

# 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

<b>Product Name</b>	<b>Catalog Number</b>
Eaton Moeller series Power Defense molded case circuit-breaker	111897  EAN 4015081114450
<b>Product Length/Depth</b>	<b>Product Height</b>
88 mm	145 mm
<b>Product Width</b>	<b>Product Weight</b>
90 mm	1.014 kg
<b>Compliances</b>	<b>Certifications</b>
RoHS conform	IEC/EN 60947 IEC VDE 0660
<b>Model Code</b>	
LZMC1-A160-I	



## 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

### Drawings

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

123X506

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

123X039

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

1231243

### User guides

[il01203007z2017\\_05.pdf](#)

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 mm<sup>2</sup> - 70 mm<sup>2</sup> (1x) direct at switch rear-side connection

25 mm<sup>2</sup> - 70 mm<sup>2</sup> (1x) at box terminal

25 mm<sup>2</sup> (2x) at box terminal

25 mm<sup>2</sup> (2x) direct at switch rear-side connection

25 mm<sup>2</sup> - 95 mm<sup>2</sup> (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 mm<sup>2</sup> - 1.5 mm<sup>2</sup> (2x)

0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> (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 mm<sup>2</sup> - 16 mm<sup>2</sup> (2x) at box terminal

6 mm<sup>2</sup> - 16 mm<sup>2</sup> (2x) direct at switch rear-side connection

16 mm<sup>2</sup> - 95 mm<sup>2</sup> (1x) at tunnel terminal

10 mm<sup>2</sup> - 16 mm<sup>2</sup> (1x) at box terminal

10 mm<sup>2</sup> - 16 mm<sup>2</sup> (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 mm<sup>2</sup> - 95 mm<sup>2</sup> (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<sub>sd</sub>) - max

0 A

#### Rated impulse withstand voltage (U<sub>imp</sub>) at auxiliary contacts

6000 V

#### Number of auxiliary contacts (change-over contacts)

0

#### Release system

Thermomagnetic release

#### Rated short-circuit breaking capacity I<sub>cs</sub> (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<sub>cm</sub> 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 mm<sup>2</sup> (1x) at tunnel terminal



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