Specifications

# Eaton 271117

## Catalog Number: 271117

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 900A, busbar terminal for CU H, frame 4, AEF900-NA




### General specifications

**Product Name**
Eaton Moeller series NZM molded case circuit breaker electronic

**Catalog Number**
271117

**EAN**
4015082711177

**Product Length/Depth**
401 mm

**Product Height**
207 mm

**Product Width**
210 mm

**Product Weight**
21 kg

**Compliances**
RoHS conform

**Certifications**
Specially designed for North America
UL (File No. E31593)
CSA (File No. 22086)
CSA-C22.2 No. 5-09
IEC
UL 489
IEC/EN 60947
UL listed
CSA certified
CSA (Class No. 1432-01)
UL (Category Control Number DIVQ)
IEC 60947-2
CE marking
UL/CSA

Powering Business Worldwide

## Product specifications

### Type

Circuit breaker

### Special features

For AC-3 rated operational current with NZM4 the following applies: 400 V: max. 650 kW; 690 V: max. 600 kW (switching capacity, rated making and breaking capacity)
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 Icn)
Rated current = rated uninterrupted current: 900 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 Ir
R.m.s. value measurement and “thermal memory”

### Application

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

### Amperage Rating

900 A

### Voltage rating

220 V - 440 V

### Circuit breaker frame type

NZM4

### Features

Protection unit

## 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-047.eps

### Drawings

eaton-circuit-breaker-nzm-mccb-dimensions-022.eps

eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-003.eps

### eCAD model

ETN.271117.edz

### Installation instructions

eaton-circuit-breaker-basic-unit-nzmn4-il01210010z.pdf

### Installation videos

Introduction of the new digital circuit breaker NZM

The new digital NZM Range

### mCAD model

DA-CS-nzm4_3p

DA-CD-nzm4_3p

### Technical data sheets

eaton-nzm-technical-information-sheet

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

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, cyclic, to IEC 60068-2-30

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

### Equipment heat dissipation, current-dependent

89.91 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

Low-voltage HBC fuse - max

2 x 630 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

10000 operations

Overvoltage category

III

Rated operational current

2000 A (380/400 V AC-1, making and breaking capacity)

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

1600 A (415 V AC-1, making and breaking capacity)

900 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)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and strip terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal

Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal

10 segments of 50 mm x 1 mm (2x) at 1-hole module plate
Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)
Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)
10 segments of 80 mm x 1 mm (2x) at rear-side width extension
NA: same as for IEC

### Lifespan, electrical

2000 operations at 690 V AC-1
3000 operations at 400 V AC-1
1000 operations at 690 V AC-3
2000 operations at 415 V AC-3
2000 operations at 400 V AC-3

### Functions

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 (In)

900 A

### Release system

Electronic release

### Short-circuit total breaktime

< 25 ms (  415 V); < 35 ms (> 415 V)

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

19.2 kA

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

19.2 kA

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

10800 A

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

1800 A

### Terminal capacity (control cable)

16 mm² - 18 mm² (2x)
14 mm² - 18 mm² (1x)

### Terminal capacity (copper busbar)

M10 at rear-side screw connection
Min. 25 mm x 5 mm direct at switch rear-side connection
Max. 50 mm x 10 mm (2x) direct at switch rear-side connection

Min. 25 mm x 5 mm at rear-side 1-hole module plate
Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate
50 mm x 10 mm (2x) at rear-side 2-hole module plate
Min. 60 mm x 10 mm at rear-side width extension
Max. 80 mm x 10 mm (2x) at rear-side width extension
NA: same as for IEC

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

50 mm² - 240 mm² (4x) at 4-hole tunnel terminal
120 mm² - 185 mm² (1x) direct at switch rear-side connection
50 mm² - 185 mm² (4x) direct at switch rear-side connection
Min. 120 mm² - 300 mm² (1x) at rear-side 1-hole module plate
Max. 95 mm² - 300 mm² (2x) at rear-side 1-hole module plate
Min. 95 mm² - 185 mm² (2x) at rear-side 2-hole module plate
Max. 35 mm² - 185 mm² (4x) at rear-side 2-hole module plate
300 mm² (4x) at rear-side width extension
95 mm² - 240 mm² (6x) at rear-side width extension
NA: AWG 0- kcmil 500 (4x) at 4-hole tunnel terminal
NA: kcmil 250 - kcmil 350 (1x) direct at switch rear-side connection
NA: AWG 0 - kcmil 350 (4x) direct at switch rear-side connection
NA: min. kcmil 250 - kcmil 600 (1x) at rear-side 1-hole module plate
NA: max. AWG 3/0 - kcmil 600 (2x) at rear-side 1-hole module plate
NA: min. AWG 3/0 - kcmil 350 (2x) at rear-side 2-hole module plate
NA: max. AWG 2 - kcmil 350 (4x) at rear-side 2-hole module plate
NA: kcmil 600 (4x) at rear-side width extension
NA: AWG 3/0 - kcmil 500 (6x) at rear-side width extension

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

Min. 185 mm² - 240 mm² (1x) at rear-side 1-hole module plate
Max. 70 mm² - 185 mm² (2x) at rear-side 1-hole module plate
50 mm² (4x) at rear-side 2-hole module plate
240 mm² (2x) at rear-side width extension
70 mm² - 240 mm² (6x) at rear-side width extension
NA: aluminum conductor not applicable

### Handle type

Rocker lever

### Short delay current setting (Isd) - max

0 A

### Short delay current setting (Isd) - min

0 A

### Instantaneous current setting (Ii) - max

10800 A

Instantaneous current setting (Ii) - min

1800 A

Number of operations per hour - max

60

Overload current setting (Ir) - max

900 A

Overload current setting (Ir) - min

900 A

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz

63 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz

50 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz

50 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz

50 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz

37 kA

Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz

187 kA

Rated short-circuit making capacity Icm at 440 V, 50/60 Hz

187 kA

Rated short-circuit making capacity Icm at 525 V, 50/60 Hz

143 kA

Rated short-circuit making capacity Icm at 690 V, 50/60 Hz

100 kA

Standard terminals

Screw connection,Optional:Tunnel terminal,Rear-side connection,Strip connection

Rated operating voltage Ue (UL) - max

600 V

Rated short-circuit making capacity Icm at 240 V, 50/60 Hz

275 kA

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

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