Specifications

# Eaton 110855



## Catalog Number: 110855

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 220A, withdrawable unit, H3-ME220-AVE

### General specifications

**Product Name**
Eaton Moeller series NZM molded case circuit breaker electronic

**Catalog Number**
110855

**EAN**
4015081103843

**Product Length/Depth**
260 mm

**Product Height**
346 mm

**Product Width**
185 mm

**Product Weight**
17.34 kg

**Compliances**
RoHS conform

**Certifications**
IEC/EN 60947
IEC

Powering Business Worldwide

## Product specifications

### Type

Circuit breaker

### Special features

IEC/EN 60947-4-1, IEC/EN 60947-2
The circuit-breaker fulfills all requirements for AC-3 switching category.
R.m.s. value measurement and “thermal memory”
Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases)
All AC-3 rating data applies to direct switching by the circuit-breaker under normal operating conditions. If, for example, a contactor takes over AC-3 switching under normal operating conditions, the full rated uninterrupted current applies to the circuit-breaker, In = Iu.
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: 220 A
Terminal capacity hint: Up to 240 mm² can be connected depending on the cable manufacturer.

### Application

Use in unearthed supply systems at 690 V

### Amperage Rating

220 A

### Voltage rating

690 V - 690 V

## 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-nzm-mccb-characteristic-curve-056.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-028.eps

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

### Drawings

eaton-circuit-breaker-nzm-mccb-dimensions-020.eps

eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps

eaton-circuit-breaker-withdrawable-unit-nzm-mccb-dimensions-002.eps

eaton-circuit-breaker-nzm-switch-disconnector-3d-drawing-004.eps

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

### Installation instructions

eaton-circuit-breaker-basic-device-nzmn-b-il01208009z.pdf

### Installation videos

Introduction of the new digital circuit breaker NZM

The new digital NZM Range

### mCAD model

DA-CD-nzm3_xave

DA-CS-nzm3_xave

### Technical data sheets

eaton-nzm-technical-information-sheet

### Circuit breaker frame type

NZM3

### Accessories required

NZM3-XAVS

### 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.

### 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

Withdrawable

Built-in device slide-in technique (withdrawable)

### Climatic proofing

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

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

### Equipment heat dissipation, current-dependent

14.52 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)

1000 V

Rated operating power at AC-3, 230 V

55 kW

Rated operating power at AC-3, 400 V

110 kW

Switch off technique

Electronic

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

Screw connection

Lifespan, mechanical

15000 operations

Overvoltage category

III

Rated operational current

202 A (690 V AC-3)

196 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)

Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched)
10 segments of 50 mm x 1 mm (2x) at rear-side width extension
Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched)
Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm at box terminal
Min. 6 segments of 16 mm x 0.8 mm at box terminal
Max. 8 segments of 24 mm x 1 mm (2x) at box terminal

### Lifespan, electrical

2000 operations at 690 V AC-3
5000 operations at 415 V AC-1
3000 operations at 690 V AC-1
2000 operations at 400 V AC-3
2000 operations at 415 V AC-3
5000 operations at 400 V AC-1

### Functions

Motor protection
Phase failure sensitive

### Shock resistance

20 g (half-sinusoidal shock 20 ms)

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

220 A

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

3.3 kA

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

3.3 kA

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

3080 A

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

440 A

### Handle type

Rocker lever

### Instantaneous current setting (Ii) - max

3080 A

### Instantaneous current setting (Ii) - min

220 A

### Number of operations per hour - max

60

### Overload current setting (Ir) - max

220 A

### Overload current setting (Ir) - min

110 A

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

150 kA

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

130 kA

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

130 kA

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

33 kA

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

9 kA

### Standard terminals

Screw terminal

### Optional terminals

Box terminal. Connection on rear. Tunnel terminal

### Release system

Electronic release

### Short-circuit total breaktime

< 10 ms

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

16 mm² (1x) at tunnel terminal

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

50 mm² - 240 mm² (2x) at 2-hole tunnel terminal

50 mm² - 240 mm² (1x) at 2-hole tunnel terminal

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

### Terminal capacity (control cable)

0.75 mm² - 1.5 mm² (2x)

0.75 mm² - 2.5 mm² (1x)

### Terminal capacity (copper busbar)

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

Max. 10 mm x 50 mm (2x) at rear-side width extension

Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection

M10 at rear-side screw connection

Terminal capacity (copper solid conductor/cable)

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

16 mm² (1x) at tunnel terminal

16 mm² (2x) at box terminal

300 mm² (2x) at rear-side width extension

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

Terminal capacity (copper stranded conductor/cable)

35 mm² - 240 mm² (1x) at box terminal

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

25 mm² - 240 mm² (2x) direct at switch rear-side connection

25 mm² - 120 mm² (2x) at box terminal

25 mm² - 240 mm² (1x) direct at switch rear-side connection

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

130 kA

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

330 kA

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

286 kA

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

143 kA

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

74 kA

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

330 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Rated impulse withstand voltage (Uimp) at main contacts

8000 V

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