

Eaton 192144

Catalog Number: 192144

Eaton Moeller series NZM - Molded Case Circuit Breaker. NZM2 PXR25, class 1, 160A, 3p, Screw terminal, earth-fault protection and zone selectivity, N, 2



Photo is representative

General specifications

Product Name	Catalog Number
Eaton Moeller series NZM molded case circuit breaker electronic	192144
	Model Code
	NZMN2-PX160-TZ
EAN	Product Length/Depth
4015081926954	190 mm
Product Height	Product Width
160 mm	115 mm
Product Weight	Compliances
2.4 kg	RoHS conform
Certifications	
IEC/EN 60947	
IEC	

Type

Circuit breaker

Special features

LSIG overload protection and delayed and non-delayed short-circuit protective device, earth-fault protection
Class 1 energy measurement, r.m.s. value measurement, and "thermal memory"
USB interface for configuration and test function with Power Xpert Protection Manager software
Zone selectivity ZSI Interface module in equipment supplied.
Optionally communication-capable with internal Modbus RTU module or CAM
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: 160 A

Application

Use in unearthed supply systems at 690 V

Amperage Rating

160 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

NZM2

Brochures

[eaton-digital-nzm-brochure-br013003en-en-us.pdf](#)

[eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf](#)

Catalogs

[eaton-digital-nzm-catalog-ca013003en-en-us.pdf](#)

Certification reports

[DA-DC-03_N2](#)

Characteristic curve

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-060.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-059.eps](#)

Drawings

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

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

Installation instructions

[eaton-circuit-breakers-nzmb-nzmn-basic-unit-bg2-instruction-leaflet-il012099zu.pdf](#)

Installation videos

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

[The new digital NZM Range](#)

mCAD model

[DA-CD-nzm2_3p](#)

[DA-CS-nzm2_3p](#)

Technical data sheets

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

Features

Protection unit

Motor drive optional

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 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, cyclic, to IEC 60068-2-30

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

Equipment heat dissipation, current-dependent

21.12 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

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

Screw connection

Lifespan, mechanical

20000 operations

Overvoltage category

III

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)

Min. 2 segments of 9 mm x 0.8 mm at box terminal
Min. 2 segments of 16 mm x 0.8 mm at rear-side connection
(punched)
Max. 10 segments of 24 mm x 0.8 mm at rear-side connection
(punched)
Max. 10 segments of 16 mm x 0.8 mm at box terminal
Max. 8 segments of 24 mm x 1 mm (2x) at box terminal

Lifespan, electrical

7500 operations at 690 V AC-1
10000 operations at 415 V AC-1
10000 operations at 400 V AC-1

Functions

Systems, cable, selectivity and generator protection
Earth-fault protection
Integrated earth fault protection
Zone selectivity

Earth-fault current setting (I_g) - max

160 x I_n

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Earth-fault current setting (I_g) - min

32 x I_n

Position of connection for main current circuit

Front side

Rated operational current for specified heat dissipation (I_n)

160 A

Power loss

21.12 W

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 delayed setting - max

1600 A

Short-circuit release delayed setting - min

128 A

Short-circuit release non-delayed setting - max

2880 A

Short-circuit release non-delayed setting - min

320 A

Terminal capacity (control cable)

0.75 mm² - 2.5 mm² (1x)

0.75 mm² - 1.5 mm² (2x)

Terminal capacity (copper busbar)

Max. 24 mm x 8 mm direct at switch rear-side connection

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

M8 at rear-side screw connection

Terminal capacity (copper solid conductor/cable)

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

10 mm² - 16 mm² (1x) at box terminal

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

16 mm² (1x) at tunnel terminal

6 mm² - 16 mm² (2x) at box terminal

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

Terminal capacity (copper stranded conductor/cable)

25 mm² - 70 mm² (2x) at box terminal

25 mm² - 70 mm² (2x) direct at switch rear-side connection

25 mm² - 185 mm² (1x) direct at switch rear-side connection

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

25 mm² - 185 mm² (1x) at box terminal

Terminal capacity (aluminum stranded conductor/cable)

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

Handle type

Rocker lever

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

10 A

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

2 A

Instantaneous current setting (I_i) - max

18 A

Instantaneous current setting (I_i) - min

2 A

Number of operations per hour - max

120

Overload current setting (I_r) - max

160 A

Overload current setting (I_r) - min

64 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

110 kA

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

77 kA

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

55 kA

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

40 kA

Standard terminals

Screw terminal

Optional terminals

Box terminal. Connection on rear. Tunnel terminal

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)

690 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)