

# Specifications



Photo is representative

## Eaton 265949

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 4p, 100A, L, 2

### General specifications

|                             |   |
|-----------------------------|---|
| <b>PRODUCT NAME</b>         | Eaton Moeller series NZM molded case circuit breaker electronic |
| <b>CATALOG NUMBER</b>       | 265949  |
| <b>MODEL CODE</b>           | NZML2-4-VE100   |
| <b>EAN</b>                  | 4015082659493   |
| <b>PRODUCT LENGTH/DEPTH</b> | 149 mm  |
| <b>PRODUCT HEIGHT</b>       | 184 mm  |
| <b>PRODUCT WIDTH</b>        | 140 mm  |
| <b>PRODUCT WEIGHT</b>       | 3 kg  |
| <b>COMPLIANCES</b>          | RoHS conform  |
| <b>CERTIFICATIONS</b>       | IEC<br>IEC/EN 60947   |
| <b>GLOBAL CATALOG</b>       | 265949  |

## Product specifications

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| <b>AMPERAGE RATING</b>  | 100 A  |
| <b>VOLTAGE RATING</b>   | 690 V - 690 V  |
| <b>CIRCUIT BREAKER FRAME TYPE</b>   | NZM2   |
| <b>FEATURES</b>   | Motor drive optional<br>Protection unit  |
| <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

|                                   |   |
|-----------------------------------|---|
| <b>BROCHURES</b>                  | <a href="#">eaton-digital-nzm-brochure-br013003en-en-us.pdf</a>   |
| <b>CATALOGS</b>                   | <a href="#">eaton-digital-nzm-catalog-ca013003en-en-us.pdf</a>  |
| <b>CHARACTERISTIC CURVE</b>       | <a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-006.eps</a><br><a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-054.eps</a><br><a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-007.eps</a> |
| <b>DECLARATIONS OF CONFORMITY</b> | <a href="#">eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250291en.pdf</a>  |
| <b>DRAWINGS</b>                   | <a href="#">eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps</a><br><a href="#">eaton-circuit-breaker-nzm-mccb-dimensions-035.eps</a>   |
| <b>ECAD MODEL</b>                 | <a href="#">DA-CE-ETN.NZML2-4-VE100</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="#">nzml2_4_ve100.stp</a><br><a href="#">nzml2_4_ve100.dwg</a>  |
| <b>PEP ECO-PASSPORT</b>           | <a href="#">eaton-molded-case-switches-pep-eato-00195-v0101-en.pdf</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>  | Built-in device fixed built-in technique<br>Fixed<br>DIN rail (top hat rail)<br>mounting optional    |
| <b>CLIMATIC PROOFING</b>  | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78                       |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>            | 8.25 W   |
| <b>UTILIZATION CATEGORY</b>                                     | A (IEC/EN 60947-2)   |
| <b>ISOLATION</b>  | 300 V AC (between the auxiliary contacts)<br>500 V AC (between auxiliary contacts and main 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>NUMBER OF AUXILIARY</b>                                      | 0  |

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| <b>CONTACTS (CHANGE-OVER CONTACTS)</b>                         |   |
| <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<br>IP20 (basic degree of protection, in the operating controls area)   |
| <b>DIRECTION OF INCOMING SUPPLY</b>                            | As required   |
| <b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>              | Screw connection  |
| <b>CURRENT RATING OF NEUTRAL CONDUCTOR</b>                     | 200% of phase conductor   |
| <b>LIFESPAN, MECHANICAL</b>                                    | 20000 operations  |
| <b>OVERVOLTAGE CATEGORY</b>                                    | III   |
| <b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>                   | IP40 (with insulating surround)<br>IP66 (with door coupling rotary handle)  |
| <b>DEGREE OF PROTECTION (TERMINATIONS)</b>                     | IP00 (terminations, phase isolator and strip terminal)<br>IP10 (tunnel terminal)  |
| <b>NUMBER OF POLES</b>   | Four-pole   |
| <b>TERMINAL CAPACITY (COPPER STRIP)</b>                        | Max. 10 segments of 16 mm x 0.8 mm at box terminal<br>Min. 2 segments of 9 mm x 0.8 mm at box terminal<br>Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)<br>Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched)<br>Max. 8 segments of 24 mm x 1 mm (2x) at box terminal |
| <b>LIFESPAN, ELECTRICAL</b>                                    | 6500 operations at 400 V AC-3<br>10000 operations at 415 V AC-1<br>5000 operations at 690 V AC-3  |

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| 6500 operations at 415 V<br>AC-3  |
| 7500 operations at 690 V<br>AC-1  |
| 10000 operations at 400 V<br>AC-1 |
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| <b>FUNCTIONS</b> | Systems, cable, selectivity and generator protection |
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| <b>TYPE</b> | Circuit breaker |
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| <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>R.m.s. value measurement and "thermal memory"</li> <li>Adjustable time delay setting to overcome current peaks <math>t_r</math> at <math>6 \times I_r</math> also infinity (without overload releases)</li> <li>Adjustable delay time <math>t_{sd}</math></li> <li><math>i^2t</math> constant function: fixed OFF</li> <li>Set value in neutral conductor is synchronous with set value <math>I_r</math> of main pole.</li> <li>Rated current = rated uninterrupted current: 100 A</li> </ul> |
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| <b>APPLICATION</b> | Use in unearthed supply systems at 690 V |
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| <b>SHOCK RESISTANCE</b> | 20 g (half-sinusoidal shock 20 ms) |
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| <b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b> | Front side |
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| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 100 A |
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| <b>RELEASE SYSTEM</b> | Electronic release |
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| <b>SHORT-CIRCUIT TOTAL<br/>BREAKTIME</b>                           | < 10 ms   |
| <b>RATED SHORT-TIME<br/>WITHSTAND CURRENT (T<br/>= 0.3 S)</b>      | 1.3 kA  |
| <b>RATED SHORT-TIME<br/>WITHSTAND CURRENT (T<br/>= 1 S)</b>        | 1.3 kA  |
| <b>SHORT-CIRCUIT RELEASE<br/>DELAYED SETTING - MAX</b>             | 1000 A  |
| <b>SHORT-CIRCUIT RELEASE<br/>DELAYED SETTING - MIN</b>             | 100 A   |
| <b>SHORT-CIRCUIT RELEASE<br/>NON-DELAYED SETTING -<br/>MAX</b>     | 1200 A  |
| <b>SHORT-CIRCUIT RELEASE<br/>NON-DELAYED SETTING -<br/>MIN</b>     | 1200 A  |
| <b>TERMINAL CAPACITY<br/>(CONTROL CABLE)</b>                       | 0.75 mm <sup>2</sup> - 2.5 mm <sup>2</sup> (1x)<br>0.75 mm <sup>2</sup> - 1.5 mm <sup>2</sup> (2x)  |
| <b>TERMINAL CAPACITY<br/>(COPPER BUSBAR)</b>                       | Max. 24 mm x 8 mm direct<br>at switch rear-side<br>connection<br>Min. 16 mm x 5 mm direct<br>at switch rear-side<br>connection<br>M8 at rear-side screw<br>connection   |
| <b>TERMINAL CAPACITY<br/>(COPPER SOLID<br/>CONDUCTOR/CABLE)</b>    | 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x)<br>direct at switch rear-side<br>connection<br>6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct<br>at switch rear-side<br>connection<br>10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) at<br>box terminal<br>6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) at<br>box terminal<br>16 mm <sup>2</sup> (1x) at tunnel<br>terminal |
| <b>TERMINAL CAPACITY<br/>(ALUMINUM SOLID<br/>CONDUCTOR/CABLE)</b>  | 16 mm <sup>2</sup> (1x) at tunnel<br>terminal<br>10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x)<br>direct at switch rear-side<br>connection<br>10 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x)<br>direct at switch rear-side<br>connection   |
| <b>TERMINAL CAPACITY<br/>(COPPER STRANDED<br/>CONDUCTOR/CABLE)</b> | 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at<br>1-hole tunnel terminal<br>25 mm <sup>2</sup> - 70 mm <sup>2</sup> (2x) at<br>box terminal<br>25 mm <sup>2</sup> - 70 mm <sup>2</sup> (2x)<br>direct at switch rear-side<br>connection   |

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|  | 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at box terminal<br>25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) direct at switch rear-side connection   |
| <b>TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)</b>                           | 25 mm <sup>2</sup> - 50 mm <sup>2</sup> (2x) direct at switch rear-side connection<br>25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at tunnel terminal<br>25 mm <sup>2</sup> - 50 mm <sup>2</sup> (1x) direct at switch rear-side connection |
| <b>HANDLE TYPE</b>   | Rocker lever   |
| <b>SHORT DELAY CURRENT SETTING (ISD) - MAX</b>   | 1000 A   |
| <b>SHORT DELAY CURRENT SETTING (ISD) - MIN</b>   | 100 A  |
| <b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>  | 1200 A   |
| <b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>  | 1200 A   |
| <b>NUMBER OF OPERATIONS PER HOUR - MAX</b>   | 120  |
| <b>OVERLOAD CURRENT SETTING (IR) - MAX</b>   | 100 A  |
| <b>OVERLOAD CURRENT SETTING (IR) - MIN</b>   | 50 A   |
| <b>OVERLOAD CURRENT SETTING (IR)</b>   | 50 A - 100 A   |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 Hz</b>     | 150 kA   |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 Hz</b> | 150 kA   |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 Hz</b>     | 130 kA   |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 Hz</b>     | 100 kA   |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 Hz</b>     | 80 kA  |

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|---|---|
| <b>RATED SHORT-CIRCUIT<br/>MAKING CAPACITY ICM<br/>AT 400/415 V, 50/60 Hz</b>   | 330 kA  |
| <b>RATED SHORT-CIRCUIT<br/>MAKING CAPACITY ICM<br/>AT 440 V, 50/60 Hz</b>       | 286 kA  |
| <b>RATED SHORT-CIRCUIT<br/>MAKING CAPACITY ICM<br/>AT 525 V, 50/60 Hz</b>       | 220 kA  |
| <b>RATED SHORT-CIRCUIT<br/>MAKING CAPACITY ICM<br/>AT 690 V, 50/60 Hz</b>       | 176 kA  |
| <b>STANDARD TERMINALS</b>   | Screw terminal                                    |
| <b>OPTIONAL TERMINALS</b>   | Box terminal. Connection on rear. Tunnel terminal |
| <b>RATED SHORT-CIRCUIT<br/>MAKING CAPACITY ICM<br/>AT 240 V, 50/60 Hz</b>       | 330 kA  |
| <b>RATED IMPULSE<br/>WITHSTAND VOLTAGE<br/>(UIMP) AT AUXILIARY<br/>CONTACTS</b> | 6000 V  |
| <b>RATED IMPULSE<br/>WITHSTAND VOLTAGE<br/>(UIMP) AT MAIN<br/>CONTACTS</b>      | 8000 V  |
| <b>RATED INSULATION<br/>VOLTAGE (UI)</b>  | 1000 V AC   |

**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**



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