

Eaton 259117

Catalog Number: 259117

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 400A, H3-AE400

General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker electronic	259117
	Model Code
	NZMH3-AE400
EAN	Product Length/Depth
4015082591175	166 mm
Product Height	Product Width
275 mm	140 mm
Product Weight	Compliances
6.966 kg	RoHS conform
Certifications	
IEC/EN 60947	
IEC	

Product specifications

Rated operational current for specified heat dissipation (In)
400 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

9 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

Amperage Rating

630 A

10.2.5 Lifting

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

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 24 mm x 1 mm + 5 segments of 24 mm x 1 mm

Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched)

Max. 8 segments of 24 mm x 1 mm (2x) at box terminal

Min. 6 segments of 16 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

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-nzm-mccb-characteristic-curve-033.eps](#)

1230DIA-43

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

1230DIA-66

1230DIA-40

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-030.eps](#)

Drawings

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps](#)

123X553

[eaton-circuit-breaker-nzm-mccb-dimensions-020.eps](#)

123X330

eCAD model

[ETN.NZMH3-AE400](#)

Installation instructions

[IL01208009Z](#)

mCAD model

[DA-CS-nzm3_3p](#)

[DA-CD-nzm3_3p](#)

Specifications and datasheets

[Eaton Specification Sheet - 259117](#)

Technical data sheets

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

Terminal capacity (copper busbar)

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

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

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

M10 at rear-side screw connection

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})

R.m.s. value measurement and "thermal memory"

Rated current = rated uninterrupted current: 400 A

Terminal capacity hint: Up to 240 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)

1000 V AC

Climatic proofing

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

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

Terminal capacity (copper stranded conductor/cable)

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

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

35 mm² - 240 mm² (1x) at box terminal

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

25 mm² - 120 mm² (2x) at box terminal

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

Features

Motor drive optional

Protection unit

Lifespan, electrical

2000 operations at 400 V AC-3

2000 operations at 415 V AC-3

2000 operations at 690 V AC-3

5000 operations at 400 V AC-1

3000 operations at 690 V AC-1

5000 operations at 415 V AC-1

Electrical connection type of main circuit

Screw connection

Short-circuit total breaktime

< 10 ms

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

8000 V

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

150 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 - 2.5 mm² (1x)

0.75 mm² - 1.5 mm² (2x)

Used with

NZM1(-4), PN1(-4), N(S)1(-4), NZM2(-4), PN2(-4), N(S)2(-4),
NZM3(-4), PN3(-4), N(S)3(-4), NZM4(-4), N(S)4(-4)

Equipment heat dissipation, current-dependent

48 W

Instantaneous current setting (I_i) - min

800 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 I_{cs} (IEC/EN 60947) at 230 V, 50/60 Hz

150 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 I_{cm} at 240 V, 50/60 Hz

330 kA

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

130 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

143 kA

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

74 kA

Instantaneous current setting (I_i) - max

4400 A

Overload current setting (I_r) - min

200 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

15000 operations

Overload current setting (I_r) - max

400 A

Voltage rating

690 V - 690 V

Terminal capacity (copper solid conductor/cable)

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

16 mm² (1x) at tunnel terminal

16 mm² (2x) at box terminal

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

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

Degree of protection (terminations)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and strip terminal)

Terminal capacity (aluminum stranded conductor/cable)

25 mm² - 120 mm² (1x) direct at switch rear-side connection

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

25 mm² - 120 mm² (2x) direct at switch rear-side connection

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

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

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min

800 A

Degree of protection

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

IP20

Overvoltage category

III

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

3.3 kA

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

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

3.3 kA

Ambient storage temperature - max

70 °C

Release system

Electronic release

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

33 kA

Optional terminals

Box terminal. Connection on rear. Tunnel terminal

Pollution degree

3

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

Connection

Screw

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

4400 A

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

330 kA

Standard terminals

Screw 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

286 kA

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

60

Circuit breaker frame type

NZM3

Direction of incoming supply

As required

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Terminal capacity (aluminum solid conductor/cable)

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

16 mm² (1x) at tunnel terminal

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



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