Specifications

Eaton 290359

Catalog Number: 290359

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



General specifications

Product Name Eaton Moeller series NZM molded case circuit breaker thermo-magnetic	**Catalog Number** 290359
	EAN 4015082903596
Product Length/Depth 149 mm	**Product Height** 184 mm
Product Width 105 mm	**Product Weight** 2.345 kg
Compliances RoHS conform	**Certifications** IEC

Powering Business Worldwide

Product specifications

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.

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-characteristic-power-defense-mccb-characteristic-curve-037.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps

eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps

Drawings

eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps

eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps

eaton-circuit-breaker-nzm-mccb-dimensions-019.eps

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

Installation videos

The new digital NZM Range

Introduction of the new digital circuit breaker NZM

mCAD model

DA-CD-nzm2_3p

DA-CS-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 segements 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 (In)

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 (Isd) - max

0 A

Short delay current setting (Isd) - min

0 A

Instantaneous current setting (Ii) - max

500 A

Instantaneous current setting (Ii) - min

300 A

Number of operations per hour - max

120

Overload current setting (Ir) - max

50 A

Overload current setting (Ir) - min

40 A

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 1000 V, 50/60 Hz

3 kA

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

150 kA

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

150 kA

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

130 kA

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

37.5 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 1000 V, 50/60 Hz

17 kA

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

330 kA

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

286 kA

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

105 kA

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

40 kA

Standard terminals

Screw terminal

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

330 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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