

Eaton 290359

Catalog Number: 290359

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 50A 1000V



Photo is representative

General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker thermo-magnetic	290359
	Model Code
	NZMH2-A50-S1
EAN	Product Length/Depth
4015082903596	149 mm
Product Height	Product Width
184 mm	105 mm
Product Weight	Compliances
2.345 kg	RoHS conform
Certifications	
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: 50 A
Terminal capacity hint: Up to 240 mm² can be connected depending on the cable manufacturer.

Amperage Rating

50 A

Voltage rating

1000 V - 1000 V

Circuit breaker frame type

NZM2

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.

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-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-050.eps](#)
[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-037.eps](#)
[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps](#)

Drawings

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps](#)
[eaton-circuit-breaker-nzm-mccb-dimensions-019.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

Built-in device fixed built-in technique

Fixed

DIN rail (top hat rail) mounting optional

Equipment heat dissipation, current-dependent

17.03 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)

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

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_n)

50 A

Power loss

17 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

500 A

Short-circuit release non-delayed setting - min

300 A

Terminal capacity (control cable)

0.75 mm² - 1.5 mm² (2x)

0.75 mm² - 2.5 mm² (1x)

Terminal capacity (copper busbar)

Max. 24 mm x 8 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)

10 mm² - 16 mm² (1x) at box terminal

16 mm² (1x) at tunnel terminal

10 mm² - 16 mm² (2x) direct at switch rear-side connection

10 mm² - 16 mm² (1x) direct at switch rear-side connection

6 mm² - 16 mm² (2x) at box terminal

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

25 mm² - 185 mm² (1x) at box terminal

25 mm² - 70 mm² (2x) at box terminal

25 mm² - 185 mm² (1x) at tunnel terminal

25 mm² - 50 mm² (2x) direct at switch rear-side connection

Terminal capacity (aluminum stranded conductor/cable)

25 mm² - 185 mm² (1x) at tunnel terminal

Handle type

Rocker lever

Short delay current setting (I_{sd}) - max

0 A

Short delay current setting (I_{sd}) - min

0 A

Instantaneous current setting (I_i) - max

500 A

Instantaneous current setting (I_i) - min

300 A

Number of operations per hour - max

120

Overload current setting (I_r) - max

50 A

Overload current setting (I_r) - min

40 A

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 1000 V, 50/60 Hz

3 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 230 V, 50/60 Hz

150 kA

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

150 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 440 V, 50/60 Hz

130 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 525 V, 50/60 Hz

37.5 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 690 V, 50/60 Hz

5 kA

Rated short-circuit making capacity I_{cm} at 1000 V, 50/60 Hz

17 kA

Rated short-circuit making capacity I_{cm} at 400/415 V, 50/60 Hz

330 kA

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

286 kA

Rated short-circuit making capacity I_{cm} 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 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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