

# Specifications



Photo is representative



## Eaton 102682

Eaton Moeller series NZM - Molded Case Circuit Breaker. Molded Case Switch, 3p, 100A

### General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case switch
CATALOG NUMBER	102682
MODEL CODE	NS1-100-NA
EAN	4015081025428
PRODUCT LENGTH/DEPTH	88 mm
PRODUCT HEIGHT	145 mm
PRODUCT WIDTH	90 mm
PRODUCT WEIGHT	1.046 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	UL (Category Control Number WJAZ) Specially designed for North America IEC IEC 60947-2 CSA-C22.2 No. 5-09 CSA certified UL listed CSA (File No. 22086) UL 489 UL/CSA CE marking CSA (Class No. 4652-06) UL (File No. E148671)
GLOBAL CATALOG	102682



Powering Business Worldwide

## Product specifications

<b>AMPERAGE RATING</b>	100 A
<b>VOLTAGE RATING</b>	690 V - 690 V
<b>CIRCUIT BREAKER FRAME TYPE</b>	N1
<b>FEATURES</b>	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-feerum-the-whole-grain-solution-success-story-en-us.pdf</a> <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-let-through-current-nzm-mccb-characteristic-curve-002.eps</a> <a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">eaton-molded-case-switch-declaration-of-conformity-eu250132en.pdf</a> <a href="#">eaton-circuit-breaker-nzm-mccb-dimensions-017.eps</a>
<b>DRAWINGS</b>	<a href="#">eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps</a> <a href="#">eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-006.eps</a>
<b>ECAD MODEL</b>	<a href="#">ETN.NS1-100-NA</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">eaton-circuit-breaker-switch-disconnector-nzmb-il01203004z.pdf</a>
<b>INSTALLATION VIDEOS</b>	<a href="#">Introduction of the new digital circuit breaker NZM</a> <a href="#">The new digital NZM Range</a>
<b>MCAD MODEL</b>	<a href="#">DA-CS-nzm1_xsve</a> <a href="#">DA-CD-nzm1_xsve</a>
<b>TECHNICAL DATA SHEETS</b>	<a href="#">eaton-nzm-technical-information-sheet</a>

<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>	DIN rail (top hat rail) mounting optional Fixed Built-in device fixed built-in technique
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	16.86 W
<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>RATED CURRENT (IU)</b>	125 A
<b>CURRENT RATING (IU) (UL 489 CSA 22.2 NO. 5.1)</b>	125 A
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY</b>	0

<b>CONTACTS (NORMALLY OPEN CONTACTS)</b>	
<b>SWITCH POSITIONS</b>	I, +, 0
<b>DEGREE OF PROTECTION</b>	IP20 In the area of the HMI devices: IP20 (basic protection type)
<b>DIRECTION OF INCOMING SUPPLY</b>	As required
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Frame clamp
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>OVERVOLTAGE CATEGORY</b>	III
<b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
<b>DEGREE OF PROTECTION (TERMINATIONS)</b>	IP00 (terminations, phase isolator and band terminal) IP10 (tunnel 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 Max. 9 segments of 9 mm x 0.8 mm at box terminal
<b>LIFESPAN, ELECTRICAL</b>	7500 operations at 690 V AC-1 10000 operations at 415 V AC-1 10000 operations at 400 V AC-1
<b>FUNCTIONS</b>	Disconnectors/main switches
<b>TYPE</b>	Switch-disconnector

- SPECIAL FEATURES**
- IEC/EN 60947-2: circuit breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204.
  - Rated current = rated uninterrupted current: 100 A
  - Terminal capacity hint: Up to 95 mm<sup>2</sup>

can be connected  
depending on the  
cable  
manufacturer.

<b>APPLICATION</b>	Branch circuits, feeder circuits
<b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b>	Front side
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	100 A
<b>POWER LOSS</b>	16.9 W
<b>SHORT-CIRCUIT TOTAL BREAKTIME</b>	< 10 ms
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b>	1250 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>	1250 A
<b>TERMINAL CAPACITY (COPPER BUSBAR)</b>	Max. 16 mm x 5 mm direct at switch rear-side connection M6 at rear-side screw connection NA: max. 16 mm x 5 mm direct at switch rear-side connection NA: min. 12 mm x 5 mm direct at switch rear-side connection NA: M6 at rear-side screw connection Min. 12 mm x 5 mm direct at switch rear-side connection
<b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>	10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) at box terminal 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) direct at switch rear-side connection 6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) at box terminal 6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct at switch rear-side connection NA: 12 - 6 AWG (1x) at box terminal NA: 12 - 6 AWG (1x) direct at switch rear-side connection NA: 9 - 6 AWG (2x) direct at switch rear-side connection

	NA: 6 AWG (1x) at tunnel terminal 16 mm <sup>2</sup> (1x) at tunnel terminal
<b>TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)</b>	10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) direct at switch rear-side connection 16 mm <sup>2</sup> (1x) at tunnel terminal 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct at switch rear-side connection
<b>TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)</b>	10 mm <sup>2</sup> - 70 mm <sup>2</sup> (1x) at box terminal NA: 4 - 3/0 AWG/kcmil (1x) at 1-hole tunnel terminal 25 mm <sup>2</sup> (2x) direct at switch rear-side connection 25 mm <sup>2</sup> - 70 mm <sup>2</sup> (1x) direct at switch rear-side connection NA: 4 - 2/0 AWG/kcmil (1x) at box terminal 25 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at 1-hole tunnel terminal 6 mm <sup>2</sup> - 25 mm <sup>2</sup> (2x) at box terminal
<b>TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)</b>	25 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at 1-hole tunnel terminal 25 mm <sup>2</sup> - 35 mm <sup>2</sup> (1x) direct at switch rear-side connection 25 mm <sup>2</sup> - 35 mm <sup>2</sup> (2x) direct at switch rear-side connection
<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>	1250 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	1250 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	120
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	0 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	0 A
<b>RATED SHORT-CIRCUIT</b>	85 kA

<b>BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ</b>	
<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>	10 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ</b>	7.5 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>	17 kA
<b>STANDARD TERMINALS</b>	Box terminal
<b>OPTIONAL TERMINALS</b>	Connection on rear. Screw terminal. Tunnel terminal
<b>RATED OPERATING VOLTAGE UE (UL) - MAX</b>	480 Y / 277 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 (UIMP) AT MAIN CONTACTS</b>	6000 V
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V AC

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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