

Eaton 115454

Catalog Number: 115454

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 100A, motor protection



Photo is representative

General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker thermo-magnetic	115454
	Model Code
	NZMH1-M100
EAN	Product Length/Depth
4015081151943	88 mm
Product Height	Product Width
145 mm	90 mm
Product Weight	Compliances
1.011 kg	RoHS conform
Certifications	
IEC	
IEC/EN 60947	

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: 100 A Terminal capacity hint: Up to 95 mm² can be connected depending on the cable manufacturer. With phase-failure sensitivity Tripping class 10 AIEC/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

100 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 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.

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-nzm-mccb-characteristic-curve-058.eps](#)

[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-003.eps](#)

Drawings

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

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

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

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

Installation videos

[The new digital NZM Range](#)

[Introduction of the new digital circuit breaker NZM](#)

mCAD model

[DA-CS-nzm1_3p](#)

[DA-CD-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.

Fitted with:

Thermal protection

Pollution degree

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

23.85 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

30 kW

Rated operating power at AC-3, 400 V

55 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

99 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)

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

Lifespan, electrical

5000 operations at 690 V AC-3

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

Functions

Motor protection

Phase failure sensitive

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Rated operational current for specified heat dissipation (I_n)

100 A

Short-circuit release non-delayed setting - max

1250 A

Short-circuit release non-delayed setting - min

800 A

Handle type

Rocker lever

Instantaneous current setting (I_i) - max

1250 A

Instantaneous current setting (Ii) - min

800 A

Number of operations per hour - max

120

Overload current setting (Ir) - max

100 A

Overload current setting (Ir) - min

80 A

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

100 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)

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)

M6 at rear-side screw connection

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

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

Terminal capacity (copper solid conductor/cable)

10 mm² - 16 mm² (1x) at box terminal

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

6 mm² - 16 mm² (2x) at box terminal

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

16 mm² (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

6 mm² - 25 mm² (2x) at box terminal

10 mm² - 70 mm² (1x) at box terminal

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

25 mm² (2x) 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 (U_{imp}) at auxiliary contacts

6000 V

Rated impulse withstand voltage (U_{imp}) at main contacts

6000 V

Power loss

23.9 W



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