Specifications

Eaton 192120

Catalog Number: 192120

Eaton Moeller series NZM - Molded Case Circuit Breaker. NZM2 PXR25 circuit breaker - integrated energy measurement class 1, 220A, 3p, plug-in technology, N, 2



General specifications

Product Name	**Catalog Number**
Eaton Moeller series NZM molded case circuit breaker electronic	192120
	EAN
	4015081926718
Product Length/Depth	**Product Height**
190 mm	160 mm
Product Width	**Product Weight**
115 mm	2.4 kg
Compliances	**Certifications**
RoHS conform	IEC/EN 60947 IEC

Powering Business Worldwide

Product specifications

Type

Circuit breaker

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: 220 A

Application

Use in unearthed supply systems at 690 V

Amperage Rating

220 A

Voltage rating

690 V - 690 V

Circuit breaker frame type

NZM2

Accessories required

NZM2-XSVS

Resources

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

Characteristic curve

eaton-circuit-breaker-nzm-mccb-characteristic-curve-042.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-059.eps

eaton-circuit-breaker-nzm-mccb-characteristic-curve-060.eps

Declarations of conformity

DA-DC-03_N2

Drawings

eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps

eaton-circuit-breaker-nzm-mccb-dimensions-019.eps

eaton-circuit-breaker-adapter-nzm-mccb-dimensions-002.eps

Installation instructions

eaton-circuit-breaker-plug-in-adapter-nzm2-il01219023z.pdf

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

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.

Fitted with:

Thermal protection

Pollution degree

3

Mounting Method

Built-in device plug-in technique

Plug-in unit

Climatic proofing

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

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

Equipment heat dissipation, current-dependent

39.93 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

Protection against direct contact

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

Rated insulation voltage (Ui)

690 V

Rated operating power at AC-3, 230 V

55 kW

Rated operating power at AC-3, 400 V

110 kW

Switch off technique

Electronic

Degree of protection

IP20

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

Direction of incoming supply

As required

Electrical connection type of main circuit

Other

Lifespan, mechanical

20000 operations

Overvoltage category

III

Degree of protection (IP), front side

IP66 (with door coupling rotary handle)

IP40 (with insulating surround)

Degree of protection (terminations)

IP00 (terminations, phase isolator and strip terminal)

IP10 (tunnel terminal)

Number of poles

Three-pole

Terminal capacity (copper strip)

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

Min. 2 segments of 9 mm x 0.8 mm at box terminal

Min. 2 segements 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

Lifespan, electrical

5000 operations at 690 V AC-3

10000 operations at 400 V AC-1

10000 operations at 415 V AC-1

6500 operations at 400 V AC-3

6500 operations at 415 V AC-3

7500 operations at 690 V AC-1

Functions

Motor protection

Phase failure sensitive

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Rated operational current for specified heat dissipation (In)

220 A

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 non-delayed setting - max

3080 A

Short-circuit release non-delayed setting - min

440 A

Handle type

Rocker lever

Instantaneous current setting (Ii) - max

14 A

Instantaneous current setting (Ii) - min

2 A

Number of operations per hour - max

120

Overload current setting (Ir) - max

220 A

Overload current setting (Ir) - min

88 A

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

85 kA

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

35 kA

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

35 kA

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

25 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz

5 kA

Standard terminals

Screw terminal

Optional terminals

Box terminal. Connection on rear. Tunnel terminal

Release system

Electronic release

Short-circuit total breaktime

< 10 ms

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal

Terminal capacity (aluminum stranded conductor/cable)

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

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)

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

6 mm² - 16 mm² (2x) at box terminal

10 mm² - 16 mm² (1x) at box terminal

16 mm² (1x) at tunnel terminal

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

Terminal capacity (copper stranded conductor/cable)

25 mm² - 185 mm² (1x) at box terminal

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

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

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

25 mm² - 70 mm² (2x) at box terminal

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

400/415 V, 50/60 Hz

35 kA

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

105 kA

Rated short-circuit making capacity Icm at 440 V, 50/60 Hz

74 kA

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

53 kA

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

40 kA

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

187 kA

Rated impulse withstand voltage (Uimp) at auxiliary contacts

6000 V

Rated impulse withstand voltage (Uimp) at main contacts

8000 V

Power loss

39.93 W

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