

Eaton 259085

Catalog Number: 259085

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 100A, N, frame1, A100

General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker thermo-magnetic	259085
	Model Code
	NZMN1-A100
EAN	Product Length/Depth
4015082590857	88 mm
Product Height	Product Width
145 mm	90 mm
Product Weight	Compliances
1.073 kg	RoHS conform
Certifications	
IEC/EN 60947	
IEC	

Product specifications

Rated operational current for specified heat dissipation (In)
100 A

10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

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

7.5 kA

10.4 Clearances and creepage distances

Meets the product standard's requirements.

10.12 Electromagnetic compatibility

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

Mounting Method

Built-in device fixed built-in technique

Fixed

DIN rail (top hat rail) mounting optional

Amperage Rating

300 A

10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

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

Handle type

Rocker lever

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

Ambient storage temperature - min

40 °C

Protection against direct contact

Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110

Terminal capacity (copper busbar)

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

M6 at rear-side screw connection

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

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](#)

Certification reports

[DA-DC-03_N1](#)

Characteristic curve

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

[1230DIA-13](#)

[1230DIA-3](#)

[123U177](#)

[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-002.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps](#)

Drawings

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

[123X039](#)

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

[123X506](#)

[eaton-circuit-breaker-switch-nzm-mccb-3-d-drawing-006.eps](#)

[123I243](#)

eCAD model

[ETN.NZMN1-A100](#)

Installation instructions

[IL01203004Z](#)

mCAD model

[DA-CS-nzm1_3p](#)

[DA-CD-nzm1_3p](#)

Specifications and datasheets

[Eaton Specification Sheet - 259085](#)

Technical data sheets

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

10.8 Connections for external conductors

Is the panel builder's responsibility.

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.

Ambient operating temperature - max

70 °C

Position of connection for main current circuit

Front side

Rated insulation voltage (U_i)

690 V AC

Climatic proofing

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

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

Terminal capacity (copper stranded conductor/cable)

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

6 mm² - 25 mm² (2x) at box terminal

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

10 mm² - 70 mm² (1x) at box terminal

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

Features

Protection unit

Lifespan, electrical

10000 operations at 415 V AC-1

10000 operations at 400 V AC-1

7500 operations at 690 V AC-1

Electrical connection type of main circuit

Frame clamp

Short-circuit total breaktime

< 10 ms

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

6000 V

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

50 kA

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Utilization category

A (IEC/EN 60947-2)

Number of poles

Three-pole

Ambient operating temperature - min

-25 °C

10.6 Incorporation of switching devices and components

Does not apply, since the entire switchgear needs to be evaluated.

10.5 Protection against electric shock

Does not apply, since the entire switchgear needs to be evaluated.

Terminal capacity (control cable)

0.75 mm² - 1.5 mm² (2x)

0.75 mm² - 2.5 mm² (1x)

Equipment heat dissipation, current-dependent

21.9 W

Instantaneous current setting (Ii) - min

600 A

10.13 Mechanical function

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

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

85 kA

Application

Use in unearthed supply systems at 690 V

10.3 Degree of protection of assemblies

Does not apply, since the entire switchgear needs to be evaluated.

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

187 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440

V, 50/60 Hz

35 kA

Degree of protection (IP), front side

IP66 (with door coupling rotary handle)

IP40 (with insulating surround)

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

Instantaneous current setting (I_i) - max

1000 A

Overload current setting (I_r) - min

80 A

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

0 A

Number of auxiliary contacts (normally closed contacts)

0

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.

Lifespan, mechanical

20000 operations

Overload current setting (I_r) - max

100 A

Voltage rating

690 V - 690 V

Terminal capacity (copper solid conductor/cable)

10 mm² - 16 mm² (1x) at box terminal

16 mm² (1x) at tunnel terminal

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

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

6 mm² - 16 mm² (2x) at box terminal

Degree of protection (terminations)

IP00 (terminations, phase isolator and strip terminal)

IP10 (tunnel terminal)

Terminal capacity (aluminum stranded conductor/cable)

25 mm² - 95 mm² (1x) at tunnel terminal
25 mm² - 35 mm² (1x) direct at switch rear-side connection
25 mm² - 35 mm² (2x) direct at switch rear-side connection

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min

600 A

Degree of protection

IP20

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

Overvoltage category

III

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

0 A

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

6000 V

Number of auxiliary contacts (change-over contacts)

0

Ambient storage temperature - max

70 °C

Release system

Thermomagnetic release

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

10 kA

Optional terminals

Connection on rear. Screw terminal. Tunnel terminal

Pollution degree

3

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

10.10 Temperature rise

The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

Functions

System and cable protection

Short-circuit release non-delayed setting - max

1000 A

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

105 kA

Standard terminals

Box terminal

Type

Circuit breaker

10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2.7 Inscriptions

Meets the product standard's requirements.

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

74 kA

Voltage rating (DC)

450 VDC

Number of auxiliary contacts (normally open contacts)

0

Isolation

500 V AC (between auxiliary contacts and main contacts)

300 V AC (between the auxiliary contacts)

Number of operations per hour - max

120

Circuit breaker frame type

NZM1

Direction of incoming supply

As required

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

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

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



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