

# Specifications



Photo is representative

## Eaton 168512

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 4p, 500A, withdrawable unit, NZMN3-4-A500-SVE

### General specifications

|                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller series NZM molded case circuit breaker thermo-magnetic |
| <b>CATALOG NUMBER</b>       | 168512                                                               |
| <b>MODEL CODE</b>           | NZMN3-4-A500-SVE                                                     |
| <b>EAN</b>                  | 4015081649907                                                        |
| <b>PRODUCT LENGTH/DEPTH</b> | 335 mm                                                               |
| <b>PRODUCT HEIGHT</b>       | 215.2 mm                                                             |
| <b>PRODUCT WIDTH</b>        | 185 mm                                                               |
| <b>PRODUCT WEIGHT</b>       | 8.81 kg                                                              |
| <b>COMPLIANCES</b>          | RoHS conform                                                         |

## Delivery programme

|                         |                                                          |
|-------------------------|----------------------------------------------------------|
| <b>AMPERAGE RATING</b>  | 500 A                                                    |
| <b>FEATURES</b>         | Protection unit<br>Motor drive optional                  |
| <b>NUMBER OF POLES</b>  | Four-pole                                                |
| <b>SPECIAL FEATURES</b> | Rated current = rated<br>uninterrupted current: 500<br>A |

## Design verification to IEC/EN 61439

|                                                                                         |                                                                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <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.                                                                                       |
| <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</b>                                                                  | Does not apply, since the                                                                                                        |

## Design verification to IEC/EN 61439 - technical data

|                                                      |         |
|------------------------------------------------------|---------|
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>           | 70 °C   |
| <b>AMBIENT STORAGE TEMPERATURE - MAX</b>             | 70 °C   |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>           | -25 °C  |
| <b>AMBIENT STORAGE TEMPERATURE - MIN</b>             | 40 °C   |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b> | 130.5 W |

|                                                                 |                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------|
| <b>AGAINST ELECTRIC SHOCK</b>                                   | 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.                             |

## Technical data - electrical

|                                                                                        |                         |
|----------------------------------------------------------------------------------------|-------------------------|
| <b>AMPERAGE RATING</b>                                                                 | 500 A                   |
| <b>CURRENT RATING OF NEUTRAL CONDUCTOR</b>                                             | 200% of phase conductor |
| <b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>                                      | Screw connection        |
| <b>HANDLE TYPE</b>                                                                     | Rocker lever            |
| <b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>                                        | 10 A                    |
| <b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>                                        | 6 A                     |
| <b>OVERLOAD CURRENT SETTING (IR)</b>                                                   | 400 A - 500 A           |
| <b>OVERLOAD CURRENT SETTING (IR) - MAX</b>                                             | 500 A                   |
| <b>OVERLOAD CURRENT SETTING (IR) - MIN</b>                                             | 400 A                   |
| <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 500 V DC</b>            | 30 kA                   |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 750 V DC</b>            | 30 kA                   |

## Technical data - mechanical

|                                                                |                                                    |
|----------------------------------------------------------------|----------------------------------------------------|
| <b>DEGREE OF PROTECTION</b>                                    | IP20                                               |
| <b>MOUNTING METHOD</b>                                         | Built-in device plug-in technique                  |
| <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>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b>         | Front side                                         |
| <b>SPECIAL FEATURES</b>                                        | Rated current = rated uninterrupted current: 500 A |

|                                                        |        |
|--------------------------------------------------------|--------|
| <b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b> | 5000 A |
|--------------------------------------------------------|--------|

|                                                        |        |
|--------------------------------------------------------|--------|
| <b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b> | 3000 A |
|--------------------------------------------------------|--------|

|                       |               |
|-----------------------|---------------|
| <b>VOLTAGE RATING</b> | 690 V - 690 V |
|-----------------------|---------------|

## Resources

|                            |                                                                                                                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BROCHURES                  | <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>                                         |
| CATALOGUES                 | <a href="#">eaton-digital-nzm-catalog-ca013003en-en-us.pdf</a>                                                                                                                           |
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-molded-case-circuit-breaker-declaration-of-conformity-uk251454en.pdf</a><br><a href="#">eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250292en.pdf</a> |
| ECAD MODEL                 | <a href="#">DA-CE-ETN.NZMN3-4-A500-SVE</a>                                                                                                                                               |
| INSTALLATION INSTRUCTIONS  | <a href="#">eaton-circuit-breaker-plug-in-adapter-nzm2-il01219023z.pdf</a>                                                                                                               |
| INSTALLATION VIDEOS        | <a href="#">The new digital NZM Range</a><br><a href="#">Introduction of the new digital circuit breaker NZM</a>                                                                         |
| MCAD MODEL                 | <a href="#">eaton-molded-case-switches-mcad-3d-models-nzm3-4p-xsve.stp</a><br><a href="#">eaton-molded-case-switches-mcad-drawings-nzm3-4p-xsve.dwg</a>                                  |
| PEP ECO-PASSPORT           | <a href="#">eaton-molded-case-switches-pep-eato-00231-v0101-en.pdf</a>                                                                                                                   |
| TECHNICAL DATA SHEETS      | <a href="#">eaton-nzm-technical-information-sheet</a>                                                                                                                                    |

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



**Eaton Corporation plc** Eaton House  
30 Pembroke Road  
Dublin 4, Ireland  
Eaton.com

© 2026 Eaton. All Rights Reserved.

Follow us on social media to get the latest product and support information.

