

Eaton 107849

Catalog Number: 107849

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 90A, box terminals, N2-SE90-BT-CNA



General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker electronic	107849
	EAN 4015081074990
Product Length/Depth	Product Height
149 mm	195 mm
Product Width	Product Weight
105 mm	2.345 kg
Compliances	Certifications
RoHS conform	CSA-C22.2 No. 5-09 IEC/EN 60947 UL listed UL (Category Control Number DKPU2) UL 489 CSA (File No. 22086) Specially designed for North America CSA (Class No. 1432-01) IEC 60947-2 UL/CSA UL (File No. E31593) CSA certified CE marking IEC

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 I_{cn})
Rated current = rated uninterrupted current: 90 A
Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.

Application

Branch circuits, feeder circuits
Use in unearthed supply systems at 690 V

Amperage Rating

90 A

Voltage rating

690 V - 690 V

Features

Motor drive optional
Protection unit

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

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-characteristic-power-defense-mccb-characteristic-curve-036.eps](#)
[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-004.eps](#)
[eaton-circuit-breaker-nzm-mccb-characteristic-curve-052.eps](#)

Declarations of conformity

[DA-DC-03_N2](#)

Drawings

[eaton-circuit-breaker-nzm-mccb-dimensions-019.eps](#)
[eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps](#)

Installation videos

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

mCAD model

[DA-CD-nzm2_3p](#)
[DA-CS-nzm2_3p](#)

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.

Pollution degree

3

Mounting Method

DIN rail (top hat rail) mounting optional

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

6.68 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

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 (basic degree of protection, in the operating controls area)
IP20

Direction of incoming supply

As required

Electrical connection type of main circuit

Frame clamp

Lifespan, mechanical

20000 operations

Overvoltage category

III

Rated operational current

90 A (660-690 V AC-3, making and breaking capacity)
300 A (380/400 V AC-1, making and breaking capacity)
300 A (690 V AC-1, making and breaking capacity)
300 A (415 V AC-1, making and breaking capacity)

Degree of protection (IP), front side

IP40 (with insulating surround)
IP66 (with door coupling rotary handle)

Degree of protection (terminations)

IP10 (tunnel terminal)
IP00 (terminations, phase isolator and strip terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

Max. 10 segments of 16 mm x 0.8 mm at rear-side connection
(punched)
Min. 2 segments of 16 mm x 0.8 mm at rear-side connection
(punched)
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

Lifespan, electrical

6500 operations at 415 V AC-3
7500 operations at 690 V AC-1
6500 operations at 400 V AC-3
10000 operations at 400 V AC-1
5000 operations at 690 V AC-3

Functions

Short-circuit protection

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 (I_n)

90 A

Release system

Electronic release

Short-circuit total breaktime

< 10 ms

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

1.9 kA

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

1.9 kA

Short-circuit release non-delayed setting - max

1260 A

Short-circuit release non-delayed setting - min

180 A

Terminal capacity (control cable)

16 mm² - 18 mm² (2x)

14 mm² - 18 mm² (1x)

Terminal capacity (copper busbar)

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

M8 at rear-side screw 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 - 3/0 mm² (1x) direct at switch rear-side connection

4 mm² - 350 mm² (1x) at box terminal

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

Handle type

Rocker lever

Short delay current setting (I_{sd}) - max

0 A

Short delay current setting (I_{sd}) - min

0 A

Instantaneous current setting (I_i) - max

1260 A

Instantaneous current setting (I_i) - min

180 A

Number of operations per hour - max

120

Overload current setting (I_r) - max

0 A

Overload current setting (I_r) - min

0 A

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

85 kA

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

50 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

25 kA

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 690 V, 50/60 Hz

5 kA

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

105 kA

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

74 kA

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

53 kA

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

40 kA

Standard terminals

Box terminal

Rated operating voltage U_e (UL) - max

480 V

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

187 kA

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

6000 V

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

8000 V

Rated insulation voltage (U_i)

1000 V AC



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

© 2024 Eaton. All Rights Reserved.

Eaton is a registered trademark.

All other trademarks are property of their respective owners.



[Eaton.com/socialmedia](https://www.eaton.com/socialmedia)