Product specifications

Eaton 191353

Catalog Number: 191353

NZMH4-4-AX1600. NZM4 PXR10 circuit breaker, 1600A, 4p, screw terminal

General specifications

Product Name
Eaton Moeller series NZM - Molded Case Circuit Breaker

Catalog Number
191353

Model Code
NZMH4-4-AX1600

EAN
4015081918652

Product Length/Depth
375 mm

Product Height
170 mm

Product Width
280 mm

Product Weight
25.5 kg

Compliances
RoHS conform

Certifications
IEC/EN 60947
IEC

Powering Business Worldwide

Product specifications

Rated operational current for specified heat dissipation (In)

1600 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

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

Fixed

Built-in device fixed built-in technique

Amperage Rating

1600 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

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

Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)

Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched)

Min. 6 segments of 16 mm x 0.8 mm at flat conductor 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

Drawings

eaton-circuit-breaker-nzm-mccb-dimensions-023.eps

Installation instructions

IL012101ZU

Installation videos

The new digital NZM Range

Introduction of the new digital circuit breaker NZM

mCAD model

DA-CS-nzm4_4p

DA-CD-nzm4_4p

Technical data sheets

eaton-nzm-technical-information-sheet

110

Terminal capacity (copper busbar)

Min. 25 mm x 5 mm 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
Min. 25 mm x 5 mm direct at switch rear-side connection
Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate
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

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)
Overload and short-circuit protection LI R.m.s. value measurement and “thermal memory” USB interface for configuration and test function with Power Xpert Protection Manager software Rated current = rated uninterrupted current: 1600 A

Ambient operating temperature - max

70 °C

Position of connection for main current circuit

Front side

Current rating of neutral conductor

200% of phase conductor

Rated insulation voltage (Ui)

690 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)

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

Features

Protection unit
Motor drive optional

Lifespan, electrical

3000 operations at 400 V AC-1
3000 operations at 415 V AC-1
20000 operations at 690 V AC-1

Electrical connection type of main circuit

Screw connection

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

A (IEC/EN 60947-2)

Number of poles

Four-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

284 W

Instantaneous current setting (Ii) - min

3200 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

Application

Use in unearthed supply systems at 525 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

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

38400 A

Overload current setting (Ir) - min

640 A

Short delay current setting (Isd) - 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

10000 operations

Overload current setting (Ir) - max

1600 A

Voltage rating

690 V - 690 V

Terminal capacity (copper solid conductor/cable)

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

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

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

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

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

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

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

Degree of protection (terminations)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and strip terminal)

Terminal capacity (aluminum stranded conductor/cable)

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

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min

3200 A

Degree of protection

IP20

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

Overvoltage category

III

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

19.2 kA

Short delay current setting (Isd) - max

0 A

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Number of auxiliary contacts (change-over contacts)

0

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

19.2 kA

Ambient storage temperature - max

70 °C

Release system

Electronic release

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

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

19200 A

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

187 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 Icm at 440 V, 50/60 Hz

187 kA

Number of auxiliary contacts (normally open contacts)

0

Isolation

300 V AC (between the auxiliary contacts)

500 V AC (between auxiliary contacts and main 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)

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

Eaton.com/socialmedia