Specifications

# Eaton 187408

## Catalog Number: 187408

Eaton Moeller series xEffect - FRCmM Type F RCCB. Residual current circuit breaker (RCCB), 25A, 4p, 30mA, type G/F




### General specifications

**Product Name**
Eaton Moeller series xEffect - FRCmM Type F RCCB

**Catalog Number**
187408

**EAN**
4015081824663

**Product Length/Depth**
80 mm

**Product Height**
76 mm

**Product Width**
70 mm

**Product Weight**
0.352 kg

**Compliances**
RoHS conform

**Certifications**
IEC/EN 62423
EN45545-2
IEC 61373
IEC/EN 61008

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## Delivery program

### Application

Switchgear for industrial and advanced commercial applications
xEffect - Switchgear for industrial and advanced commercial applications

### Number of poles

Four-pole

### Tripping time

10 ms delayed

### Amperage Rating

25 A

### Rated short-circuit strength

10 kA with back-up fuse

### Fault current rating

30 mA

### Sensitivity type

Pulse-current sensitive

### Impulse withstand current

3 kA (8/20 µs) surge-proof

### Type

FRCmM
Residual current circuit breakers
Type G/F (ÖVE E 8601)

## Technical data - electrical

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

240 V AC / 415 V AC

### Rated operational voltage (Ue) - max

240 V

### Rated insulation voltage (Ui)

440 V

### Rated impulse withstand voltage (Uimp)

4 kV

### Rated fault current - min

0.03 A

### Rated fault current - max

0.03 A

### Frequency rating

50 Hz / 60 Hz

### Short-circuit rating

63 A (max. admissible back-up fuse)

### Leakage current type

Other

### Rated residual making and breaking capacity

500 A

### Admissible back-up fuse overload - max

25 A gG/gL

### Rated short-time withstand current (Icw)

10 kA

### Surge current capacity

3 kA

### Test circuit range

184 V AC - 440 V AC

### Pollution degree

2

### Radiation resistance

Frequency mix (10 Hz, 50 Hz, 1000 Hz) enhanced sensitivity

### Lifespan, electrical

4000 operations

## Technical data - mechanical

### Frame

45 mm

### Width in number of modular spacings

4

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

70 mm (4 SU)

### Built-in depth

70.5 mm

### Mounting Method

Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715

DIN rail

### Mounting position

As required

### Degree of protection

IP20, IP40 with suitable enclosure

IP20

### Status indication

White / blue

### Terminals (top and bottom)

Twin-purpose terminals

### Terminal capacity (solid wire)

1.5 mm² - 35 mm²

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

1.5 mm²

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

35 mm²

### Terminal capacity (stranded cable)

16 mm² (2x)

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

1.5 mm²

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

16 mm²

### Terminal capacity (cable)

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

## Design verification as per IEC/EN 61439 - technical data

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

25 A

### Heat dissipation per pole, current-dependent

3.275 W

### Equipment heat dissipation, current-dependent

3.1 W

### Static heat dissipation, non-current-dependent

0 W

### Heat dissipation capacity

0 W

### Ambient operating temperature - min

-25 °C

### Ambient operating temperature - max

55 °C

## Design verification as per IEC/EN 61439

### 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

### Terminal protection

Finger and hand touch safe, DGUV VS3, EN 50274

### Tightening torque

2 Nm - 2.4 Nm

### Contact position indicator color

Red / green

### Busbar material thickness

0.8 mm - 2 mm

### Lifespan, mechanical

20000 operations

### Permitted storage and transport temperature - min

-35 °C

### Permitted storage and transport temperature - max

60 °C

### Climatic proofing

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

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.

### 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.

## Additional information

### Features

## Resources

### Application notes

Additional equipment possible

Residual current circuit breaker

### Fitted with:

Interlocking device

### Functions

Short-time delayed tripping

### 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

### Used with

Residual current circuit breakers

FRCmM

Type G/F (ÖVE E 8601)

eaton-rcd-application-guide-br019003en-en-us.pdf

### Brochures

eaton-pdd-railrolling-stock-brochure-br011002en-en-us.pdf

### Catalogs

eaton-xeffect-frcmm-rccb-catalog-ca003018en-en-us.pdf

### Declarations of conformity

DA-DC-03_FRCm

### Drawings

eaton-circuit-breaker-xeffect-frcmm-na-rccb-dimensions.eps

### eCAD model

DA-CE-ETN.FRCMM-25_4_003-G_F

### mCAD model

eaton-frcmm_rccb_4p-3-d-model.stp

eaton-187407-drawing.dwg

eaton-frcmm_rccb_4p-drawing.dwg

eaton-187407-3d-model.stp

### Wiring diagrams

eaton-xeffect-frcmm-rccb-wiring-diagram-002.jpg

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