# Specifications


**Photo is representative**

## Eaton 269168

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 175A, B, frame 2, AF175-NA

| General specifications | |
|---|---|
| **PRODUCT NAME** | Eaton Moeller series NZM molded case circuit breaker thermo-magnetic |
| **CATALOG NUMBER** | 269168 |
| **MODEL CODE** | NZMB2-AF175-NA |
| **EAN** | 4015082691684 |
| **PRODUCT LENGTH/DEPTH** | 149 mm |
| **PRODUCT HEIGHT** | 195 mm |
| **PRODUCT WIDTH** | 105 mm |
| **PRODUCT WEIGHT** | 2.397 kg |
| **COMPLIANCES** | RoHS conform |
| **CERTIFICATIONS** | Specially designed for North America<br>IEC<br>UL 489<br>IEC/EN 60947<br>CSA (Class No. 1432-01)<br>IEC 60947-2<br>CSA (File No. 22086)<br>CE marking<br>UL/CSA<br>UL (File No. E31593)<br>UL listed<br>CSA certified<br>CSA-C22.2 No. 5-09<br>UL (Category Control Number DIVQ) |
| **GLOBAL CATALOG** | 269168 |

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## Product specifications

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| **AMPERAGE RATING** | 175 A |
| **VOLTAGE RATING** | 440 V - 440 V |
| **CIRCUIT BREAKER FRAME TYPE** | NZM2 |
| **FEATURES** | Protection unit<br>Motor drive optional |
| **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 |

## Resources

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| **BROCHURES** | eaton-digital-nzm-brochure-br013003en-en-us.pdf<br>eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf |
| **CATALOGS** | eaton-digital-nzm-catalog-ca013003en-en-us.pdf |
| **CHARACTERISTIC CURVE** | eaton-circuit-breaker-nzm-mccb-characteristic-curve-038.eps<br>eaton-circuit-breaker-current-nzm-mccb-characteristic-curve-003.eps<br>eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps |
| **DECLARATIONS OF CONFORMITY** | eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf |
| **DRAWINGS** | eaton-circuit-breaker-nzm-mccb-dimensions-019.eps<br>eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps<br>eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps |
| **ECAD MODEL** | ETN.269168.edz |
| **INSTALLATION INSTRUCTIONS** | eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf |
| **INSTALLATION VIDEOS** | Introduction of the new digital circuit breaker NZM<br>The new digital NZM Range |
| **MCAD MODEL** | DA-CD-nzm2_3p<br>DA-CS-nzm2_3p |
| **TECHNICAL DATA SHEETS** | eaton-nzm-technical-information-sheet |

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| | 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. |
| **POLLUTION DEGREE** | 3 |
| **MOUNTING METHOD** | Fixed<br>DIN rail (top hat rail) mounting optional<br>Built-in device fixed built-in technique |
| **CLIMATIC PROOFING** | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78 |
| **EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT** | 36.75 W |
| **UTILIZATION CATEGORY** | A (IEC/EN 60947-2) |
| **ISOLATION** | 300 V AC (between the auxiliary contacts)<br>500 V AC (between auxiliary contacts and main contacts) |
| **AMBIENT OPERATING TEMPERATURE - MAX** | 70 °C |
| **AMBIENT OPERATING** | -25 °C |

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| **TEMPERATURE - MIN** | |
| **AMBIENT STORAGE TEMPERATURE - MAX** | 70 °C |
| **AMBIENT STORAGE TEMPERATURE - MIN** | 40 °C |
| **LOW-VOLTAGE HBC FUSE - MAX** | 355 A gG/gL |
| **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)<br>IP20 |
| **DIRECTION OF INCOMING SUPPLY** | As required |
| **ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT** | Screw connection |
| **LIFESPAN, MECHANICAL** | 20000 operations |
| **OVERVOLTAGE CATEGORY** | III |
| **RATED OPERATIONAL CURRENT** | 300 A (380/400 V AC-1, making and breaking capacity)<br>300 A (415 V AC-1, making and breaking capacity) |
| **DEGREE OF PROTECTION (IP), FRONT SIDE** | IP66 (with door coupling rotary handle)<br>IP40 (with insulating surround) |
| **DEGREE OF PROTECTION (TERMINATIONS)** | IP00 (terminations, phase isolator and strip terminal)<br><br>IP10 (tunnel terminal) |
| **NUMBER OF POLES** | Three-pole |
| **TERMINAL CAPACITY (COPPER STRIP)** | Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched)<br>Min. 2 segments of 9 mm x 0.8 mm at box terminal |

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| | Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched)<br>Max. 10 segments of 16 mm x 0.8 mm at box terminal |
| **LIFESPAN, ELECTRICAL** | 7500 operations at 400 V AC-1<br>6500 operations at 415 V AC-3 |
| **FUNCTIONS** | System and cable protection<br>Current limiting circuit breaker |
| **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 Icn)<br>• Rated current = rated uninterrupted current: 175 A<br>• Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.<br>• Fixed overload releases Ir |
| **APPLICATION** | • Branch circuits, feeder circuits<br>• Use in unearthed supply systems at 440 V |
| **SHOCK RESISTANCE** | 20 g (half-sinusoidal shock 20 ms) |
| **POSITION OF CONNECTION FOR MAIN** | Front side |

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| **CURRENT CIRCUIT** | |
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 175 A |
| **RELEASE SYSTEM** | Thermomagnetic release |
| **SHORT-CIRCUIT TOTAL BREAKTIME** | < 10 ms |
| **SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX** | 1750 A |
| **SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN** | 1050 A |
| **TERMINAL CAPACITY (CONTROL CABLE)** | 14 $mm^2$ - 18 $mm^2$ (1x)<br>16 $mm^2$ - 18 $mm^2$ (2x) |
| **TERMINAL CAPACITY (COPPER BUSBAR)** | Max. 20 mm x 5 mm direct at switch rear-side connection<br>Min. 16 mm x 5 mm direct at switch rear-side connection<br>M8 at rear-side screw connection |
| **TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)** | 6 $mm^2$ - 12 $mm^2$ (1x) at box terminal<br>6 $mm^2$ - 11 $mm^2$ (1x) direct at switch rear-side connection<br>16 $mm^2$ (1x) at tunnel terminal |
| **TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)** | 16 $mm^2$ (1x) at tunnel terminal |
| **TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)** | 4 $mm^2$ - 350 $mm^2$ (1x) at box terminal<br>4 $mm^2$ - 350 $mm^2$ (1x) at tunnel terminal<br>4 $mm^2$ - 3/0 $mm^2$ (1x) direct at switch rear-side connection |
| **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** | 2000 A |
| **INSTANTANEOUS CURRENT SETTING (II) -** | 1200 A |

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| **MIN** | |
| **NUMBER OF OPERATIONS PER HOUR - MAX** | 120 |
| **OVERLOAD CURRENT SETTING (IR) - MAX** | 175 A |
| **OVERLOAD CURRENT SETTING (IR) - MIN** | 175 A |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ** | 30 kA |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ** | 25 kA |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ** | 18.5 kA |
| **RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ** | 53 kA |
| **RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ** | 53 kA |
| **STANDARD TERMINALS** | Screw terminal |
| **RATED OPERATING VOLTAGE UE (UL) - MAX** | 600Y/347 V, 480 V |
| **RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ** | 63 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)** | 690 V AC |

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| **PROJECT NAME:** | |
| **PROJECT NUMBER:** | |
| **PREPARED BY:** | |
| **DATE:** | |

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