Specifications

Eaton 102690

Catalog Number: 102690

Eaton Moeller series NZM - Molded Case Circuit Breaker. Molded Case Switch, 3p, 1000A



General specifications

Product Name
Eaton Moeller series NZM molded case switch

Catalog Number
102690

EAN
4015081025503

Product Length/Depth
401 mm

Product Height
207 mm

Product Width
210 mm

Product Weight
21 kg

Compliances
RoHS conform

Certifications
CSA-C22.2 No. 5-09
CSA (Class No. 4652-06)
Specially designed for North America
CSA (File No. 22086)
UL (File No. E148671)
IEC
CSA certified
IEC 60947-2
UL 489
CE marking
UL (Category Control Number WJAZ)
UL listed
UL/CSA

Powering Business Worldwide

Product specifications

Type

Switch-disconnector

Special features

IEC/EN 60947-2: circuit breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204.
Rated current = rated uninterrupted current: 1000 A

Application

Branch circuits, feeder circuits

Amperage Rating

1000 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

N4

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

Declarations of conformity

DA-DC-03_NS4

Drawings

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

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

eCAD model

DA-CE-ETN.NS4-1000-NA

Installation instructions

eaton-circuit-breaker-basic-unit-bg4-il012101zu.pdf

Installation videos

The new digital NZM Range

Introduction of the new digital circuit breaker NZM

mCAD model

DA-CD-nzm4_3p

DA-CS-nzm4_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

111 W

Ambient operating temperature - max

70 °C

Ambient operating temperature - min

-25 °C

Ambient storage temperature - max

70 °C

Ambient storage temperature - min

40 °C

Rated current (Iu)

1200 A

Current rating (Iu) (UL 489 csa 22.2 no. 5.1)

1200 A

Number of auxiliary contacts (change-over contacts)

0

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

0

Switch positions

I, +, 0

Degree of protection

In the area of the HMI devices: IP20 (basic protection type)

IP20

Direction of incoming supply

As required

Electrical connection type of main circuit

Screw connection

Lifespan, mechanical

10000 operations

Overvoltage category

III

Degree of protection (IP), front side

IP40 (with insulating surround)

IP66 (with door coupling rotary handle)

Degree of protection (terminations)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and band terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal

Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal

10 segments of 50 mm x 1 mm (2x) at 1-hole module plate

Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)

Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)

10 segments of 80 mm x 1 mm (2x) at rear-side width extension

NA: same as for IEC

Lifespan, electrical

2000 operations at 400 V AC-3

2000 operations at 415 V AC-1

3000 operations at 400 V AC-1

1000 operations at 690 V AC-3

2000 operations at 415 V AC-3

2000 operations at 690 V AC-1

Functions

Disconnectors/main switches

Position of connection for main current circuit

Front side

Rated operational current for specified heat dissipation (In)

1000 A

Short-circuit total breaktime

< 25 ms (415 V); < 35 ms (> 415 V)

Short-circuit release non-delayed setting - max

25000 A

Short-circuit release non-delayed setting - min

25000 A

Terminal capacity (copper busbar)

M10 at rear-side screw 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
Min. 25 mm x 5 mm at rear-side 1-hole module plate
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
Min. 60 mm x 10 mm at rear-side width extension
Max. 80 mm x 10 mm (2x) at rear-side width extension
NA: same as for IEC

Terminal capacity (copper stranded conductor/cable)

50 mm² - 240 mm² (4x) at 4-hole tunnel terminal
120 mm² - 185 mm² (1x) direct at switch rear-side connection
50 mm² - 185 mm² (4x) direct at switch rear-side connection
Min. 120 mm² - 300 mm² (1x) at rear-side 1-hole module plate
Max. 95 mm² - 300 mm² (2x) at rear-side 1-hole module plate
Min. 95 mm² - 185 mm² (2x) at rear-side 2-hole module plate
Max. 35 mm² - 185 mm² (4x) at rear-side 2-hole module plate
300 mm² (4x) at rear-side width extension
95 mm² - 240 mm² (6x) at rear-side width extension
NA: AWG 0- kcmil 500 (4x) at 4-hole tunnel terminal
NA: kcmil 250 - kcmil 350 (1x) direct at switch rear-side connection
NA: AWG 0 - kcmil 350 (4x) direct at switch rear-side connection
NA: min. kcmil 250 - kcmil 600 (1x) at rear-side 1-hole module plate
NA: max. AWG 3/0 - kcmil 600 (2x) at rear-side 1-hole module plate
NA: min. AWG 3/0 - kcmil 350 (2x) at rear-side 2-hole module plate
NA: max. AWG 2 - kcmil 350 (4x) at rear-side 2-hole module plate
NA: kcmil 600 (4x) at rear-side width extension
NA: AWG 3/0 - kcmil 500 (6x) at rear-side width extension

Terminal capacity (aluminum stranded conductor/cable)

Min. 185 mm² - 240 mm² (1x) at rear-side 1-hole module plate
Max. 70 mm² - 185 mm² (2x) at rear-side 1-hole module plate
50 mm² (4x) at rear-side 2-hole module plate
240 mm² (2x) at rear-side width extension
70 mm² - 240 mm² (6x) at rear-side width extension
NA: aluminum conductor not applicable

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

25000 A

Instantaneous current setting (Ii) - min

25000 A

Number of operations per hour - max

60

Overload current setting (Ir) - max

0 A

Overload current setting (Ir) - min

0 A

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

43 kA

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

35 kA

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

33 kA

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

20 kA

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

18 kA

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

154 kA

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

143 kA

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

84 kA

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

74 kA

Standard terminals

Screw connection,Optional:Tunnel terminal,Rear-side connection,Strip connection

Optional terminals

Connection on rear. Strip terminal. Tunnel terminal

Rated operating voltage Ue (UL) - max

600 V

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

187 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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