

# Eaton 259122

Catalog Number: 259122

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 100A, N, frame2, VE100



Photo is representative

## General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker electronic	259122
Model Code	NZMN2-VE100
EAN	Product Length/Depth
4015082591229	149 mm
Product Height	Product Width
184 mm	105 mm
Product Weight	Compliances
2.437 kg	RoHS conform
Certifications	
IEC	
IEC/EN 60947	

## defaultTaxonomyAttributeLabel

### 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  $I_{cn}$ )  
R.m.s. value measurement and "thermal memory"  
Adjustable time delay setting to overcome current peaks  $t_r$  at  $6 \times I_r$  also infinity (without overload releases)  
Adjustable delay time  $t_{sd}$   
 $i^2t$  constant function: fixed OFF  
Rated current = rated uninterrupted current: 100 A

### Application

Use in unearthed supply systems at 690 V

### Amperage Rating

100 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

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

## 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](#)

### Certification reports

[DA-DC-03\\_N2](#)

### Characteristic curve

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-036.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-054.eps](#)

[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-004.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.259122.edz](#)

[ETN.NZMN2-VE100](#)

### Installation instructions

[eaton-circuit-breakers-nzm2-basic-device-bg2-instruction-leaflet-il01206006z.pdf](#)

### 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](#)

## 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

DIN rail (top hat rail) mounting optional

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

8.25 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 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 (basic degree of protection, in the operating controls area)

IP20

## Direction of incoming supply

As required

## Electrical connection type of main circuit

Screw connection

## Lifespan, mechanical

20000 operations

## Overvoltage category

III

## 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 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)

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

## Lifespan, electrical

6500 operations at 400 V AC-3

10000 operations at 400 V AC-1

7500 operations at 690 V AC-1

10000 operations at 415 V AC-1

6500 operations at 415 V AC-3

5000 operations at 690 V AC-3

## Functions

Systems, cable, selectivity and generator 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)

100 A

Release system

Electronic 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 delayed setting - max

1000 A

Short-circuit release delayed setting - min

100 A

Short-circuit release non-delayed setting - max

1200 A

Short-circuit release non-delayed setting - min

1200 A

Terminal capacity (control cable)

0.75 mm<sup>2</sup> - 1.5 mm<sup>2</sup> (2x)

0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> (1x)

Terminal capacity (copper busbar)

Min. 16 mm x 5 mm direct at switch rear-side connection

M8 at rear-side screw connection

Max. 24 mm x 8 mm direct at switch rear-side connection

Terminal capacity (copper solid conductor/cable)

6 mm<sup>2</sup> - 16 mm<sup>2</sup> (2x) 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) direct at switch rear-side connection

10 mm<sup>2</sup> - 16 mm<sup>2</sup> (1x) at box terminal

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

Terminal capacity (aluminum solid conductor/cable)

10 mm<sup>2</sup> - 16 mm<sup>2</sup> (1x) direct at switch rear-side connection

10 mm<sup>2</sup> - 16 mm<sup>2</sup> (2x) direct at switch rear-side connection

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

Terminal capacity (copper stranded conductor/cable)

25 mm<sup>2</sup> - 185 mm<sup>2</sup> (1x) at box terminal

25 mm<sup>2</sup> - 70 mm<sup>2</sup> (2x) direct at switch rear-side connection  
25 mm<sup>2</sup> - 70 mm<sup>2</sup> (2x) at box terminal  
25 mm<sup>2</sup> - 185 mm<sup>2</sup> (1x) at 1-hole tunnel terminal  
25 mm<sup>2</sup> - 185 mm<sup>2</sup> (1x) direct at switch rear-side connection

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

25 mm<sup>2</sup> - 50 mm<sup>2</sup> (1x) direct at switch rear-side connection  
25 mm<sup>2</sup> - 185 mm<sup>2</sup> (1x) at tunnel terminal  
25 mm<sup>2</sup> - 50 mm<sup>2</sup> (2x) direct at switch rear-side connection

**Handle type**

Rocker lever

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

1000 A

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

100 A

**Instantaneous current setting (li) - max**

1200 A

**Instantaneous current setting (li) - min**

1200 A

**Number of operations per hour - max**

120

**Overload current setting (Ir) - max**

100 A

**Overload current setting (Ir) - min**

50 A

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

85 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**

35 kA

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

25 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**

105 kA

Rated short-circuit making capacity  $I_{cm}$  at 440 V, 50/60 Hz

74 kA

Rated short-circuit making capacity  $I_{cm}$  at 525 V, 50/60 Hz

53 kA

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

40 kA

#### Standard terminals

Screw terminal

#### Optional terminals

Box terminal. Connection on rear. Tunnel terminal

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

187 kA

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

6000 V

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

8000 V

Rated insulation voltage (Ui)

1000 V AC



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