

# Specifications



Photo is representative

## Eaton 269220

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 40A, N2-A40-NA

### General specifications

|                             |  |
|-----------------------------|--|
| <b>PRODUCT NAME</b>         | Eaton Moeller series NZM molded case circuit breaker thermo-magnetic   |
| <b>CATALOG NUMBER</b>       | 269220   |
| <b>MODEL CODE</b>           | NZMN2-A40-NA   |
| <b>EAN</b>                  | 4015082692209  |
| <b>PRODUCT LENGTH/DEPTH</b> | 149 mm   |
| <b>PRODUCT HEIGHT</b>       | 195 mm   |
| <b>PRODUCT WIDTH</b>        | 105 mm   |
| <b>PRODUCT WEIGHT</b>       | 2.418 kg   |
| <b>COMPLIANCES</b>          | RoHS conform   |
| <b>CERTIFICATIONS</b>       | CE marking<br>CSA (Class No. 1432-01)<br>CSA certified<br>UL (Category Control Number DIVQ)<br>IEC 60947-2<br>UL 489<br>Specially designed for North America<br>UL listed<br>UL (File No. E31593)<br>CSA-C22.2 No. 5-09<br>IEC<br>CSA (File No. 22086)<br>IEC/EN 60947<br>UL/CSA |

## Product specifications

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| <b>AMPERAGE RATING</b>  | 40 A   |
| <b>VOLTAGE RATING</b>   | 690 V - 690 V  |
| <b>CIRCUIT BREAKER FRAME TYPE</b>   | NZM2   |
| <b>FEATURES</b>   | Protection unit<br>Motor drive optional  |
| <b>10.10 TEMPERATURE RISE</b>   | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| <b>10.11 SHORT-CIRCUIT RATING</b>   | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| <b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>  | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| <b>10.13 MECHANICAL FUNCTION</b>  | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |
| <b>10.2.2 CORROSION RESISTANCE</b>  | Meets the product standard's requirements.   |
| <b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>                         | Meets the product standard's requirements.   |
| <b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>       | Meets the product standard's requirements.   |
| <b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b> | Meets the product standard's requirements.   |
| <b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>                                 | Meets the product standard's requirements.   |
| <b>10.2.5 LIFTING</b>   | Does not apply, since the entire switchgear needs to be evaluated.   |
| <b>10.2.6 MECHANICAL IMPACT</b>   | Does not apply, since the entire switchgear needs to be evaluated.   |
| <b>10.2.7 INSCRIPTIONS</b>  | Meets the product standard's requirements.   |

## Resources

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|-----------------------------------|---|
| <b>BROCHURES</b>                  | <a href="#">eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf</a><br><a href="#">eaton-digital-nzm-brochure-br013003en-en-us.pdf</a>                |
| <b>CATALOGUES</b>                 | <a href="#">eaton-digital-nzm-catalog-ca013003en-en-us.pdf</a><br><a href="#">eaton-circuit-breaker-current-nzm-mccb-characteristic-curve-004.eps</a>           |
| <b>CHARACTERISTIC CURVE</b>       | <a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-039.eps</a><br><a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps</a>      |
| <b>DECLARATIONS OF CONFORMITY</b> | <a href="#">eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf</a><br><a href="#">eaton-circuit-breaker-nzm-mccb-dimensions-019.eps</a> |
| <b>DRAWINGS</b>                   | <a href="#">eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps</a><br><a href="#">eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps</a>                |
| <b>ECAD MODEL</b>                 | <a href="#">ETN.269220.edz</a>  |
| <b>INSTALLATION INSTRUCTIONS</b>  | <a href="#">eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf</a>  |
| <b>INSTALLATION VIDEOS</b>        | <a href="#">The new digital NZM Range</a><br><a href="#">Introduction of the new digital circuit breaker NZM</a>  |
| <b>MCAD MODEL</b>                 | <a href="#">DA-CS-nzm2_3p</a><br><a href="#">DA-CD-nzm2_3p</a>  |
| <b>TECHNICAL DATA SHEETS</b>      | <a href="#">eaton-nzm-technical-information-sheet</a>   |

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| <b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>                  | Does not apply, since the entire switchgear needs to be evaluated.                                   |
| <b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>                   | Meets the product standard's requirements.   |
| <b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>                   | Does not apply, since the entire switchgear needs to be evaluated.                                   |
| <b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>   | Does not apply, since the entire switchgear needs to be evaluated.                                   |
| <b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>        | Is the panel builder's responsibility.   |
| <b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>                 | Is the panel builder's responsibility.   |
| <b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>                 | Is the panel builder's responsibility.   |
| <b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>                         | Is the panel builder's responsibility.   |
| <b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b> | Is the panel builder's responsibility.   |
| <b>POLLUTION DEGREE</b>   | 3  |
| <b>MOUNTING METHOD</b>  | Fixed<br>Built-in device fixed built-in technique<br>DIN rail (top hat rail)<br>mounting optional    |
| <b>CLIMATIC PROOFING</b>  | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30                       |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>            | 13.44 W  |
| <b>UTILIZATION CATEGORY</b>                                     | A (IEC/EN 60947-2)   |
| <b>ISOLATION</b>  | 500 V AC (between auxiliary contacts and main contacts)<br>300 V AC (between the auxiliary contacts) |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                      | 70 °C  |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                      | -25 °C   |
| <b>AMBIENT STORAGE TEMPERATURE - MAX</b>                        | 70 °C  |
| <b>AMBIENT STORAGE TEMPERATURE - MIN</b>                        | 40 °C  |
| <b>LOW-VOLTAGE HBC FUSE</b>                                     | 355 A gG/gL  |

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| <b>- MAX</b>   |   |
| <b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>     | 0   |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b> | 0   |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>   | 0   |
| <b>PROTECTION AGAINST DIRECT CONTACT</b>                       | Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110   |
| <b>DEGREE OF PROTECTION</b>                                    | IP20 (basic degree of protection, in the operating controls area)<br>IP20   |
| <b>DIRECTION OF INCOMING SUPPLY</b>                            | As required   |
| <b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>              | Screw connection  |
| <b>LIFESPAN, MECHANICAL</b>                                    | 20000 operations  |
| <b>OVERVOLTAGE CATEGORY</b>                                    | III   |
| <b>RATED OPERATIONAL CURRENT</b>                               | 40 A (690 V AC-1, making and breaking capacity)<br>300 A (380/400 V AC-1, making and breaking capacity)<br>300 A (415 V AC-1, making and breaking capacity)<br>40 A (660-690 V AC-3, making and breaking capacity)                                    |
| <b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>                   | IP66 (with door coupling rotary handle)<br>IP40 (with insulating surround)  |
| <b>DEGREE OF PROTECTION (TERMINATIONS)</b>                     | IP10 (tunnel terminal)<br>IP00 (terminations, phase isolator and strip terminal)  |
| <b>NUMBER OF POLES</b>   | Three-pole  |
| <b>TERMINAL CAPACITY (COPPER STRIP)</b>                        | Min. 2 segments of 9 mm x 0.8 mm at box terminal<br>Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched)<br>Min. 2 segments 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 |

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| <b>LIFESPAN, ELECTRICAL</b>                            | 6500 operations at 415 V<br>AC-3<br>10000 operations at 400 V<br>AC-1<br>6500 operations at 400 V<br>AC-3<br>5000 operations at 690 V<br>AC-3<br>7500 operations at 690 V<br>AC-1  |
| <b>FUNCTIONS</b>                                       | System and cable<br>protection<br>Current limiting circuit<br>breaker  |
| <b>TYPE</b>  | Circuit breaker  |
| <b>SPECIAL FEATURES</b>                                | <ul style="list-style-type: none"> <li>• 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 <math>I_{cn}</math>)</li> <li>• Rated current = rated uninterrupted current: 40 A</li> <li>• Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.</li> <li>• Adjustable overload releases <math>I_r</math></li> </ul> |
| <b>APPLICATION</b>                                     | <ul style="list-style-type: none"> <li>• Branch circuits, feeder circuits</li> <li>• Use in unearthed supply systems at 690 V</li> </ul>   |
| <b>SHOCK RESISTANCE</b>                                | 20 g (half-sinusoidal shock 20 ms)   |
| <b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b> | Front side   |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED</b>         | 40 A   |

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| <b>HEAT DISSIPATION (IN)</b>                               |   |
| <b>POWER LOSS</b>  | 13.4 W  |
| <b>RELEASE SYSTEM</b>                                      | Thermomagnetic release  |
| <b>SHORT-CIRCUIT TOTAL BREAKTIME</b>                       | < 10 ms   |
| <b>RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)</b>      | 1.9 kA  |
| <b>RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)</b>        | 1.9 kA  |
| <b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b>     | 400 A   |
| <b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>     | 320 A   |
| <b>TERMINAL CAPACITY (CONTROL CABLE)</b>                   | 14 mm <sup>2</sup> - 18 mm <sup>2</sup> (1x)<br>16 mm <sup>2</sup> - 18 mm <sup>2</sup> (2x)  |
| <b>TERMINAL CAPACITY (COPPER BUSBAR)</b>                   | M8 at rear-side screw connection<br>Min. 16 mm x 5 mm direct at switch rear-side connection<br>Max. 20 mm x 5 mm direct at switch rear-side connection  |
| <b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>    | 16 mm <sup>2</sup> (1x) at tunnel terminal<br>6 mm <sup>2</sup> - 12 mm <sup>2</sup> (1x) at box terminal<br>6 mm <sup>2</sup> - 11 mm <sup>2</sup> (1x) direct at switch rear-side connection                        |
| <b>TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)</b>  | 16 mm <sup>2</sup> (1x) at tunnel terminal  |
| <b>TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)</b> | 4 mm <sup>2</sup> - 3/0 mm <sup>2</sup> (1x) direct at switch rear-side connection<br>4 mm <sup>2</sup> - 350 mm <sup>2</sup> (1x) at box terminal<br>4 mm <sup>2</sup> - 350 mm <sup>2</sup> (1x) at tunnel terminal |
| <b>HANDLE TYPE</b>   | Rocker lever  |
| <b>SHORT DELAY CURRENT SETTING (ISD) - MAX</b>             | 0 A   |
| <b>SHORT DELAY CURRENT SETTING (ISD) - MIN</b>             | 0 A   |
| <b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>            | 400 A   |
| <b>INSTANTANEOUS</b>                                       | 320 A   |

|  |                   |
|--|-------------------|
| <b>CURRENT SETTING (II) - MIN</b>  |                   |
| <b>NUMBER OF OPERATIONS PER HOUR - MAX</b>   | 120               |
| <b>OVERLOAD CURRENT SETTING (IR) - MAX</b>   | 40 A              |
| <b>OVERLOAD CURRENT SETTING (IR) - MIN</b>   | 32 A              |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ</b>     | 85 kA             |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ</b> | 50 kA             |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ</b>     | 35 kA             |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ</b>     | 25 kA             |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ</b>     | 5 kA              |
| <b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ</b>                  | 105 kA            |
| <b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ</b>                      | 74 kA             |
| <b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ</b>                      | 53 kA             |
| <b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ</b>                      | 40 kA             |
| <b>STANDARD TERMINALS</b>  | Screw terminal    |
| <b>RATED OPERATING VOLTAGE UE (UL) - MAX</b>   | 600Y/347 V, 480 V |
| <b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ</b>                      | 187 kA            |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS</b>                    | 6000 V            |
| <b>RATED IMPULSE WITHSTAND VOLTAGE</b>   | 8000 V            |

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**(UIMP) AT MAIN  
CONTACTS**

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**RATED INSULATION  
VOLTAGE (UI)** 1000 V AC

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**PROJECT NAME:**

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**PROJECT NUMBER:**

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**PREPARED BY:**

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**DATE:**

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