Specifications

Eaton 193307

Catalog Number: 193307

Eaton Moeller series NZM - Molded Case Circuit Breaker. NZM2 PXR20 circuit breaker, 100A, 4p, Screw terminal, earth-fault protection, H, 2



General specifications

Product Name
Eaton Moeller series NZM molded case circuit breaker electronic

Catalog Number
193307

EAN
9010238016521

Product Length/Depth
190 mm

Product Height
160 mm

Product Width
145 mm

Product Weight
2.9 kg

Compliances
RoHS conform

Certifications
IEC/EN 60947
IEC

Powering Business Worldwide

Product specifications

Type

Circuit breaker

Special features

LSI overload protection and delayed and non-delayed short-circuit protective device
R.m.s. value measurement and “thermal memory”
USB interface for configuration and test function with Power Xpert Protection Manager software
Optionally communication-capable with interface module and internal Modbus RTU module or CAM
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)
Rated current = rated uninterrupted current: 100 A

Amperage Rating

100 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

NZM2

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

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-010.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-014.eps

Drawings

eaton-circuit-breaker-nzm-mccb-dimensions-035.eps

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

Installation instructions

eaton-circuit-breakers-nzmb-nzmn-basic-unit-bg2-instruction-leaflet-il012099zu.pdf

Installation videos

The new digital NZM Range

Introduction of the new digital circuit breaker NZM

mCAD model

DA-CS-nzm2_4p

DA-CD-nzm2_4p

Technical data sheets

eaton-nzm-technical-information-sheet

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.

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

DIN rail (top hat rail) mounting optional

Built-in device fixed built-in technique

Fixed

Climatic proofing

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

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

Equipment heat dissipation, current-dependent

8.25 W

Utilization category

A (IEC/EN 60947-2)

Isolation

500 V AC (between auxiliary contacts and main contacts)

300 V AC (between the auxiliary contacts)

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

Protection against direct contact

Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110

Degree of protection

IP20

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

Direction of incoming supply

As required

Electrical connection type of main circuit

Screw connection

Current rating of neutral conductor

200% of phase conductor

Lifespan, mechanical

20000 operations

Overvoltage category

III

Degree of protection (IP), front side

IP66 (with door coupling rotary handle)

IP40 (with insulating surround)

Degree of protection (terminations)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and strip terminal)

Number of poles

Four-pole

Terminal capacity (copper strip)

Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched)

Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched)

Max. 10 segments of 16 mm x 0.8 mm at box terminal

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

Min. 2 segments of 9 mm x 0.8 mm at box terminal

Lifespan, electrical

10000 operations at 415 V AC-1

6500 operations at 415 V AC-3

10000 operations at 400 V AC-1

5000 operations at 690 V AC-3

6500 operations at 400 V AC-3

7500 operations at 690 V AC-1

Functions

Earth-fault protection

Systems, cable, selectivity and generator protection

Integrated earth fault protection

Earth-fault current setting (Ig) - max

100 x In

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Earth-fault current setting (Ig) - min

20 x In

Position of connection for main current circuit

Front side

Rated operational current for specified heat dissipation (In)

100 A

Release system

Electronic release

Short-circuit total breaktime

< 10 ms

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 delayed setting - max

1000 A

Short-circuit release delayed setting - min

80 A

Short-circuit release non-delayed setting - max

1800 A

Short-circuit release non-delayed setting - min

200 A

Terminal capacity (control cable)

0.75 mm² - 1.5 mm² (2x)

0.75 mm² - 2.5 mm² (1x)

Terminal capacity (copper busbar)

Min. 16 mm x 5 mm direct at switch rear-side connection

Max. 24 mm x 8 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

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

6 mm² - 16 mm² (2x) at box terminal

16 mm² (1x) at tunnel terminal

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

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

25 mm² - 70 mm² (2x) direct at switch rear-side connection

25 mm² - 185 mm² (1x) at box terminal

25 mm² - 70 mm² (2x) at box terminal

25 mm² - 185 mm² (1x) direct at switch rear-side connection

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

Terminal capacity (aluminum stranded conductor/cable)

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

Handle type

Rocker lever

Short delay current setting (Isd) - max

10 A

Short delay current setting (Isd) - min

2 A

Instantaneous current setting (Ii) - max

18 A

Instantaneous current setting (Ii) - min

2 A

Number of operations per hour - max

120

Overload current setting (Ir) - max

100 A

Overload current setting (Ir) - min

40 A

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

3 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

Optional terminals

Box terminal. Connection on rear. Tunnel 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)

690 V AC

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