 V 4 kW, 2 N/O, 1 NC, 24 V DC, DC operation, Screw terminals

278058

Eaton Moeller® series DIUL Re contactor combination, 380 V 400 V 4 kW, 110 V 50 Hz, 120 V 60 Hz, AC

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GENERAL SPECIFICATIONS

| | | | |
|------------------------|---|-----------------------------|---|
| General specifications | > | PRODUCT NAME | Eaton Moeller® series ZB Thermal overload relay |
| | | CATALOG NUMBER | 278439 |
| Product specifications | > | MODEL CODE | ZB12-6 |
| | | EAN | 4015082784393 |
| | | PRODUCT LENGTH/DEPTH | 88 mm |
| | | PRODUCT HEIGHT | 67 mm |
| | | PRODUCT WIDTH | 45 mm |
| | | PRODUCT WEIGHT | 0.142 kg |

CERTIFICATIONS

CSA
CSA File No.: 012528
IEC/EN 60947
UL
CSA Class No.: 3211-03
CE
IEC/EN 60947-4-1
UL 60947-4-1
UL Category Control No.: NKCR
UL File No.: E29184
CSA-C22.2 No. 60947-4-1-14
VDE 0660

PRODUCT SPECIFICATIONS

| | |
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| RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) | 6 A |
| TERMINAL CAPACITY (FLEXIBLE WITH FERRULE) | 2 x (1 - 4) mm ² , Main cables 1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (1 - 4) mm ² , Main cables |
| 10.11 SHORT-CIRCUIT RATING | Is the panel builder's responsibility. The specifications must be observed. |
| STRIPPING LENGTH (CONTROL CIRCUIT CABLE) | 8 mm |
| AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN | 25 °C |
| 10.4 CLEARANCES AND CREEPAGE DISTANCES | Meets the product standard's requirements. |
| 10.12 ELECTROMAGNETIC COMPATIBILITY | Is the panel builder's responsibility. The specifications must be observed. |

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| MOUNTING METHOD | Direct mounting |
| 10.2.5 LIFTING | Does not apply, since the entire switchgear needs to be lifted. |
| STRIPPING LENGTH (MAIN CABLE) | 10 mm |
| AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX | 40 °C |
| 10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES | Meets the product standard's requirements. |
| RESET FUNCTION | Automatic Push-button |
| SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V) | 100 kA, Fuse, SCCR (UL/CSA) 10 A, Class J/CC, max. Fuse, SCCR (UL/CSA) |
| 10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS | Is the panel builder's responsibility. |
| SCREW SIZE | M4, Terminal screw M3.5, Terminal screw, Control circuit cables |
| ADJUSTABLE CURRENT RANGE - MIN | 4 A |
| PROTECTION | Finger and back-of-hand proof Protection against dirt actuated from front (EN 50274) |
| AMBIENT OPERATING TEMPERATURE - MAX | 55 °C |
| CLIMATIC PROOFING | Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78 |
| FEATURES | Reset pushbutton manual/auto Test/off button Trip-free release Phase-failure sensitivity (according to IEC/EN 60947-1:2011, 102) |
| STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS | 0 W |
| ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT | Screw connection |
| 10.9.3 IMPULSE WITHSTAND VOLTAGE | Is the panel builder's responsibility. |
| VOLTAGE RATING - MAX | 600 VAC |
| AMBIENT OPERATING TEMPERATURE - MIN | -25 °C |
| 10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS | Does not apply, since the entire switchgear needs to be tested. |
| 10.5 PROTECTION AGAINST ELECTRIC SHOCK | Does not apply, since the entire switchgear needs to be tested. |
| SAFE ISOLATION | 440 V AC, Between main circuits, According to EN 60439-1 240 V AC, Between auxiliary contacts, According to EN 60439-1 440 V, Between auxiliary contacts and main contact 61140 |
| RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V | 1.5 A |

| CLASS | CLASS 10 A |
|---|--|
| 10.13 MECHANICAL FUNCTION | The device meets the requirements, provided the instruction leaflet (IL) is observed. |
| 10.2.6 MECHANICAL IMPACT | Does not apply, since the entire switchgear needs to |
| 10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL | Is the panel builder's responsibility. |
| NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
| 10.3 DEGREE OF PROTECTION OF ASSEMBLIES | Does not apply, since the entire switchgear needs to |
| RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V | 0.9 A |
| HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID | 1.7 W |
| PRODUCT CATEGORY | Overload relay ZB up to 150 A |
| OVERLOAD RELEASE CURRENT SETTING - MIN | 4 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-13, 60 V | 0.75 A |
| EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID | 5.1 W |
| HEAT DISSIPATION CAPACITY PDISS | 0 W |
| SUITABLE FOR | Branch circuits, (UL/CSA) |
| TEMPERATURE COMPENSATION | ≤ 0.25 %/K, residual error for T > 40° Continuous |
| TERMINAL CAPACITY (SOLID) | 2 x (1 - 6) mm ² , Main cables 1 x (0.75 - 4) mm ² , Control circuit cables 1 x (1 - 6) mm ² , Main cables 2 x (0.75 - 4) mm ² , Control circuit cables |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
| 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. |
| RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V | 0.2 A |
| CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN) | 6 A |
| OVERLOAD RELEASE CURRENT SETTING - MAX | 6 A |
| TERMINAL CAPACITY (SOLID/STRANDED AWG) | 18 - 8, Main cables 2 x (18 - 14), Control circuit cables |
| 10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH | Is the panel builder's responsibility. |

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| DEGREE OF PROTECTION | IP20 |
| OVERVOLTAGE CATEGORY | III |
| NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS) | 0 |
| POLLUTION DEGREE | 3 |
| 10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS | Is the panel builder's responsibility. |
| RATED IMPULSE WITHSTAND VOLTAGE (UIMP) | 6000 V AC 4000 V (auxiliary and control circuits) |
| 10.10 TEMPERATURE RISE | The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the device |
| TIGHTENING TORQUE | 1.2 Nm, Screw terminals, Control circuit cables 1.8 Nm, Screw terminals, Main cables |
| ADJUSTABLE CURRENT RANGE - MAX | 6 A |
| FRAME SIZE | ZB12 |
| SCREWDRIVER SIZE | 1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver |
| RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V | 1.5 A |
| 10.2.2 CORROSION RESISTANCE | Meets the product standard's requirements. |
| 10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION | Meets the product standard's requirements. |
| 10.2.7 INSCRIPTIONS | Meets the product standard's requirements. |
| NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS) | 1 |
| SHORT-CIRCUIT PROTECTION RATING | Max. 6 A gG/gL, fuse, Without welding, Auxiliary 20 A gG/gL, Fuse, Type "2" coordination 25 A gG/gL, Fuse, Type "1" coordination |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) | 1 |
| RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V | 0.4 A |
| RATED OPERATIONAL VOLTAGE (UE) - MAX | 690 V |
| SHOCK RESISTANCE | 10 g, Mechanical, Sinusoidal, Shock duration 10 ms |
| RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V | 0.9 A |
| SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY) | B300 at opposite polarity, AC operated (UL/CSA) B600 at opposite polarity, AC operated (UL/CSA) R300, DC operated (UL/CSA) |

Catalogs

Characteristic curve

Declarations of conformity

Drawings

eCAD model

Installation instructions

Manuals and user guides

mCAD model

Wiring diagrams

278439



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