Product specifications

Eaton 259132

Catalog Number: 259132

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 400A, N3-VE400

General specifications

Product Name
Eaton Moeller series NZM molded case circuit breaker electronic

Catalog Number
259132

Model Code
NZMN3-VE400

EAN
4015082591328

Product Length/Depth
166 mm

Product Height
275 mm

Product Width
140 mm

Product Weight
6.989 kg

Compliances
RoHS conform

Certifications
IEC
IEC/EN 60947

Product specifications

Rated operational current for specified heat dissipation (In)

400 A

10.11 Short-circuit rating

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

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz

5 kA

10.4 Clearances and creepage distances

Meets the product standard's requirements.

10.12 Electromagnetic compatibility

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

Mounting Method

Fixed

Built-in device fixed built-in technique

Amperage Rating

400 A

10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

Terminal capacity (copper strip)

10 segments of 50 mm x 1 mm (2x) at rear-side width extension

Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched)

Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm

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

Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched)

Min. 6 segments of 16 mm x 0.8 mm at box terminal

Handle type

Rocker lever

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

Ambient storage temperature - min

40 °C

Protection against direct contact

Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part

Resources

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

Certification reports

DA-DC-03_N3

Characteristic curve

eaton-circuit-breaker-nzm-mccb-characteristic-curve-046.eps

1230DIA-19

eaton-circuit-breaker-nzm-mccb-characteristic-curve-031.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-017.eps

123U172

1230DIA-41

Drawings

123X330

eaton-circuit-breaker-nzm-mccb-dimensions-020.eps

123X553

eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps

123I375

eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-002.eps

eCAD model

DA-CE-ETN.NZMN3-VE400

Installation instructions

IL01208009Z

mCAD model

DA-CD-nzm3_3p

DA-CS-nzm3_3p

Technical data sheets

eaton-nzm-technical-information-sheet

110

Terminal capacity (copper busbar)

Min. 20 mm x 5 mm direct at switch rear-side connection
Max. 10 mm x 50 mm (2x) at rear-side width extension
M10 at rear-side screw connection
Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection

10.8 Connections for external conductors

Is the panel builder's responsibility.

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 Icn) R.m.s. value measurement and “thermal memory” Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) Adjustable delay time tsd i^2t constant function: switchable Rated current = rated uninterrupted current: 400 A Terminal capacity hint: Up to 240 mm^2 can be connected depending on the cable manufacturer.

Ambient operating temperature - max

70 °C

Position of connection for main current circuit

Front side

Rated insulation voltage (Ui)

1000 V AC

Climatic proofing

Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30

Terminal capacity (copper stranded conductor/cable)

25 mm^2 - 240 mm^2 (1x) direct at switch rear-side connection
16 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal
25 mm^2 - 240 mm^2 (2x) direct at switch rear-side connection
50 mm^2 - 240 mm^2 (2x) at 2-hole tunnel terminal
35 mm^2 - 240 mm^2 (1x) at box terminal
25 mm^2 - 120 mm^2 (2x) at box terminal

Features

Motor drive optional
Protection unit

Lifespan, electrical

2000 operations at 400 V AC-3
2000 operations at 415 V AC-3
3000 operations at 690 V AC-1

5000 operations at 400 V AC-1

2000 operations at 690 V AC-3

5000 operations at 415 V AC-1

Electrical connection type of main circuit

Screw connection

Short-circuit total breaktime

< 10 ms

Rated impulse withstand voltage (Uimp) at main contacts

8000 V

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

50 kA

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Utilization category

A (IEC/EN 60947-2)

Number of poles

Three-pole

Ambient operating temperature - min

-25 °C

10.6 Incorporation of switching devices and components

Does not apply, since the entire switchgear needs to be evaluated.

10.5 Protection against electric shock

Does not apply, since the entire switchgear needs to be evaluated.

Terminal capacity (control cable)

0.75 mm² - 1.5 mm² (2x)

0.75 mm² - 2.5 mm² (1x)

Equipment heat dissipation, current-dependent

48 W

Instantaneous current setting (Ii) - min

800 A

10.13 Mechanical function

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

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

85 kA

Application

Use in unearthed supply systems at 690 V

10.3 Degree of protection of assemblies

Does not apply, since the entire switchgear needs to be evaluated.

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

187 kA

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

35 kA

Short-circuit release delayed setting - max

4000 A

Degree of protection (IP), front side

IP66 (with door coupling rotary handle)

IP40 (with insulating surround)

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

53 kA

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

40 kA

Instantaneous current setting (Ii) - max

4400 A

Overload current setting (Ir) - min

200 A

Short delay current setting (Isd) - min

400 A

Number of auxiliary contacts (normally closed contacts)

0

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.

Lifespan, mechanical

15000 operations

Overload current setting (Ir) - max

400 A

Voltage rating

690 V - 690 V

Terminal capacity (copper solid conductor/cable)

16 mm² (1x) at tunnel terminal

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

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

16 mm² (2x) at box terminal

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

Degree of protection (terminations)

IP00 (terminations, phase isolator and strip terminal)

IP10 (tunnel terminal)

Short-circuit release delayed setting - min

400 A

Terminal capacity (aluminum stranded conductor/cable)

25 mm² - 120 mm² (2x) direct at switch rear-side connection

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

50 mm² - 240 mm² (2x) at 2-hole tunnel terminal

25 mm² - 120 mm² (1x) direct at switch rear-side connection

50 mm² - 240 mm² (1x) at 2-hole tunnel terminal

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min

800 A

Degree of protection

IP20 (basic degree of protection, in the operating controls area)

IP20

Overvoltage category

III

Rated short-time withstand current (t = 1 s)

3.3 kA

Short delay current setting (Isd) - max

4000 A

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Number of auxiliary contacts (change-over contacts)

0

Rated short-time withstand current (t = 0.3 s)

3.3 kA

Ambient storage temperature - max

70 °C

Release system

Electronic release

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

13 kA

Optional terminals

Box terminal. Connection on rear. Tunnel terminal

Pollution degree

3

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

10.10 Temperature rise

The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

Functions

Systems, cable, selectivity and generator protection

Short-circuit release non-delayed setting - max

4400 A

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

105 kA

Standard terminals

Screw terminal

Type

Circuit breaker

10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2.7 Inscriptions

Meets the product standard's requirements.

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

74 kA

Number of auxiliary contacts (normally open contacts)

0

Isolation

300 V AC (between the auxiliary contacts)

500 V AC (between auxiliary contacts and main contacts)

Number of operations per hour - max

60

Circuit breaker frame type

NZM3

Direction of incoming supply

As required

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

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

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

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