

Eaton 120677

Catalog Number: 120677

Eaton Moeller series xPole - mRB4/6 RCBO - residual-current circuit breaker with overcurrent protection. RCD/MCB, 20A, 30mA, C-LS-Char, 3N pole, FI-Char: A

General specifications

Product Name	Catalog Number
Eaton Moeller series xPole - mRB4/6 RCBO - residual-current circuit breaker with overcurrent protection	120677
	Model Code
	mRB4-20/3N/C/003-A
EAN	Product Length/Depth
4015081185078	80 mm
Product Height	Product Width
75.5 mm	70 mm
Product Weight	Compliances
.445 kg	CE Marked
	RoHS conform
Certifications	Model Code
CE	mRB4-20/3N/C/003-A

Delivery program

Application

Switchgear for residential and commercial applications

Product range

mRB4

Basic function

Combined RCD/MCB devices

Product application

Switchgear for industrial and advanced commercial applications

Number of poles

Three-pole + N

Number of poles (protected)

4

Number of poles (total)

4

Tripping characteristic

C

Release characteristic

C

Rated current

20 A

Rated current of product range

6 - 25 Ampere

Fault current rating

.03 A

Sensitivity type

Type A, pulse-current sensitive

Type

RCBO

Technical data - mechanical

Voltage type

AC

Voltage rating

400 V

Voltage rating at AC

230 V / 400 V

Rated operational voltage (Ue) - max

400 V

Rated insulation voltage (Ui)

500 V

Rated impulse withstand voltage (Uimp)

4 kV

Rated fault currents of product range

30, 100, 300 MilliAmpere

Impulse withstand current

Partly surge-proof, 250 A

Frequency rating

50 Hz

Leakage current type

A

Rated switching capacity

4.5 kA

Rated switching capacity (IEC/EN 60947-2)

4.5 kA

Rated switching capacity (IEC/EN 61009)

4.5 kA

Rated non-tripping current

0.5 x I Δ n

Rated short-circuit breaking capacity (EN 60947-2)

4.5 kA

Rated short-circuit breaking capacity (EN 61009)

4.5 kA

Rated short-circuit breaking capacity (EN 61009-1)

4.5 kA

Rated short-circuit breaking capacity (IEC 60947-2)

4.5 kA

Surge current capacity

.25 kA

Disconnection characteristic

Undelayed

Tripping

Non-delayed

Back-up fuse

100 Ampere gL

Selectivity class

3

Overvoltage category

III

Pollution degree

2

Technical data - mechanical

Frame

45 mm

Width in number of modular spacings

4

Device height

80 mm

Built-in depth

70 mm

Mounting style

Tri-stable slide catch - enables removal from existing busbar combination

Degree of protection

IP20

Degree of protection (built in)

IP40

Terminals (top and bottom)

Twin-purpose

Solid terminal capacities

1 - 25 Square Millimeter

Terminal protection

Busbar tag shroud to VBG4

Connectable conductor cross section (solid-core) - min

1 mm²

Connectable conductor cross section (solid-core) - max

25 mm²

Connectable conductor cross section (multi-wired) - min

1 mm²

Connectable conductor cross section (multi-wired) - max

25 mm²

Material thickness

2 mm

Climatic proofing

IEC 68-2: 25 °C - 55 °C at 90 % - 95 % humidity

Design verification as per IEC/EN 61439 - technical data

Rated operational current for specified heat dissipation (In)

20 A

Heat dissipation per pole, current-dependent

0 W

Equipment heat dissipation, current-dependent

11.8 W

Static heat dissipation, non-current-dependent

0 W

Heat dissipation capacity

0 W

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

40 °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 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

Current limiting class

3

Features

Concurrently switching N-neutral

Standards

IEC/EN 61009

Resources

Catalogues

[eaton-xpole-mrb4-rcbo-catalog-ca019058en-en-us.pdf](#)

[eaton-xpole-mrb6-rcbo-catalog-ca019057en-en-us.pdf](#)

Certification reports

[03_mRB-3p_200416](#)

[DA-DC-03_mRB-3N](#)

[03_mRB-2_160616](#)

[03_mRB4-PT_180517](#)

[03_mRB-3N_281118](#)

Characteristic curve

[eaton-mcb-xpole-mrb4-6-characteristic-curve.eps](#)

[1220DIA-11](#)

[eaton-xeffect-frbm6/m-characteristic-curve-002.jpg](#)

[Ausloese_mRB](#)

Drawings

[eaton-xeffect-frbm6/m-dimensions-004.jpg](#)

[eaton-mcb-xpole-mrb4-6-dimensions.eps](#)

[Dimensions xPole mRB4/mRB6 3N](#)

[1220DIM-102](#)

[Mas_PKPx4](#)

[3D Drawing xPole mRB4/mRB6 3N](#)

eCAD model

[ETN.mRB4-20_3N_C_003-A](#)

Installation instructions

[IL019140ZU](#)

[eaton-xpole-combined-mcb-rcd-device-rcbo-packaging-manual-multilingual.pdf](#)

mCAD model

DA-CD-faz_3pn_4p

DA-CS-faz_3pn_4p

Time/current curves

Characteristics xPole mRB4/mRB6 3N

Wiring diagrams

1220SWI-26

Contact Sequence xPole mRB4/mRB6 3N

[eaton-xeffect-frbm6/m-wiring-diagram-002.jpg](#)

[eaton-mcb-xpole-mrb4-6-wiring-diagram.eps](#)

mRB



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