Specifications

# Eaton 112766



## Catalog Number: 112766

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 80A, plug-in module, N1-M80-SVE

### General specifications

**Product Name**
Eaton Moeller series NZM molded case circuit breaker thermo-magnetic

**Catalog Number**
112766

**EAN**
4015081123063

**Product Length/Depth**
90 mm

**Product Height**
201 mm

**Product Width**
95 mm

**Product Weight**
1.202 kg

**Compliances**
RoHS conform

**Certifications**
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-feerum-the-whole-grain-solution-success-story-en-us.pdf

eaton-digital-nzm-brochure-br013003en-en-us.pdf

### Catalogs

eaton-digital-nzm-catalog-ca013003en-en-us.pdf

### Characteristic curve

eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-002.eps

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

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

### Declarations of conformity

DA-DC-03_N1

### Drawings

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

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

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

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

### Installation instructions

eaton-cirucit-breaker-switch-disconnector-nzmb-il01203004z.pdf

### Installation videos

Introduction of the new digital circuit breaker NZM

The new digital NZM Range

### mCAD model

DA-CS-nzm1_xsve

DA-CD-nzm1_xsve

### Technical data sheets

eaton-nzm-technical-information-sheet

### Wiring diagrams

eaton-manual-motor-starters-starter-msc-r-reversing-starter-wiring-diagram.eps

eaton-manual-motor-starters-starter-nzm-mccb-wiring-diagram.eps

### 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

Built-in device plug-in technique

Plug-in unit

### Climatic proofing

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

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

### Equipment heat dissipation, current-dependent

20.83 W

### Utilization category

A (IEC/EN 60947-2)

### Isolation

300 V AC (between the auxiliary contacts)

500 V AC (between auxiliary contacts and main 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

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

Three-pole

Terminal capacity (copper strip)

Max. 9 segments of 9 mm x 0.8 mm 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

5000 operations at 690 V AC-3

7500 operations at 690 V AC-1

10000 operations at 400 V AC-1

7500 operations at 400 V AC-3

7500 operations at 415 V AC-3

Functions

Motor protection

Phase failure sensitive

### 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

85 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

35 kA

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

10 kA

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

7.5 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

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

16 mm² (1x) at tunnel terminal

### Terminal capacity (aluminum stranded conductor/cable)

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

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

25 mm² - 35 mm² (2x) 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)

6 mm² - 16 mm² (2x) at box terminal

16 mm² (1x) at tunnel terminal

10 mm² - 16 mm² (1x) at box terminal

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

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

### Terminal capacity (copper stranded conductor/cable)

10 mm² - 70 mm² (1x) at box terminal

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

6 mm² - 25 mm² (2x) at box terminal

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

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

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

35 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

40 kA

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

17 kA

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

6000 V

Power loss

20.8 W

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