

# Eaton 167113

Catalog Number: 167113

Eaton Moeller series xEffect - FRCmM-NA RCCB. Residual current circuit breaker (RCCB), 25A, 2p, 30mA, type A, UL



## General specifications

### Product Name

Eaton Moeller series xEffect - FRCmM-NA RCCB

### Catalog Number

167113

### Model Code

FRCMM-25/2/003-A-NA

### EAN

4015081636150

### Product Length/Depth

80 mm

### Product Height

71 mm

### Product Width

35 mm

### Product Weight

0.22 kg

### Compliances

RoHS conform

### Certifications

UL 1053  
IEC/EN 61008  
EN45545-2  
IEC 61373

### Catalog Notes

Protects against special forms of residual pulsating DC which have not been smoothed.

## Product specifications

### Rated operational current for specified heat dissipation (In)

25 A

### 10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

### RAL-number

7035

### Permitted storage and transport temperature - min

-35 °C

### 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

Quick attachment with 2 latch positions for DIN-rail IEC/EN

60715

DIN rail

### Amperage Rating

25 A

### 10.2.5 Lifting

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

### Rated fault current - max

0.03 A

### Test circuit range

184 V AC - 440 V AC, 196 V AC - 305 V AC (UL)

### 10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

### Tripping time

Non-delayed

### Fitted with:

Interlocking device

### Rated residual making and breaking capacity

500 A

### Frequency rating

## Resources

### Application notes

[eaton-rcd-application-guide-br019003en-en-us.pdf](#)

### Brochures

[UL 1053 DIN Rail RCCB](#)

### Catalogs

[Eaton's Volume 4—Circuit Protection](#)

[eaton-xeffect-frcmm-na-rccb-catalog-ca003019en-en-us.pdf](#)

[eaton-xeffect-industrial-switchgear-range-catalog-ca003002en-en-us.pdf](#)

### Certification reports

[03\\_FRCm.-NA\\_181019](#)

[DA-DC-03\\_FRCm](#)

### Drawings

[eaton-circuit-breaker-xeffect-frcmm-na-rccb-dimensions.eps](#)

### eCAD model

[ETN.FRCMM-25\\_2\\_003-A-NA](#)

### Installation instructions

[MA180503312](#)

### mCAD model

[DA-CS-f9\\_ul1053\\_2p](#)

[DA-CD-f9\\_ul1053\\_2p](#)

### Specifications and datasheets

[Eaton Specification Sheet - 167113](#)

### Wiring diagrams

[eaton-circuit-breaker-xeffect-frcmm-na-rccb-wiring-diagram.eps](#)

[eaton-xeffect-frcmm-rccb-wiring-diagram.jpg](#)

50 Hz / 60 Hz

#### 10.8 Connections for external conductors

Is the panel builder's responsibility.

#### Fault current rating

30 mA

#### Terminal protection

Finger and hand touch safe, DGUV VS3, EN 50274

#### Special features

Current test marks as per inscription  
Maximum operating temperature is 55 °C:  
Starting at 40 °C, the max. permissible continuous current decreases by 3% for every 1 °C  
The maximum operating current of back-up fuse must not exceed the residual current circuit breaker's rated operational current

#### Sensitivity type

Pulse-current sensitive

#### Ambient operating temperature - max

40 °C

#### Heat dissipation per pole, current-dependent

1 W

#### Climatic proofing

25-55 °C / 90-95% relative humidity according to IEC 60068-2

#### Built-in depth

70.5 mm

#### Short-circuit rating

Max. admissible back-up fuse: 63 A gG/gL, 70 A class J fuse (UL)

#### Features

Additional equipment possible  
Residual current circuit breaker

#### Lifespan, electrical

4000 operations

#### Terminal capacity (cable)

M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, PZ2)

Connectable conductor cross section (solid-core) - min

1.5 mm<sup>2</sup>

Contact position indicator color

Red / green

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Number of poles

Two-pole

Terminal capacity (solid wire)

1.5 mm<sup>2</sup> - 35 mm<sup>2</sup>

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.

Rated short-circuit strength

5 kA (UL, as per CSA)

10 kA with back-up fuse

10.5 Protection against electric shock

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

Used with

Type A

Residual current circuit breakers

FRCmM-NA

Mounting position

As required

Equipment heat dissipation, current-dependent

2 W

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.

Static heat dissipation, non-current-dependent

0 W

#### Application

Switchgear for export to North America (UL-listed)

#### 10.3 Degree of protection of assemblies

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

#### Voltage rating (IEC/EN 60947-2)

240 V AC / 415 V AC

#### Voltage type

AC

#### Terminal capacity (stranded cable)

16 mm<sup>2</sup> (2x)

#### Leakage current type

A

#### Frame

45 mm

#### Built-in width (number of units)

35 mm (2 SU)

#### Terminals (top and bottom)

Lift terminals

#### Heat dissipation capacity

0 W

#### Ambient humidity range

5 - 95 %

#### Impulse withstand current

250 A (8/20 μs) surge-proof

Partly surge-proof 250 A

#### Width in number of modular spacings

2

#### 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

10000 operations

#### Status indication

White / blue

#### 10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

#### Connectable conductor cross section (solid-core) - max

35 mm<sup>2</sup>

#### Degree of protection

IP20, IP40 with suitable enclosure

IP20

#### Rated short-time withstand current (I<sub>cw</sub>)

10 kA

#### Overvoltage tested - max

530 V

#### Pollution degree

2

#### 10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

#### Connectable conductor cross section (multi-wired) - min

1.5 mm<sup>2</sup>

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

4 kV

#### 10.10 Temperature rise

The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

#### Voltage rating (UL)

480Y/277 V, 60 Hz

#### Connectable conductor cross section (multi-wired) - max

16 mm<sup>2</sup>

#### Type

FRCmM-NA

Residual current circuit

breakers

Type A

#### 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.

Surge current capacity

0.25 kA

Permitted storage and transport temperature - max

60 °C

Admissible back-up fuse overload - max

25 A gG/gL

Rated fault current - min

0.03 A

Pick-up current

22 mA

Rated operational voltage (Ue) - max

277 V

Rated insulation voltage (Ui)

440 V



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