Specifications

Eaton 112746



Catalog Number: 112746

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 80A, plug-in module, C1-M80-SVE

General specifications

Product Name	**Catalog Number**
Eaton Moeller series NZM - Molded case circuit breaker	112746
	EAN
	4015081122868
Product Length/Depth	**Product Height**
90 mm	201 mm
Product Width	**Product Weight**
95 mm	1.227 kg
Compliances	**Certifications**
RoHS conform	IEC IEC/EN 60947

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: 80 A
Terminal capacity hint: Up to 95 mm² can be connected depending on the cable manufacturer.
With phase-failure sensitivity
Tripping class 10 A
IEC/EN 60947-4-1, IEC/EN 60947-2
The circuit-breaker fulfills all requirements for AC-3 switching category.

Application

Use in unearthed supply systems at 690 V

Amperage Rating

80 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

NZM1

Accessories required

NZM1-XSVS

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.

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-characteristic-power-defense-mccb-characteristic-curve-039.eps

eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-033.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-058.eps

Drawings

eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps

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

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

eaton-circuit-breaker-socket-nzm-mccb-3d-drawing.eps

eaton-general-ie-ready-dilm-contactor-standards.eps

Installation videos

The new digital NZM Range

Introduction of the new digital circuit breaker NZM

mCAD model

DA-CS-nzm1_xsve

DA-CD-nzm1_xsve

Technical data sheets

eaton-nzm-technical-information-sheet

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.

Fitted with:

Thermal protection

Pollution degree

3

Mounting Method

Plug-in unit

Built-in device plug-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

20.83 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

Protection against direct contact

Finger and back-of-hand proof to VDE 0106 part 100

Rated insulation voltage (Ui)

690 V

Rated operating power at AC-3, 230 V

22 kW

Rated operating power at AC-3, 400 V

45 kW

Switch off technique

Thermomagnetic

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

Other

Lifespan, mechanical

20000 operations

Overvoltage category

III

Rated operational current

68 A (400 V AC-3)

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)

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

Max. 9 segments of 9 mm x 0.8 mm at box terminal

Lifespan, electrical

10000 operations at 400 V AC-1

7500 operations at 415 V AC-1

5000 operations at 690 V AC-1

Functions

Phase failure sensitive

Motor protection

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Rated operational current for specified heat dissipation (In)

80 A

Short-circuit release non-delayed setting - max

1120 A

Short-circuit release non-delayed setting - min

640 A

Handle type

Rocker lever

Instantaneous current setting (Ii) - max

1120 A

Instantaneous current setting (Ii) - min

640 A

Number of operations per hour - max

120

Overload current setting (Ir) - max

80 A

Overload current setting (Ir) - min

63 A

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

55 kA

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

22.5 kA

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

22.5 kA

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

6 kA

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

4 kA

Standard terminals

Box terminal

Optional terminals

Connection on rear. Screw terminal. Tunnel terminal

Release system

Thermomagnetic release

Short-circuit total breaktime

< 10 ms

Terminal capacity (aluminum solid conductor/cable)

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

16 mm² (1x) at tunnel terminal

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

Terminal capacity (aluminum stranded conductor/cable)

25 mm² - 35 mm² (2x) direct at switch rear-side connection

25 mm² - 95 mm² (1x) at tunnel terminal

25 mm² - 35 mm² (1x) direct at switch rear-side connection

Terminal capacity (control cable)

0.75 mm² - 2.5 mm² (1x)

0.75 mm² - 1.5 mm² (2x)

Terminal capacity (copper busbar)

M6 at rear-side screw connection

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

Min. 12 mm x 5 mm direct at switch rear-side connection

Terminal capacity (copper solid conductor/cable)

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

10 mm² - 16 mm² (1x) at box terminal

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 (copper stranded conductor/cable)

10 mm² - 70 mm² (1x) direct at switch rear-side connection

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

6 mm² - 25 mm² (2x) at box terminal

10 mm² - 70 mm² (1x) at box terminal

25 mm² - 95 mm² (1x) at 1-hole tunnel terminal

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

22.5 kA

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

76 kA

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

63 kA

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

24 kA

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

14 kA

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

121 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Rated impulse withstand voltage (Uimp) at main contacts

6000 V

Power loss

20.8 W

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