

Eaton 111897

Catalog Number: 111897

Eaton Moeller series Power Defense - Molded Case Circuit Breaker. Circuit-breaker LZM, 3 p, 160A, C1-A160-I



General specifications

Product Name

Eaton Moeller series Power Defense
molded case circuit-breaker

Catalog Number

111897

Model Code

LZMC1-A160-I

EAN

4015081114450

Product Length/Depth

88 mm

Product Height

145 mm

Product Width

90 mm

Product Weight

1.014 kg

Compliances

RoHS conform

Certifications

IEC/EN 60947

IEC

VDE 0660

Product specifications

Rated operational current for specified heat dissipation (In)

160 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

160 A

10.2.5 Lifting

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

Terminal capacity (copper strip)

Max. 9 segments of 9 mm x 0.8 mm at box terminal

Min. 2 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.

Protection against direct contact

Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part

110

Terminal capacity (copper busbar)

M8 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

Resources

Characteristic curve

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps](#)

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-039.eps](#)

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-033.eps](#)

Drawings

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

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-3 d-drawing-006.eps](#)

Installation instructions

[il01203007z2017_05.pdf](#)

Installation videos

[Power Defense EMEA](#)

circuit breaker (Rated short-circuit breaking capacity I_{cn}) Rated current = rated uninterrupted current: 160 A

Position of connection for main current circuit

Front side

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

25 mm² - 70 mm² (1x) at box terminal

25 mm² (2x) at box terminal

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

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

Features

Protection unit

Lifespan, electrical

7500 operations at 415 V AC-3

7500 operations at 690 V AC-1

10000 operations at 400 V AC-1

10000 operations at 415 V AC-1

Electrical connection type of main circuit

Frame clamp

Short-circuit total breaktime

< 10 ms

Rated impulse withstand voltage (U_{imp}) at main contacts

6000 V

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

36 kA

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Utilization category

A (IEC/EN 60947-2)

Number of poles

Three-pole

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

36.1 W

Instantaneous current setting (Ii) - min

960 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 operational current

160 A (380/400 V AC-1, making and breaking capacity)

160 A (660-690 V AC-3, making and breaking capacity)

160 A (415 V AC-3, making and breaking capacity)

160 A (690 V AC-1, making and breaking capacity)

125 A (415 V AC-1, making and breaking capacity)

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

55 kA

Application

Use in unearthed supply systems at 690 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

121 kA

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

22.5 kA

Degree of protection (IP), front side

IP40 (with insulating surround)

IP66 (with door coupling rotary handle)

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

24 kA

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

14 kA

Instantaneous current setting (I_i) - max

1600 A

Overload current setting (I_r) - min

125 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

160 A

Voltage rating

690 V - 690 V

Terminal capacity (copper solid conductor/cable)

6 mm² - 16 mm² (2x) at box terminal

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

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

10 mm² - 16 mm² (1x) at box terminal

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

Degree of protection (terminations)

IP10 (tunnel terminal)

IP00 (terminations, phase isolator and band terminal)

Terminal capacity (aluminum stranded conductor/cable)

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

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Short-circuit release non-delayed setting - min

1280 A

Degree of protection

In the area of the HMI devices: IP20 (basic protection type)

IP20

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

Release system

Thermomagnetic release

Rated short-circuit breaking capacity I_{cs} (IEC/EN 60947) at 525 V, 50/60 Hz

6 kA

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

1280 A

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

76 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 Icm at 440 V, 50/60 Hz

63 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

120

Circuit breaker frame type

LZM1

Direction of incoming supply

As required

Shock resistance

20 g (half-sinusoidal shock 20 ms)

Terminal capacity (aluminum solid conductor/cable)

16 mm² (1x) at tunnel terminal



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