Specifications

Eaton 269281

Catalog Number: 269281

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 550A, busbar terminal for CU N, frame 3, AEF550-NA



General specifications

Product Name
Eaton Moeller series NZM molded case circuit breaker electronic

Catalog Number
269281

EAN
4015082692810

Product Length/Depth
166 mm

Product Height
297 mm

Product Width
140 mm

Product Weight
6.34 kg

Compliances
RoHS conform

Certifications
UL 489
CSA (File No. 22086)
CSA-C22.2 No. 5-09
IEC
UL listed
CE marking
UL (Category Control Number DIVQ)
CSA (Class No. 1432-01)
UL (File No. E31593)
Specially designed for North America
IEC/EN 60947
CSA certified
IEC 60947-2
UL/CSA

Powering Business Worldwide

Product specifications

Type

Circuit breaker

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)
Rated current = rated uninterrupted current: 550 A
Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.
Fixed overload releases Ir
R.m.s. value measurement and “thermal memory”

Application

Branch circuits, feeder circuits
Use in unearthed supply systems at 690 V

Amperage Rating

550 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

NZM3

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.

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-034.eps

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

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

Declarations of conformity

DA-DC-03_N3

Drawings

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

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

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

eCAD model

ETN.269281.edz

Installation instructions

eaton-circuit-breaker-basic-device-nzmn-b-il01208009z.pdf

Installation videos

Introduction of the new digital circuit breaker NZM

The new digital NZM Range

mCAD model

DA-CS-nzm3_3p

DA-CD-nzm3_3p

Technical data sheets

eaton-nzm-technical-information-sheet

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.

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

Climatic proofing

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

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

Equipment heat dissipation, current-dependent

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

Direction of incoming supply

As required

Electrical connection type of main circuit

Screw connection

Lifespan, mechanical

15000 operations

Overvoltage category

III

Rated operational current

550 A (690 V AC -1, making and breaking capacity)
500 A (415 V AC-1, making and breaking capacity)
630 A (380/400 V AC-1, making and breaking capacity)
450 A (660-690 V AC-3, making and breaking capacity)

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 strip terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched)
Max. 8 segments of 24 mm x 1 mm (2x) at box terminal
Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm
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
10 segments of 50 mm x 1 mm (2x) at rear-side width extension

Lifespan, electrical

2000 operations at 400 V AC-3

2000 operations at 690 V AC-3

3000 operations at 690 V AC-1

5000 operations at 400 V AC-1

2000 operations at 415 V AC-3

Functions

Current limiting circuit breaker

System and cable protection

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Position of connection for main current circuit

Front side

Rated operational current for specified heat dissipation (In)

550 A

Release system

Electronic release

Short-circuit total breaktime

< 10 ms

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

3.3 kA

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

3.3 kA

Short-circuit release non-delayed setting - max

4400 A

Short-circuit release non-delayed setting - min

1100 A

Terminal capacity (control cable)

16 mm² - 18 mm² (2x)

14 mm² - 18 mm² (1x)

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

Terminal capacity (copper solid conductor/cable)

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

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

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

2 mm² - 500 mm² (1x) at box terminal

4 mm² - 350 mm² (1x) at tunnel terminal

4 mm² - 350 mm² (1x) direct at switch rear-side connection

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

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

4400 A

Instantaneous current setting (Ii) - min

1100 A

Number of operations per hour - max

60

Overload current setting (Ir) - max

550 A

Overload current setting (Ir) - min

550 A

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

85 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

35 kA

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

13 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 400/415 V, 50/60 Hz

105 kA

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

74 kA

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

Standard terminals

Screw 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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