Specifications

Eaton 110310

Catalog Number: 110310

Eaton Moeller series NZM - Molded Case Circuit Breaker. Switch-disconnector 3p, 250A terminals



General specifications

Product Name	**Catalog Number**
Eaton Moeller series NZM - Molded case circuit breaker	110310
	EAN
	4015081098583
Product Length/Depth	**Product Height**
149 mm	184 mm
Product Width	**Product Weight**
105 mm	2.041 kg
Compliances	**Certifications**
RoHS conform	IEC IEC/EN 60947

Powering Business Worldwide

Product specifications

Type

Switch-disconnector

Special features

Main switch characteristics including positive drive to IEC/EN 60204 and VDE 0113.
Isolating characteristics to IEC/EN 60947-3 and VDE 0660.
Busbar tag shroud to VDE 0160 Part 100.
Rated current = rated uninterrupted current: 250 A
The rated short-time withstand current for PN2/N2 in conjunction with earth-fault release NZM2-4-XFI...Icw = 1.5 kA

Application

Use in unearthed supply systems at 690 V

Amperage Rating

250 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

PN2

Features

Version as emergency stop installation
Version as maintenance-/service switch
Version as main switch

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

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_PN2

DA-DC-03_N2

Drawings

eaton-circuit-breaker-nzm-mccb-dimensions-019.eps

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

eCAD model

DA-CE-ETN.PN2-250-BT

Installation videos

Introduction of the new digital circuit breaker NZM

The new digital NZM Range

mCAD model

DA-CD-nzm2_3p

DA-CS-nzm2_3p

Technical data sheets

eaton-nzm-technical-information-sheet

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

Distribution board installation

Ground mounting

Intermediate mounting

Fixed

Built-in device fixed built-in technique

Climatic proofing

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

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

Equipment heat dissipation, current-dependent

48 W

Isolation

300 V AC (between the auxiliary contacts)

500 V AC (between auxiliary contacts and main contacts)

Rated short-time withstand current (Icw)

3.5 kA

Degree of protection

IP20 (basic protection type, in the area of the HMI devices)

Other

Direction of incoming supply

As required

Electrical connection type of main circuit

Frame clamp

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

Rated insulation voltage (Ui)

690 V

Rated operating frequency

50 Hz

Rated operating power at AC-23, 400 V

132 kW

Rated operating power at AC-3, 400 V

0 kW

Switch positions

I, 0

Lifespan, mechanical

20000 operations

Overvoltage category

III

Rated operational current

250 A (415 V AC-22/23A, making and breaking capacity)

250 A (690 V AC-22/23A, making and breaking capacity)

Degree of protection (IP), front side

IP66 (with door coupling rotary handle)

IP20

IP40 (with insulating surround)

Degree of protection (terminations)

IP00 (terminations, phase isolator and band terminal)

IP10 (tunnel terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

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

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

Max. 10 segments of 24 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 15.5 mm x 0.8 mm (2x) at box terminal

Handle color

Black

Lifespan, electrical

7500 operations at 415 V AC-3
7500 operations at 400 V AC-3
10000 operations at 400 V AC-1
5000 operations at 690 V AC-3
10000 operations at 415 V AC-1
7500 operations at 690 V AC-1

Functions

Interlockable
Disconnectors/main switches

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Number of switches

1

Rated conditional short-circuit current (Iq)

0 kA

Rated conditional short-circuit current with back-up fuse

100 kA at 400/415 V
80 kA at 690 V
PN2(N2)-160…250: 250 AgGgL

Rated conditional short-circuit current with downstream fuse

80 kA at 690 V
100 kA at 400/415 V
PN2(N2)-160…250: 250 AgGgL

Rated operating voltage (Ue) at AC - max

690 V

Rated operational current for specified heat dissipation (In)

250 A

Rated permanent current at AC-21, 400 V

0 A

Rated permanent current at AC-23, 400 V

0 A

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

3.5 kA

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

3.5 kA

Switching power at 400 V

0 kW

Handle type

Rocker lever

Number of operations per hour - max

120

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

5.5 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Rated impulse withstand voltage (Uimp) at main contacts

8000 V

Standard terminals

Box terminal

Optional terminals

Connection on rear. Screw terminal. Tunnel terminal

Short-circuit protective device fuses - max

250 A gL

Terminal capacity (copper busbar)

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

M8 at rear-side screw connection

Max. 24 mm x 8 mm direct at switch rear-side connection

Terminal capacity (copper solid conductor/cable)

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

6 mm^2 - 16 mm^2 (2x) at box terminal

10 mm^2 - 16 mm^2 (1x) at box terminal

10 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection

16 mm^2 (1x) at tunnel terminal

Terminal capacity (aluminum solid conductor/cable)

10 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection

16 mm^2 (1x) at tunnel terminal

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

Terminal capacity (copper stranded conductor/cable)

25 mm^2 - 185 mm^2 (1x) at box terminal

25 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection

25 mm^2 - 70 mm^2 (2x) at box terminal

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

25 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal

Terminal capacity (aluminum stranded conductor/cable)

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

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