Specifications

Eaton 187809

Catalog Number: 187809

Eaton Moeller series xEffect - FRCmM-125 Type B, Bfq and B+ RCCB. Residual current circuit-breaker, all-current sensitive, 80 A, 4p, 300 mA, type S/B



General specifications

Product Name	**Catalog Number**
Eaton Moeller series xEffect - FRCmM-125 Type B, Bfq and B+ RCCB	187809
	EAN
	4015081854936
Product Length/Depth	**Product Height**
90 mm	80 mm
Product Width	**Product Weight**
75 mm	0.48 kg
Compliances	**Certifications**
RoHS conform	IEC/EN 61008 IEC/EN 62423

Powering Business Worldwide

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

40 ms delayed - selective switch off
Selective switch off

Amperage Rating

80 A

Rated short-circuit strength

10 kA with back-up fuse

Fault current rating

300 mA

Sensitivity type

All current sensitive

Impulse withstand current

5 kA (8/20 µs) surge-proof

Type

FRCmM
Residual current circuit breakers
Type S/B

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

0.3 A

Rated fault current - max

0.3 A

Frequency rating

50 Hz

Short-circuit rating

100 A (max. admissible back-up fuse)

Leakage current type

B

Rated residual making and breaking capacity

800 A

Admissible back-up fuse overload - max

80 A gG/gL

Rated short-time withstand current (Icw)

10 kA

Surge current capacity

5 kA

Test circuit range

184 V AC - 440 V AC

Pollution degree

2

Lifespan, electrical

4000 operations

Technical data - mechanical

Design verification as per IEC/EN 61439 - technical data

Frame

45 mm

Width in number of modular spacings

4

Built-in width (number of units)

70 mm (4 SU)

Built-in depth

77.5 mm

Mounting Method

Quick attachment for top-hat rail IEC/EN 60715

DIN rail

Mounting position

As required

Degree of protection

IP20

IP20, IP40 with suitable enclosure

Status indication

Toggle-center postition

Terminals (top and bottom)

Twin-purpose terminals

Terminal capacity (solid wire)

1.5 mm² - 50 mm²

1.5 mm² - 16 mm² (2x)

Connectable conductor cross section (solid-core) - min

1.5 mm²

Connectable conductor cross section (solid-core) - max

50 mm²

Terminal capacity (stranded cable)

1.5 mm² - 16 mm² (2x)

1.5 mm² - 5 mm²

Connectable conductor cross section (multi-wired) - min

1.5 mm²

Connectable conductor cross section (multi-wired) - max

16 mm²

Terminal protection

Finger and hand touch safe, DGUV VS3, EN 50274

Contact position indicator color

Red / green

Rated operational current for specified heat dissipation (In)

80 A

Heat dissipation per pole, current-dependent

0 W

Equipment heat dissipation, current-dependent

22.5 W

Static heat dissipation, non-current-dependent

0 W

Heat dissipation capacity

0 W

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

75 °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

Meets the product standard's requirements.

10.3 Degree of protection of assemblies

Does not apply, since the entire switchgear needs to be

Busbar material thickness

0.8 mm - 2 mm

Lifespan, mechanical

20000 operations

Climatic proofing

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

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

Selective protection

Residual current circuit breaker

Additional equipment possible

Resources

Application notes

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

Catalogs

eaton-xeffect-frcmm-125-rccb-catalog-ca003020en-en-us.pdf

Fitted with:

Interlocking device

Special features

Current test marks as per inscription
Maximum operating temperature is 75 °C:
Starting at 40 °C, the max. permissible continuous current decreases by 1.2% for every 1 °C

Used with

Residual current circuit breakers
FRCmM
Type S/B

eaton-xeffect-frcmm40-80-type-b-rccb-catalog-ca003021en-en-us.pdf

Declarations of conformity

DA-DC-03_FRCm

Drawings

eaton-frcm-dimensions.jpg

eaton-circuit-breaker-xeffect-frcmm-125-rccb-dimensions.jpg

mCAD model

dfs_4.stp

dfs_4.dwg

Wiring diagrams

eaton-xeffect-frcmm-125-rccb-wiring-diagram.jpg

eaton-xeffect-frcmm-125-rccb-wiring-diagram-003.jpg

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