

# Eaton 290356

Catalog Number: 290356

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 25A 1000V



Photo is representative

## General specifications

<b>Product Name</b>	<b>Catalog Number</b>
Eaton Moeller series NZM molded case circuit breaker thermo-magnetic	290356
	<b>Model Code</b>
	NZMH2-A25-S1
<b>EAN</b>	<b>Product Length/Depth</b>
4015082903565	149 mm
<b>Product Height</b>	<b>Product Width</b>
184 mm	105 mm
<b>Product Weight</b>	<b>Compliances</b>
2.345 kg	RoHS conform
<b>Certifications</b>	
IEC	

## Type

Circuit breaker

## Special features

Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release  
NZM...S1 terminal type:  
NZM...XKSA cover required  
Rated current = rated uninterrupted current: 25 A  
Terminal capacity hint: Up to 240 mm<sup>2</sup> can be connected depending on the cable manufacturer.

## Amperage Rating

25 A

## Voltage rating

1000 V - 1000 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.

### 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.

## Brochures

[eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf](#)

[eaton-digital-nzm-brochure-br013003en-en-us.pdf](#)

## Catalogs

[eaton-digital-nzm-catalog-ca013003en-en-us.pdf](#)

## Characteristic curve

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

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

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-037.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-dimensions-014.eps](#)

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

## 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](#)

#### 10.2.3.1 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

DIN rail (top hat rail) mounting optional

Built-in device fixed built-in technique

Equipment heat dissipation, current-dependent

7.97 W

Utilization category

A

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

Degree of protection

IP20

Electrical connection type of main circuit

Screw connection

Lifespan, mechanical

20000 operations

Overvoltage category

III

Number of poles

Three-pole

Terminal capacity (copper strip)

Min. 2 segments of 16 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 9 mm x 0.8 mm at box terminal  
Max. 10 segments of 16 mm x 0.8 mm at rear-side connection  
(punched)  
Max. 10 segments of 16 mm x 0.8 mm at box terminal

#### Lifespan, electrical

3000 operations at 1000 V AC-1

#### Functions

System and cable protection

#### Position of connection for main current circuit

Front side

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

25 A

#### Power loss

5.9 W

#### Release system

Thermomagnetic release

#### 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)

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)

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

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

10 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) direct at switch rear-side connection

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

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

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

Terminal capacity (copper stranded conductor/cable)

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

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) at box terminal

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

Terminal capacity (aluminum stranded conductor/cable)

25 mm<sup>2</sup> - 185 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

25 A

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

20 A

Rated short-circuit breaking capacity I<sub>cs</sub> (IEC/EN 60947) at 1000 V, 50/60 Hz

3 kA

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 1000 V, 50/60 Hz

17 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<sub>cm</sub> at 690 V, 50/60 Hz

40 kA

Standard terminals

Screw terminal

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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