

# Eaton 269287

Catalog Number: 269287

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 450A, busbar terminal for CU H, frame 3, AEF450-NA



### General specifications

#### Product Name

Eaton Moeller series NZM molded case  
circuit breaker electronic

#### Catalog Number

269287

#### EAN

4015082692872

#### Product Length/Depth

166 mm

#### Product Height

297 mm

#### Product Width

140 mm

#### Product Weight

6.34 kg

#### Compliances

RoHS conform

#### Certifications

CSA-C22.2 No. 5-09

IEC 60947-2

UL (File No. E31593)

UL 489

CSA (File No. 22086)

Specially designed for North America

CE marking

UL listed

IEC

IEC/EN 60947

CSA (Class No. 1432-01)

UL (Category Control Number DIVQ)

UL/CSA

CSA certified

## 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: 450 A  
Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.  
Fixed overload releases  $I_r$   
R.m.s. value measurement and “thermal memory”

### Application

Branch circuits, feeder circuits  
Use in unearthed supply systems at 690 V

### Amperage Rating

450 A

### Voltage rating

690 V - 690 V

### Circuit breaker frame type

NZM3

### 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.

## 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-033.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-030.eps](#)

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

### Drawings

[eaton-circuit-breaker-nzm-mccb-dimensions-020.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-002.eps](#)

### eCAD model

[ETN.269287.edz](#)

### Installation instructions

[eaton-circuit-breaker-basic-device-nzmn-b-il01208009z.pdf](#)

### Installation videos

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

[The new digital NZM Range](#)

### mCAD model

[DA-CS-nzm3\\_3p](#)

[DA-CD-nzm3\\_3p](#)

### Technical data sheets

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

#### 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.

#### 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

#### Climatic proofing

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

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

#### Equipment heat dissipation, current-dependent

60.75 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

#### 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

15000 operations

#### Overvoltage category

III

#### Rated operational current

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

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

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

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

#### 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

Three-pole

#### Terminal capacity (copper strip)

Min. 6 segments of 16 mm x 0.8 mm at box terminal

Min. 6 segments of 16 mm x 0.8 mm at rear-side connection  
(punched)

Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1  
mm

10 segments of 50 mm x 1 mm (2x) at rear-side width extension

Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1  
mm at rear-side connection (punched)

Max. 8 segments of 24 mm x 1 mm (2x) at box terminal

#### Lifespan, electrical

2000 operations at 400 V AC-3

3000 operations at 690 V AC-1  
2000 operations at 415 V AC-3  
2000 operations at 690 V AC-3  
5000 operations at 400 V AC-1

#### Functions

Current limiting circuit breaker  
System and cable protection

#### 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 ( $I_n$ )

450 A

#### Release system

Electronic release

#### Short-circuit total breaktime

< 10 ms

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

3.3 kA

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

3.3 kA

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

3600 A

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

900 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)

Min. 20 mm x 5 mm direct at switch rear-side connection

M10 at rear-side screw connection

Max. 10 mm x 50 mm (2x) at rear-side width extension

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

16 mm<sup>2</sup> - 185 mm<sup>2</sup> (1x) at tunnel terminal

500 mm<sup>2</sup> (2x) at rear-side width extension

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

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

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

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

2 mm<sup>2</sup> - 500 mm<sup>2</sup> (1x) at box terminal

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

4 mm<sup>2</sup> - 350 mm<sup>2</sup> (1x) direct at switch rear-side connection

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

Max. 500 mm<sup>2</sup> (1x) at 2-hole tunnel terminal

Max. 500 mm<sup>2</sup> (2x) at 2-hole 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

3600 A

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

900 A

#### Number of operations per hour - max

60

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

450 A

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

450 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

33 kA

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

9 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

143 kA

Rated short-circuit making capacity I<sub>cm</sub> at 690 V, 50/60 Hz

74 kA

Standard terminals

Screw terminal

Rated operating voltage U<sub>e</sub> (UL) - max

600 V

Rated short-circuit making capacity I<sub>cm</sub> at 240 V, 50/60 Hz

330 kA

Rated impulse withstand voltage (U<sub>imp</sub>) at auxiliary contacts

6000 V

Rated impulse withstand voltage (U<sub>imp</sub>) at main contacts

8000 V

Rated insulation voltage (U<sub>i</sub>)

1000 V AC



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