

MCCB NZM1 4pole 50A 25kA therm/mag

Cat Number: NZMB1-4-A50



Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 4p, 50A, B, frame 1, 4-A50

Technical Specifications:

Product Length/Depth | 84.5 mm

Product Height | 145 mm

Product Width | 120 mm

Product Weight | 1.316 kg

Compliances | RoHS conform

Certifications | IEC

IEC/EN 60947

Rated operational current for specified heat dissipation (In) | 50 A

10.11 Short-circuit rating | Is the panel builder's responsibility. The specifications for the switchgear must be observed.

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 | DIN rail (top hat rail) mounting optional

Fixed

Built-in device fixed built-in technique

Amperage Rating | 50 A

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

Terminal capacity (copper strip) | Min. 2 segments of 9 mm x 0.8 mm at box terminal

Max. 9 segments of 9 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 110

Terminal capacity (copper busbar) | M6 at rear-side screw connection

Min. 12 mm x 5 mm direct at switch rear-side connection

Max. 16 mm x 5 mm direct at switch rear-side 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})

Rated current = rated uninterrupted current: 50 A

Set value in neutral conductor is synchronous with set value I_r of main pole.

Terminal capacity hint: Up to 95 mm² can be connected depending on the cable manufacturer.

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

25 mm² - 95 mm² (1x) at 1-hole tunnel terminal

6 mm² - 25 mm² (2x) at box terminal

10 mm² - 70 mm² (1x) direct at switch rear-side connection

10 mm² - 70 mm² (1x) at box terminal

Features | Protection unit

Lifespan, electrical | 7500 operations at 400 V AC-1

7500 operations at 415 V AC-1

Electrical connection type of main circuit | Frame clamp

Short-circuit total breaktime | < 10 ms

Rated impulse withstand voltage (Uimp) at main contacts | 6000 V

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz | 25 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.

Overload current setting (Ir) | 40 A - 50 A

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 | 13.2 W

Instantaneous current setting (Ii) - min | 6 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 | 30 kA

Application | Use in unearthed supply systems at 440 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 | 63 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz | 18.5 kA

Degree of protection (IP), front side | IP40 (with insulating surround)

IP66 (with door coupling rotary handle)

Instantaneous current setting (Ii) - max | 10 A

Overload current setting (Ir) - min | 40 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 | 20000 operations

Overload current setting (I_r) - max | 50 A

Voltage rating | 440 V - 440 V

Terminal capacity (copper solid conductor/cable) | 6 mm² - 16 mm² (2x) direct at switch rear-side connection

16 mm² (1x) at tunnel terminal

6 mm² - 16 mm² (2x) at box terminal

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

10 mm² - 16 mm² (1x) at box terminal

Degree of protection (terminations) | IP00 (terminations, phase isolator and strip terminal)
IP10 (tunnel terminal)

Terminal capacity (aluminum stranded conductor/cable) | 25 mm² - 35 mm² (2x) direct at switch rear-side connection

25 mm² - 95 mm² (1x) at tunnel terminal

25 mm² - 35 mm² (1x) direct at switch rear-side connection

10.9.2 Power-frequency electric strength | Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min | 300 A

Degree of protection | IP20

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

Overvoltage category | III

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

Ambient storage temperature - max | 70 °C

Release system | Thermomagnetic release

Optional terminals | Connection on rear. Screw 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 | 500 A

Rated short-circuit making capacity I_{cm} at 400/415 V, 50/60 Hz | 53 kA

Standard terminals | Box 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 | 53 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 | 120

Circuit breaker frame type | NZM1

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 (1x) direct at switch rear-side connection

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

16 mm² (1x) at tunnel terminal