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Eaton 109935

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, NZM1 TMTU, 3 pole, 32A, box terminal

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| PRODUCT NAME | Eaton Moeller series NZM molded case circuit breaker thermo-magnetic |
| CATALOG NUMBER | 109935 |
| PRODUCT LENGTH/DEPTH | 88 mm |
| PRODUCT HEIGHT | 145 mm |
| PRODUCT WIDTH | 90 mm |
| PRODUCT WEIGHT | 1.046 kg |
| COMPLIANCES | RoHS conform |
| CERTIFICATIONS | IEC/EN 60947 IEC |

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| AMPERAGE RATING | 32 A |
| VOLTAGE RATING | 690 V - 690 V |
| CIRCUIT BREAKER FRAME TYPE | NZM1 |
| FEATURES | Protection unit |
| 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. |
| 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. |

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-002.eps](#)

[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-003.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps](#)

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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. |
| POLLUTION DEGREE | 3 |
| LIFESPAN, MECHANICAL | 20000 operations |
| UTILIZATION CATEGORY | A (IEC/EN 60947-2) |
| MOUNTING METHOD | Built-in device fixed built-in technique DIN rail (top hat rail) mounting optional Fixed |
| CLIMATIC PROOFING | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT | 9.31 W |
| ISOLATION | 500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts) |
| AMBIENT OPERATING TEMPERATURE - MAX | 70 °C |
| AMBIENT OPERATING TEMPERATURE - MIN | -25 °C |
| AMBIENT STORAGE TEMPERATURE - MAX | 70 °C |
| AMBIENT STORAGE TEMPERATURE - MIN | 40 °C |

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| NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS) | 0 |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 0 |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) | 0 |
| PROTECTION AGAINST DIRECT CONTACT | Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110 |
| DEGREE OF PROTECTION | IP20 (basic degree of protection, in the operating controls area) IP20 |
| DIRECTION OF INCOMING SUPPLY | As required |
| ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT | Frame clamp |
| OVERVOLTAGE CATEGORY | III |
| DEGREE OF PROTECTION (IP), FRONT SIDE | IP66 (with door coupling rotary handle) IP40 (with insulating surround) |
| DEGREE OF PROTECTION (TERMINATIONS) | IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal) |
| NUMBER OF POLES | Three-pole |
| TERMINAL CAPACITY (COPPER STRIP) | Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 9 segments of 9 mm x 0.8 mm at box terminal |
| FUNCTIONS | System and cable protection |
| TYPE | Circuit breaker |

- SPECIAL FEATURES**
- Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity I_{cn})
 - Rated current =

- rated
uninterrupted
current: 32 A
- Terminal capacity
hint: Up to 95 mm²
can be connected
depending on the
cable
manufacturer.

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| APPLICATION | Use in unearthed supply systems at 690 V |
| SHOCK RESISTANCE | 20 g (half-sinusoidal shock 20 ms) |
| POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT | Front side |
| RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) | 32 A |
| RELEASE SYSTEM | Thermomagnetic release |
| SHORT-CIRCUIT TOTAL BREAKTIME | < 10 ms |
| SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX | 350 A |
| SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN | 350 A |
| TERMINAL CAPACITY (CONTROL CABLE) | 0.75 mm ² - 2.5 mm ² (1x) 0.75 mm ² - 1.5 mm ² (2x) |
| TERMINAL CAPACITY (COPPER BUSBAR) | M6 at rear-side screw connection Max. 16 mm x 5 mm direct at switch rear-side connection Min. 12 mm x 5 mm direct at switch rear-side connection |
| TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE) | 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection 10 mm ² - 16 mm ² (1x) at box terminal 6 mm ² - 16 mm ² (2x) direct at switch rear-side connection 16 mm ² (1x) at tunnel terminal 6 mm ² - 16 mm ² (2x) at box terminal |
| TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE) | 16 mm ² (1x) at tunnel terminal |

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| TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE) | 25 mm ² - 95 mm ² (1x) at 1- hole tunnel terminal 10 mm ² - 70 mm ² (1x) direct at switch rear-side connection 25 mm ² (2x) direct at switch rear-side connection 6 mm ² - 25 mm ² (2x) at box terminal 10 mm ² - 70 mm ² (1x) at box terminal |
| TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE) | 25 mm ² - 95 mm ² (1x) at tunnel terminal |
| HANDLE TYPE | Rocker lever |
| SHORT DELAY CURRENT SETTING (ISD) - MAX | 0 A |
| SHORT DELAY CURRENT SETTING (ISD) - MIN | 0 A |
| INSTANTANEOUS CURRENT SETTING (II) - MAX | 350 A |
| INSTANTANEOUS CURRENT SETTING (II) - MIN | 350 A |
| NUMBER OF OPERATIONS PER HOUR - MAX | 120 |
| OVERLOAD CURRENT SETTING (IR) - MAX | 32 A |
| OVERLOAD CURRENT SETTING (IR) - MIN | 25 A |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ | 90 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ | 50 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ | 35 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ | 10 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ | 7.5 kA |
| RATED SHORT-CIRCUIT | 154 kA |

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| MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ | |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ | 77 kA |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ | 44 kA |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ | 20 kA |
| STANDARD TERMINALS | Box terminal |
| OPTIONAL TERMINALS | Connection on rear. Screw terminal. Tunnel terminal |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ | 198 kA |
| RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS | 6000 V |
| RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS | 8000 V |
| RATED INSULATION VOLTAGE (UI) | 1000 V AC |

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