Specifications

# Eaton 103033

## Catalog Number: 103033

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 33A, N1-S33-CNA




### General specifications

**Product Name**
Eaton Moeller series NZM - Molded case circuit breaker

**Catalog Number**
103033

**EAN**
4015081028726

**Product Length/Depth**
88 mm

**Product Height**
165.5 mm

**Product Width**
90 mm

**Product Weight**
1.046 kg

**Compliances**
RoHS conform

**Certifications**
UL/CSA
CSA (Class No. 1432-01)
UL 489
CSA (File No. 22086)
UL (Category Control Number DKPU2)
Specially designed for North America
CSA-C22.2 No. 5-09
CSA certified
UL (File No. E31593)
UL listed

Powering Business Worldwide

## Product specifications

### Type

Circuit breaker

### Special features

Rated current = rated uninterrupted current: 33 A
This circuit-breaker is only allowed to be used for UL/CSA applications.
Motor protection in conjunction with contactor and overload relay
With short-circuit release
Without overload release Ir

### Application

Branch circuits, feeder circuits

### Amperage Rating

33 A

### Voltage rating

690 V - 690 V

### 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 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.

## 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-let-through-current-nzm-mccb-characteristic-curve-002.eps

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

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

### Declarations of conformity

DA-DC-03_N1

### Drawings

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

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

eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-006.eps

### Installation instructions

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

### Installation videos

The new digital NZM Range

Introduction of the new digital circuit breaker NZM

### mCAD model

DA-CD-nzm1_3p

DA-CS-nzm1_3p

### Technical data sheets

eaton-nzm-technical-information-sheet

### 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, constant, to IEC 60068-2-78

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

Equipment heat dissipation, current-dependent

3.43 W

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

7.5 kW

Rated operating power at AC-3, 400 V

15 kW

Switch off technique

Magnetic

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

Other

Lifespan, mechanical

20000 operations

Overvoltage category

III

### 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)

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

7500 operations at 400 V AC-3

7500 operations at 415 V AC-3

5000 operations at 690 V AC-3

### Functions

Short-circuit protection

### Shock resistance

20 g (half-sinusoidal shock 20 ms)

### Rated operational current for specified heat dissipation (In)

33 A

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

462 A

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

264 A

### Handle type

Rocker lever

### Instantaneous current setting (Ii) - max

462 A

### Instantaneous current setting (Ii) - min

264 A

### Number of operations per hour - max

120

### Overload current setting (Ir) - max

0 A

### Overload current setting (Ir) - min

0 A

### 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

50 kA

Standard terminals

Box terminal

Rated operating voltage Ue (UL) - max

480 Y / 277 V

Release system

Thermomagnetic release

Short-circuit total breaktime

< 10 ms

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

Terminal capacity (control cable)

16 mm² - 18 mm² (2x)

14 mm² - 18 mm² (1x)

Terminal capacity (copper busbar)

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

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

M6 at rear-side screw connection

Terminal capacity (copper solid conductor/cable)

6 mm² - 9 mm² (2x) direct at switch rear-side connection

6 mm² (1x) at tunnel terminal

6 mm² - 12 mm² (1x) direct at switch rear-side connection

6 mm² - 12 mm² (1x) at box terminal

Terminal capacity (copper stranded conductor/cable)

4 mm² - 3/0 mm² (1x) at tunnel terminal

4 mm² - 2/0 mm² (1x) at box terminal

4 mm² - 2/0 mm² (1x) direct at switch rear-side connection

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

50 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Rated impulse withstand voltage (Uimp) at main contacts

6000 V

Power loss

3.4 W




Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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