

Specifications



Photo is representative



Eaton 281289

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 4p, 25A, H, frame 2, 4-A25

General specifications

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| PRODUCT NAME | Eaton Moeller series NZM molded case circuit breaker thermo-magnetic |
| CATALOG NUMBER | 281289 |
| MODEL CODE | NZMH2-4-A25 |
| EAN | 4015082812898 |
| PRODUCT LENGTH/DEPTH | 149 mm |
| PRODUCT HEIGHT | 184 mm |
| PRODUCT WIDTH | 140 mm |
| PRODUCT WEIGHT | 3 kg |
| COMPLIANCES | RoHS conform |
| CERTIFICATIONS | IEC/EN 60947 IEC |
| GLOBAL CATALOG | 281289 |

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Product specifications

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| AMPERAGE RATING | 25 A |
| VOLTAGE RATING | 690 V - 690 V |
| CIRCUIT BREAKER FRAME TYPE | NZM2 |
| FEATURES | Motor drive optional 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. |
| 10.2.7 INSCRIPTIONS | Meets the product standard's requirements. |

Resources

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| | eaton-nas-network-and-system-protection-brochure-br01301001zen-en-us.pdf |
| BROCHURES | eaton-digital-nzm-brochure-br013003en-en-us.pdf eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf |
| CATALOGS | eaton-digital-nzm-catalog-ca013003en-en-us.pdf |
| | eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-037.eps |
| DECLARATIONS OF CONFORMITY | eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf |
| | eaton-circuit-breaker-nzm-mccb-dimensions-035.eps |
| DRAWINGS | eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps |
| ECAD MODEL | ETN.281289.edz |
| INSTALLATION INSTRUCTIONS | eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf |
| INSTALLATION VIDEOS | Introduction of the new digital circuit breaker NZM The new digital NZM Range |
| MCAD MODEL | DA-CS-nzm2_4p DA-CD-nzm2_4p |
| PEP ECO-PASSPORT | eaton-molded-case-switches-pep-eato-00207-v0101-en.pdf |
| TECHNICAL DATA SHEETS | eaton-nzm-technical-information-sheet |

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| 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 DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique |
| CLIMATIC PROOFING | Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78 |
| EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT | 7.97 W |
| UTILIZATION CATEGORY | A (IEC/EN 60947-2) |
| ISOLATION | 300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts) |
| AMBIENT OPERATING TEMPERATURE - MAX | 70 °C |
| AMBIENT OPERATING TEMPERATURE - MIN | -25 °C |
| AMBIENT STORAGE TEMPERATURE - MAX | 70 °C |
| AMBIENT STORAGE TEMPERATURE - MIN | -40 °C |
| NUMBER OF AUXILIARY | 0 |

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| CONTACTS (CHANGE-OVER CONTACTS) | |
| 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 IP20 (basic degree of protection, in the operating controls area) |
| DIRECTION OF INCOMING SUPPLY | As required |
| ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT | Screw connection |
| CURRENT RATING OF NEUTRAL CONDUCTOR | 200% of phase conductor |
| LIFESPAN, MECHANICAL | 20000 operations |
| OVERVOLTAGE CATEGORY | III |
| DEGREE OF PROTECTION (IP), FRONT SIDE | IP66 (with door coupling rotary handle) IP40 (with insulating surround) |
| DEGREE OF PROTECTION (TERMINATIONS) | IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal) |
| NUMBER OF POLES | Four-pole |
| TERMINAL CAPACITY (COPPER STRIP) | Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) |
| LIFESPAN, ELECTRICAL | 6500 operations at 400 V AC-3 6500 operations at 415 V AC-3 7500 operations at 690 V AC-1 |

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| | 5000 operations at 690 V AC-3 10000 operations at 400 V AC-1 10000 operations at 415 V AC-1 |
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| FUNCTIONS | System and cable protection |
| TYPE | Circuit breaker |

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| SPECIAL FEATURES | <ul style="list-style-type: none"> • 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 I_{cn}) • Rated current = rated uninterrupted current: 25 A • Set value in neutral conductor is synchronous with set value I_r of main pole. |
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| APPLICATION | Use in unearthed supply systems at 690 V |
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| SHOCK RESISTANCE | 20 g (half-sinusoidal shock 20 ms) |
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| POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT | Front side |
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| RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) | 25 A |
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| RELEASE SYSTEM | Thermomagnetic release |
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| SHORT-CIRCUIT TOTAL BREAKTIME | < 10 ms |
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| RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S) | 1.9 kA |
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| RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S) | 1.9 kA |
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| SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX | 350 A |
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| SHORT-CIRCUIT RELEASE | 350 A |
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**NON-DELAYED SETTING -
MIN**

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| TERMINAL CAPACITY (CONTROL CABLE) | 0.75 mm ² - 2.5 mm ² (1x) 0.75 mm ² - 1.5 mm ² (2x) |
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| TERMINAL CAPACITY (COPPER BUSBAR) | Max. 24 mm x 8 mm direct at switch rear-side connection Min. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection |
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| TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE) | 10 mm ² - 16 mm ² (1x) at box terminal 6 mm ² - 16 mm ² (2x) at box terminal 16 mm ² (1x) at tunnel terminal 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection 6 mm ² - 16 mm ² (2x) direct at switch rear-side connection |
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| TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE) | 16 mm ² (1x) at tunnel terminal 10 mm ² - 16 mm ² (2x) direct at switch rear-side connection 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection |
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| TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE) | 25 mm ² - 70 mm ² (2x) at box terminal 25 mm ² - 185 mm ² (1x) direct at switch rear-side connection 25 mm ² - 70 mm ² (2x) direct at switch rear-side connection 25 mm ² - 185 mm ² (1x) at 1-hole tunnel terminal 25 mm ² - 185 mm ² (1x) at box terminal |
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| TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE) | 25 mm ² - 50 mm ² (1x) direct at switch rear-side connection 25 mm ² - 185 mm ² (1x) at tunnel terminal 25 mm ² - 50 mm ² (2x) direct at switch rear-side connection |
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| HANDLE TYPE | Rocker lever |
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| SHORT DELAY CURRENT SETTING (ISD) - MAX | 0 A |
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| SHORT DELAY CURRENT | 0 A |
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| SETTING (ISD) - MIN | |
| INSTANTANEOUS CURRENT SETTING (II) - MAX | 350 A |
| INSTANTANEOUS CURRENT SETTING (II) - MIN | 350 A |
| NUMBER OF OPERATIONS PER HOUR - MAX | 120 |
| OVERLOAD CURRENT SETTING (IR) - MAX | 25 A |
| OVERLOAD CURRENT SETTING (IR) - MIN | 20 A |
| OVERLOAD CURRENT SETTING (IR) | 20 A - 25 A |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ | 150 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ | 150 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ | 130 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ | 37.5 kA |
| RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ | 5 kA |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ | 330 kA |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ | 286 kA |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ | 105 kA |
| RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ | 40 kA |
| STANDARD TERMINALS | Screw terminal |
| OPTIONAL TERMINALS | Box terminal. Connection on rear. Tunnel terminal |
| RATED SHORT-CIRCUIT | 330 kA |

**MAKING CAPACITY ICM
AT 240 V, 50/60 HZ**

**RATED IMPULSE
WITHSTAND VOLTAGE
(UIMP) AT AUXILIARY
CONTACTS** 6000 V

**RATED IMPULSE
WITHSTAND VOLTAGE
(UIMP) AT MAIN
CONTACTS** 8000 V

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

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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