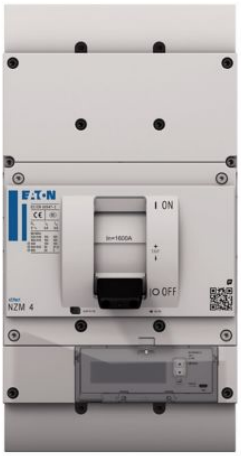
Product specifications

Eaton 189690

Catalog Number: 189690

NZMH4-PMX550-AVE. NZM4 PXR25 circuit breaker - integrated energy measurement class 1, 550A, 3p, Screw terminal, withdrawable unit



General specifications

Product Name
Eaton Moeller series NZM molded case circuit breaker electronic

Catalog Number
189690

Model Code
NZMH4-PMX550-AVE

EAN
4015081876372

Product Length/Depth
501 mm

Product Height
280 mm

Product Width
260 mm

Product Weight
29 kg

Compliances
RoHS conform

Certifications
IEC/EN 60947
IEC

Powering Business Worldwide

Product specifications

Rated operational current for specified heat dissipation (In)

550 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 Ics (IEC/EN 60947) at 690 V, 50/60 Hz

37 kA

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

50 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

Withdrawable
Built-in device slide-in technique (withdrawable)

Amperage Rating

550 A

10.2.5 Lifting

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

Terminal capacity (copper strip)

Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal
Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)
10 segments of 80 mm x 1 mm (2x) at rear-side width extension
10 segments of 50 mm x 1 mm (2x) at 1-hole module plate
Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal
Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched)

Handle type

Rocker lever

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

Ambient storage temperature - min

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

Drawings

eaton-circuit-breaker-withdrawable-unit-nzm-mccb-dimensions.eps

eaton-circuit-breaker-nzm-mccb-dimensions-022.eps

Installation instructions

IL012101ZU

Installation videos

Introduction of the new digital circuit breaker NZM

The new digital NZM Range

mCAD model

DA-CD-nzm4_3p

DA-CS-nzm4_3p

Technical data sheets

eaton-nzm-technical-information-sheet

40 °C

Fitted with:

Thermal protection

Protection against direct contact

Finger and back-of-hand proof to VDE 0106 part 100

Terminal capacity (copper busbar)

Max. 50 mm x 10 mm (2x) direct at switch rear-side connection
Max. 80 mm x 10 mm (2x) at rear-side width extension
Min. 25 mm x 5 mm direct at switch rear-side connection
Min. 25 mm x 5 mm at rear-side 1-hole module plate
Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate
50 mm x 10 mm (2x) at rear-side 2-hole module plate
Min. 60 mm x 10 mm at rear-side width extension
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 Icn) Motor protection - overload- and short-circuit protective device LI Motor Class 1 energy measurement, phase loss protection, r.m.s. value measurement, and "thermal memory" USB interface for configuration and test function with Power Xpert Protection Manager software Interface module in equipment supplied. Optionally communication-capable with interface module and internal Modbus RTU module or CAM Rated current = rated uninterrupted current: 550 A

Ambient operating temperature - max

70 °C

Climatic proofing

Damp heat, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

Terminal capacity (aluminum stranded conductor/cable)

50 mm² - 240 mm² (4x) at 4-hole tunnel terminal

Terminal capacity (copper stranded conductor/cable)

50 mm² - 185 mm² (4x) direct at switch rear-side connection
120 mm² - 185 mm² (1x) direct at switch rear-side connection

Lifespan, electrical

3000 operations at 400 V AC-1
2000 operations at 400 V AC-3
2000 operations at 415 V AC-3

2000 operations at 690 V AC-1

1000 operations at 690 V AC-3

3000 operations at 415 V AC-1

Electrical connection type of main circuit

Other

Short-circuit total breaktime

< 25 ms (415 V); < 35 ms (> 415 V)

Rated impulse withstand voltage (Uimp) at main contacts

8000 V

Rated short-circuit breaking capacity Ics (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

B (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)

Equipment heat dissipation, current-dependent

33.58 W

Instantaneous current setting (Ii) - min

2 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

63 kA

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

275 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz

50 kA

Degree of protection (IP), front side

IP40 (with insulating surround)

IP66 (with door coupling rotary handle)

Rated short-circuit making capacity Icm at 525 V, 50/60 Hz

143 kA

Rated short-circuit making capacity Icm at 690 V, 50/60 Hz

100 kA

Instantaneous current setting (Ii) - max

18 A

Overload current setting (Ir) - min

220 A

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

10000 operations

Overload current setting (Ir) - max

550 A

Voltage rating

690 V - 690 V

Terminal capacity (copper solid conductor/cable)

95 mm² - 185 mm² (2x) at rear-side 2-hole module plate

300 mm² (4x) at rear-side width extension

35 mm² - 185 mm² (4x) at rear-side 2-hole module plate

95 mm² - 300 mm² (2x) at rear-side 1-hole module plate

95 mm² - 240 mm² (6x) at rear-side width extension

50 mm² - 240 mm² (4x) at 4-hole tunnel terminal

120 mm² - 300 mm² (1x) at rear-side 1-hole module plate

Degree of protection (terminations)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and strip terminal)

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min

1100 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)

19.2 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Switch off technique

Electronic

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

19.2 kA

Accessories required

NZM4-XAVS

Ambient storage temperature - max

70 °C

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz

50 kA

Optional terminals

Connection on rear. Strip terminal. Tunnel terminal

Release system

Electronic release

Pollution degree

3

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

Rated operating power at AC-3, 230 V

160 kW

10.10 Temperature rise

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

Functions

Motor protection

Phase failure sensitive

Short-circuit release non-delayed setting - max

9900 A

Standard terminals

Screw terminal

Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz

187 kA

Rated operating power at AC-3, 400 V

315 kW

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 Icm at 440 V, 50/60 Hz

187 kA

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

NZM4

Direction of incoming supply

As required

Shock resistance

15 g (half-sinusoidal shock 11 ms)

Rated insulation voltage (Ui)

690 V

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