Specifications

# Eaton 107782

## Catalog Number: 107782

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 160A, box terminals, B, frame2, A160-BT-NA




### General specifications

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

**Catalog Number**
107782

**EAN**
4015081074297

**Product Length/Depth**
149 mm

**Product Height**
195 mm

**Product Width**
105 mm

**Product Weight**
2.345 kg

**Compliances**
RoHS conform

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

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: 160 A
Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.
Adjustable overload releases Ir

### Application

Branch circuits, feeder circuits
Use in unearthed supply systems at 440 V

### Amperage Rating

160 A

### Voltage rating

440 V - 440 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-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-current-nzm-mccb-characteristic-curve-003.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-038.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps

### Drawings

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

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

### eCAD model

ETN.107782.edz

### 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

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, cyclic, to IEC 60068-2-30

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

### Equipment heat dissipation, current-dependent

38.4 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

### Low-voltage HBC fuse - max

355 A gG/gL

### 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

Frame clamp

Lifespan, mechanical

20000 operations

Overvoltage category

III

Rated operational current

300 A (380/400 V AC-1, making and breaking capacity)

160 A (660-690 V AC-3, making and breaking capacity)

300 A (415 V AC-1, making and breaking capacity)

Degree of protection (IP), front side

IP66 (with door coupling rotary handle)

IP40 (with insulating surround)

Degree of protection (terminations)

IP00 (terminations, phase isolator and strip terminal)

IP10 (tunnel terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

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

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

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 rear-side connection (punched)

Lifespan, electrical

6500 operations at 415 V AC-3

7500 operations at 400 V AC-1

Functions

System and cable protection

Current limiting circuit breaker

### 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)

160 A

### Power loss

38.4 W

### Release system

Thermomagnetic release

### Short-circuit total breaktime

< 10 ms

### Short-circuit release non-delayed setting - max

1600 A

### Short-circuit release non-delayed setting - min

960 A

### Terminal capacity (control cable)

16 mm² - 18 mm² (2x)

14 mm² - 18 mm² (1x)

### Terminal capacity (copper busbar)

M8 at rear-side screw connection

Max. 20 mm x 5 mm direct at switch rear-side connection

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

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

6 mm² - 11 mm² (1x) direct at switch rear-side connection

6 mm² - 12 mm² (1x) at box terminal

16 mm² (1x) at tunnel terminal

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

16 mm² (1x) at tunnel terminal

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

4 mm² - 350 mm² (1x) at box terminal

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

4 mm² - 3/0 mm² (1x) 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

1600 A

Instantaneous current setting (Ii) - min

960 A

Number of operations per hour - max

120

Overload current setting (Ir) - max

160 A

Overload current setting (Ir) - min

125 A

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

30 kA

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

25 kA

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

18.5 kA

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

53 kA

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

53 kA

Standard terminals

Box terminal

Rated operating voltage Ue (UL) - max

600Y/347 V, 480 V

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

63 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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