# Eaton 272253

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 40A, B1-A40-NA

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| **PRODUCT NAME** | Eaton Moeller series NZM molded case circuit breaker thermo-magnetic |
| **CATALOG NUMBER** | 272253 |
| **PRODUCT LENGTH/DEPTH** | 88 mm |
| **PRODUCT HEIGHT** | 165.5 mm |
| **PRODUCT WIDTH** | 90 mm |
| **PRODUCT WEIGHT** | 1.077 kg |
| **COMPLIANCES** | RoHS conform |
| **CERTIFICATIONS** | CSA (Class No. 1432-01)<br>UL (Category Control Number DIVQ)<br>CSA-C22.2 No. 5-09<br>UL 489<br>IEC/EN 60947<br>IEC<br>CSA (File No. 22086)<br>UL (File No. E31593)<br>UL listed<br>CSA certified<br>IEC 60947-2<br>Specially designed for North America<br>UL/CSA<br>CE marking |

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| **AMPERAGE RATING** | 40 A |
| **VOLTAGE RATING** | 440 V - 440 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. |

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| **CHARACTERISTIC CURVE** | eaton-circuit-breaker-current-nzm-mccb-characteristic-curve.eps<br><br>eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps<br><br>eaton-circuit-breaker-nzm-mccb-characteristic-curve-036.eps |
| | eaton-cirucit-breaker-switch-disconnector-nzmb-il01203004z.pdf |
| | eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps<br><br>eaton-circuit-breaker-nzm-mccb-dimensions-017.eps<br><br>eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-006.eps |

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| **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** | DIN rail (top hat rail) mounting optional<br>Fixed<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** | 10.66 W |
| **UTILIZATION CATEGORY** | A (IEC/EN 60947-2) |
| **ISOLATION** | 500 V AC (between auxiliary contacts and main contacts)<br>300 V AC (between the auxiliary contacts) |
| **AMBIENT OPERATING TEMPERATURE - MAX** | 70 °C |
| **AMBIENT OPERATING TEMPERATURE - MIN** | -25 °C |

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| **AMBIENT STORAGE TEMPERATURE - MAX** | 70 °C |
| **AMBIENT STORAGE TEMPERATURE - MIN** | 40 °C |
| **LOW-VOLTAGE HBC FUSE - MAX** | 200 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** | Frame clamp |
| **LIFESPAN, MECHANICAL** | 20000 operations |
| **OVERVOLTAGE CATEGORY** | III |
| **RATED OPERATIONAL CURRENT** | 125 A (415 V AC-1, making and breaking capacity)<br>160 A (380/400 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)** | IP10 (tunnel terminal)<br>IP00 (terminations, phase isolator and strip terminal) |
| **NUMBER OF POLES** | Three-pole |
| **TERMINAL CAPACITY (COPPER STRIP)** | Min. 2 segments of 9 mm x 0.8 mm at box terminal<br>Max. 9 segments of 9 mm x 0.8 mm at box terminal |
| **LIFESPAN, ELECTRICAL** | 7500 operations at 400 V AC-1 |

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| **FUNCTIONS** | Current limiting circuit breaker<br>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 Icn)<br>• Rated current = rated uninterrupted current: 40 A<br>• Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.<br>• Adjustable 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 CURRENT CIRCUIT** | Front side |
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 40 A |
| **POWER LOSS** | 10.7 W |
| **RELEASE SYSTEM** | Thermomagnetic release |
| **SHORT-CIRCUIT TOTAL BREAKTIME** | < 10 ms |
| **SHORT-CIRCUIT RELEASE** | 400 A |

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| **NON-DELAYED SETTING - MAX** | |
| **SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN** | 320 A |
| **TERMINAL CAPACITY (CONTROL CABLE)** | 16 $mm^2$ - 18 $mm^2$ (2x)<br>14 $mm^2$ - 18 $mm^2$ (1x) |
| **TERMINAL CAPACITY (COPPER BUSBAR)** | Max. 16 mm x 5 mm direct at switch rear-side connection<br>M8 at rear-side screw connection<br>Min. 12 mm x 5 mm direct at switch rear-side connection |
| **TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)** | 6 $mm^2$ - 12 $mm^2$ (1x) at box terminal<br>6 $mm^2$ - 12 $mm^2$ (1x) direct at switch rear-side connection<br>6 $mm^2$ - 9 $mm^2$ (2x) direct at switch rear-side connection<br>16 $mm^2$ - 95 $mm^2$ (1x) at tunnel terminal |
| **TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)** | 16 $mm^2$ (1x) at tunnel terminal |
| **TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)** | 4 $mm^2$ - 2/0 $mm^2$ (1x) direct at switch rear-side connection<br>25 $mm^2$ - 70 $mm^2$ (1x) at box terminal<br>4 $mm^2$ - 3/0 $mm^2$ (1x) at tunnel terminal<br>25 $mm^2$ (2x) at box 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** | 400 A |
| **INSTANTANEOUS CURRENT SETTING (II) - MIN** | 320 A |
| **NUMBER OF OPERATIONS PER HOUR - MAX** | 120 |

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| **OVERLOAD CURRENT SETTING (IR) - MAX** | 40 A |
| **OVERLOAD CURRENT SETTING (IR) - MIN** | 32 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** | Box terminal |
| **RATED OPERATING VOLTAGE UE (UL) - MAX** | 480 Y / 277 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** | 6000 V |
| **RATED INSULATION VOLTAGE (UI)** | 690 V AC |

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

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