

# Eaton 269228

Catalog Number: 269228

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 20A, H2-A20-NA



### General specifications

#### Product Name

Eaton Moeller series NZM molded case  
circuit breaker thermo-magnetic

#### Catalog Number

269228

#### EAN

4015082692285

#### Product Length/Depth

149 mm

#### Product Height

195 mm

#### Product Width

105 mm

#### Product Weight

2.402 kg

#### Compliances

RoHS conform

#### Certifications

IEC/EN 60947

Specially designed for North America

CE marking

CSA-C22.2 No. 5-09

UL/CSA

UL (Category Control Number DIVQ)

CSA certified

IEC 60947-2

IEC

UL listed

CSA (File No. 22086)

UL 489

CSA (Class No. 1432-01)

UL (File No. E31593)

## Product specifications

### Type

Circuit breaker

### Special features

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: 20 A

Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.

Adjustable overload releases  $I_r$

### Application

Branch circuits, feeder circuits

Use in unearthed supply systems at 690 V

### Amperage Rating

20 A

### Voltage rating

690 V - 690 V

### Circuit breaker frame type

NZM2

### Features

Protection unit

Motor drive optional

### 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

## Resources

### 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](#)

### Characteristic curve

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-040.eps](#)

[eaton-circuit-breaker-current-nzm-mccb-characteristic-curve-005.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps](#)

### Drawings

[eaton-circuit-breaker-nzm-mccb-dimensions-019.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps](#)

### eCAD model

[ETN.269228.edz](#)

### Installation videos

[The new digital NZM Range](#)

[Introduction of the new digital circuit breaker NZM](#)

### mCAD model

[DA-CS-nzm2\\_3p](#)

[DA-CD-nzm2\\_3p](#)

### Technical data sheets

[eaton-nzm-technical-information-sheet](#)

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.

#### 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

Built-in device fixed built-in technique

DIN rail (top hat rail) mounting optional

#### Climatic proofing

Damp heat, constant, to IEC 60068-2-78

Damp heat, cyclic, to IEC 60068-2-30

#### Equipment heat dissipation, current-dependent

5.1 W

#### Utilization category

A (IEC/EN 60947-2)

#### Isolation

500 V AC (between auxiliary contacts and main contacts)

300 V AC (between the auxiliary 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

#### Low-voltage HBC fuse - max

355 A gG/gL

#### Number of auxiliary contacts (change-over contacts)

0

#### 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

Lifespan, mechanical

20000 operations

Overvoltage category

III

Rated operational current

300 A (380/400 V AC-1, making and breaking capacity)

20 A (660-690 V AC-3, making and breaking capacity)

300 A (415 V AC-1, making and breaking capacity)

20 A (690 V AC -1, making and breaking capacity)

Degree of protection (IP), front side

IP40 (with insulating surround)

IP66 (with door coupling rotary handle)

Degree of protection (terminations)

IP00 (terminations, phase isolator and strip terminal)

IP10 (tunnel terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

Max. 10 segments of 16 mm x 0.8 mm at box terminal

Min. 2 segments of 16 mm x 0.8 mm at rear-side connection  
(punched)

Min. 2 segments of 9 mm x 0.8 mm at box terminal

Max. 10 segments of 16 mm x 0.8 mm at rear-side connection  
(punched)

Lifespan, electrical

10000 operations at 400 V AC-1

6500 operations at 415 V AC-3

7500 operations at 690 V AC-1  
6500 operations at 400 V AC-3  
5000 operations at 690 V AC-3

#### Functions

System and cable protection  
Current limiting circuit breaker

#### Shock resistance

20 g (half-sinusoidal shock 20 ms)

#### Position of connection for main current circuit

Front side

#### Rated operational current for specified heat dissipation (I<sub>n</sub>)

20 A

#### Power loss

5.1 W

#### Release system

Thermomagnetic release

#### Short-circuit total breaktime

< 10 ms

#### Rated short-time withstand current (t = 0.3 s)

1.9 kA

#### Rated short-time withstand current (t = 1 s)

1.9 kA

#### Short-circuit release non-delayed setting - max

350 A

#### Short-circuit release non-delayed setting - min

350 A

#### Terminal capacity (control cable)

16 mm<sup>2</sup> - 18 mm<sup>2</sup> (2x)

14 mm<sup>2</sup> - 18 mm<sup>2</sup> (1x)

#### Terminal capacity (copper busbar)

Max. 20 mm x 5 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

#### Terminal capacity (copper solid conductor/cable)

16 mm<sup>2</sup> (1x) at tunnel terminal

6 mm<sup>2</sup> - 12 mm<sup>2</sup> (1x) at box terminal

6 mm<sup>2</sup> - 11 mm<sup>2</sup> (1x) direct at switch rear-side connection

#### Terminal capacity (aluminum solid conductor/cable)

16 mm<sup>2</sup> (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

4 mm<sup>2</sup> - 350 mm<sup>2</sup> (1x) at box terminal

4 mm<sup>2</sup> - 3/0 mm<sup>2</sup> (1x) direct at switch rear-side connection

4 mm<sup>2</sup> - 350 mm<sup>2</sup> (1x) at tunnel terminal

Handle type

Rocker lever

Short delay current setting (I<sub>sd</sub>) - max

0 A

Short delay current setting (I<sub>sd</sub>) - min

0 A

Instantaneous current setting (I<sub>i</sub>) - max

350 A

Instantaneous current setting (I<sub>i</sub>) - min

350 A

Number of operations per hour - max

120

Overload current setting (I<sub>r</sub>) - max

20 A

Overload current setting (I<sub>r</sub>) - min

15 A

Rated short-circuit breaking capacity I<sub>cs</sub> (IEC/EN 60947) at 230 V, 50/60 Hz

150 kA

Rated short-circuit breaking capacity I<sub>cs</sub> (IEC/EN 60947) at 400/415 V, 50/60 Hz

150 kA

Rated short-circuit breaking capacity I<sub>cs</sub> (IEC/EN 60947) at 440 V, 50/60 Hz

130 kA

Rated short-circuit breaking capacity I<sub>cs</sub> (IEC/EN 60947) at 525 V, 50/60 Hz

37.5 kA

Rated short-circuit breaking capacity I<sub>cs</sub> (IEC/EN 60947) at 690 V, 50/60 Hz

5 kA

Rated short-circuit making capacity I<sub>cm</sub> at 400/415 V, 50/60 Hz

330 kA

Rated short-circuit making capacity I<sub>cm</sub> at 440 V, 50/60 Hz

286 kA

Rated short-circuit making capacity I<sub>cm</sub> at 525 V, 50/60 Hz

105 kA

Rated short-circuit making capacity  $I_{cm}$  at 690 V, 50/60 Hz

40 kA

Standard terminals

Screw terminal

Rated operating voltage  $U_e$  (UL) - max

600Y/347 V, 480 V

Rated short-circuit making capacity  $I_{cm}$  at 240 V, 50/60 Hz

330 kA

Rated impulse withstand voltage ( $U_{imp}$ ) at auxiliary contacts

6000 V

Rated impulse withstand voltage ( $U_{imp}$ ) at main contacts

8000 V

Rated insulation voltage ( $U_i$ )

1000 V AC



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