

Eaton 115450

Catalog Number: 115450

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 40A, motor protection

General specifications



Product Name

Eaton Moeller series NZM molded case
circuit breaker thermo-magnetic

Catalog Number

115450

Model Code

NZMH1-M40

EAN

4015081151905

Product Length/Depth

88 mm

Product Height

145 mm

Product Width

90 mm

Product Weight

1.032 kg

Warranty

Compliances

RoHS conform

Certifications

IEC/EN 60947

IEC

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 I_{cn})

Rated current = rated uninterrupted current: 40 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

40 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

NZM1

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

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-003.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-058.eps](#)

Drawings

[eaton-circuit-breaker-nzm-mccb-dimensions-017.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps](#)

[eaton-circuit-breaker-socket-nzm-mccb-3d-drawing.eps](#)

[eaton-general-ie-ready-dilm-contactors-standards.eps](#)

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](#)

Specifications and datasheets

[Product Data Sheet - NZMB2-AF60-BT-NA](#)

Technical data sheets

[eaton-nzm-technical-information-sheet](#)

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 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

13.49 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

11 kW

Rated operating power at AC-3, 400 V

18.5 kW

Switch off technique

Thermomagnetic

Connection

Front frame clamp

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

Rated operational current

36 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. 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

7500 operations at 415 V AC-3

7500 operations at 690 V AC-1

10000 operations at 400 V AC-1

7500 operations at 400 V AC-3

10000 operations at 415 V AC-1

5000 operations at 690 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 (I_n)

40 A

Short-circuit release non-delayed setting - max

560 A

Short-circuit release non-delayed setting - min

320 A

Handle type

Rocker lever

Instantaneous current setting (I_i) - max

560 A

Instantaneous current setting (I_i) - min

320 A

Number of operations per hour - max

120

Overload current setting (I_r) - max

40 A

Overload current setting (I_r) - min

32 A

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 230 V, 50/60 Hz

100 kA

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

35 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 440 V, 50/60 Hz

35 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 525 V, 50/60 Hz

10 kA

Rated short-circuit breaking capacity I_{cs} (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)

16 mm² (1x) at tunnel terminal

Terminal capacity (aluminum stranded conductor/cable)

25 mm² - 95 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. 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)

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

6 mm² - 16 mm² (2x) at box terminal

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

10 mm² - 16 mm² (1x) at box terminal

16 mm² (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

10 mm² - 70 mm² (1x) at box terminal

6 mm² - 25 mm² (2x) at box terminal

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

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

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

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

35 kA

Rated short-circuit making capacity I_{cm} at 400/415 V, 50/60 Hz

220 kA

Rated short-circuit making capacity I_{cm} at 440 V, 50/60 Hz

154 kA

Rated short-circuit making capacity I_{cm} at 525 V, 50/60 Hz

40 kA

Rated short-circuit making capacity I_{cm} at 690 V, 50/60 Hz

17 kA

Rated short-circuit making capacity I_{cm} at 240 V, 50/60 Hz

220 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Rated impulse withstand voltage (Uimp) at main contacts

6000 V

Power loss

13.5 W



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