Specifications

Eaton 290379

Catalog Number: 290379

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 1600A 1000V, VE1600-S1



General specifications

Product Name Eaton Moeller series NZM molded case circuit breaker electronic	**Catalog Number** 290379
	EAN 4015082903794
Product Length/Depth 401 mm	**Product Height** 207 mm
Product Width 210 mm	**Product Weight** 21 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
R.m.s. value measurement and “thermal memory”
adjustable time delay setting to overcome current peaks
tr: 2 – 20 s at 6 x Ir also infinity (without overload releases)
Adjustable delay time tsd: Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms
i^2t constant function: switchable
NZM...S1 terminal type: NZM...XKSA cover required
Rated current = rated uninterrupted current: 1600 A

Amperage Rating

1600 A

Voltage rating

1000 V - 1000 V

Circuit breaker frame type

NZM4

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

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-048.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-049.eps

Drawings

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

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

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-CD-nzm4_3p

DA-CS-nzm4_3p

Technical data sheets

eaton-nzm-technical-information-sheet

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

Equipment heat dissipation, current-dependent

284 W

Utilization category

B

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

10000 operations

Overvoltage category

III

Number of poles

Three-pole

Terminal capacity (copper strip)

Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)
Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal
10 segments of 80 mm x 1 mm (2x) at rear-side width extension
Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)
10 segments of 50 mm x 1 mm (2x) at 1-hole module plate
Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal

Lifespan, electrical

500 operations at 1000 V AC-1

Functions

Systems, cable, selectivity and generator protection

Position of connection for main current circuit

Front side

Rated operational current for specified heat dissipation (In)

1600 A

Release system

Electronic release

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 delayed setting - max

16000 A

Short-circuit release delayed setting - min

1600 A

Short-circuit release non-delayed setting - max

19200 A

Short-circuit release non-delayed setting - min

3200 A

Terminal capacity (control cable)

0.75 mm² - 1.5 mm² (2x)
0.75 mm² - 2.5 mm² (1x)

Terminal capacity (copper busbar)

Max. 80 mm x 10 mm (2x) at rear-side width extension

Max. 80 mm x 10 mm (2x) direct at switch rear-side 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

M10 at rear-side screw connection

Min. 25 mm x 5 mm at rear-side 1-hole module plate

Min. 60 mm x 10 mm at rear-side width extension

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

Terminal capacity (copper solid conductor/cable)

70 mm² - 240 mm² (6x) at rear-side width extension

35 mm² - 185 mm² (4x) at rear-side 2-hole module plate

70 mm² - 185 mm² (2x) at rear-side 1-hole module plate

240 mm² (2x) at rear-side width extension

185 mm² - 240 mm² (1x) at rear-side 1-hole module plate

50 mm² - 240 mm² (4x) at 4-hole tunnel terminal

50 mm² (4x) at rear-side 2-hole module plate

Terminal capacity (aluminum stranded conductor/cable)

50 mm² - 240 mm² (4x) at 4-hole tunnel terminal

Handle type

Rocker lever

Short delay current setting (Isd) - max

16000 A

Short delay current setting (Isd) - min

1600 A

Instantaneous current setting (Ii) - max

19200 A

Instantaneous current setting (Ii) - min

3200 A

Number of operations per hour - max

60

Overload current setting (Ir) - max

1600 A

Overload current setting (Ir) - min

800 A

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

15 kA

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 1000 V, 50/60 Hz

40 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 terminal

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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