

Spécifications



Eaton 167103

Eaton Moeller series xEffect - FRCmM-NA RCCB. Residual current circuit breaker (RCCB), 63A, 4p, 30mA, type A, UL

Spécifications générales

PRODUCT NAME	Eaton Moeller series xEffect - FRCmM-NA RCCB
CATALOG NUMBER	167103
MODEL CODE	FRCMM-63/4/003-A-NA
EAN	4015081636037
PRODUCT LENGTH/DEPTH	76 mm
PRODUCT HEIGHT	80 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.32 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.

Delivery program

APPLICATION	Switchgear for export to North America (UL-listed)
NUMBER OF POLES	Four-pole
TRIPPING TIME	Non-delayed
AMPERAGE RATING	63 A
RATED SHORT-CIRCUIT STRENGTH	10 kA with back-up fuse 5 kA (UL, as per CSA)
FAULT CURRENT RATING	30 mA
SENSITIVITY TYPE	Pulse-current sensitive
IMPULSE WITHSTAND CURRENT	Partly surge-proof 250 A 250 A (8/20 µs) surge-proof
TYPE	• FRCmM-NA • Residual current circuit breakers • Type A

Technical data - electrical

VOLTAGE RATING (IEC/EN 60947-2)	240 V AC / 415 V AC
VOLTAGE RATING (UL)	480Y/277 V, 60 Hz
RATED OPERATIONAL VOLTAGE (UE) - MAX	480 V
RATED INSULATION VOLTAGE (UI)	440 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV
OVERVOLTAGE TESTED - MAX	530 V
RATED FAULT CURRENT - MIN	0.03 A
RATED FAULT CURRENT - MAX	0.03 A
FREQUENCY RATING	50 Hz / 60 Hz
SHORT-CIRCUIT RATING	Max. admissible back-up fuse: 63 A gG/gL, 70 A class J fuse (UL)
LEAKAGE CURRENT TYPE	A
RATED RESIDUAL MAKING AND BREAKING CAPACITY	630 A
ADMISSIBLE BACK-UP FUSE OVERLOAD - MAX	40 A gG/gL
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	10 kA
SURGE CURRENT CAPACITY	0.25 kA
PICK-UP CURRENT	22 mA
TEST CIRCUIT RANGE	184 V AC - 440 V AC, 196 V AC - 305 V AC (UL)
POLLUTION DEGREE	2
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 IP20, IP40 with suitable enclosure
STATUS INDICATION	White / blue
TERMINALS (TOP AND BOTTOM)	Lift terminals
TERMINAL CAPACITY (SOLID WIRE)	1.5 mm ² - 35 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	1.5 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	35 mm ²
TERMINAL CAPACITY (STRANDED CABLE)	16 mm ² (2x)
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	1.5 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	16 mm ²
TERMINAL CAPACITY (CABLE)	M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, PZ2)
TERMINAL PROTECTION	Finger and hand touch safe, DGUV VS3, EN 50274
CONTACT POSITION INDICATOR COLOR	Red / green
LIFESPAN, MECHANICAL	10000 operations
PERMITTED STORAGE AND TRANSPORT	-35 °C

Design verification as per IEC/EN 61439 - technical data

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) 63 A

HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT 3.35 W

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT 13.4 W

AMBIENT OPERATING TEMPERATURE - MIN -25 °C

AMBIENT OPERATING TEMPERATURE - MAX 40 °C

TEMPERATURE - MIN	
PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MAX	60 °C
AMBIENT HUMDITY RANGE	
	5 - 95 %
CLIMATIC PROOFING	25-55 °C / 90-95% relative humidity according to IEC 60068-2

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	Is the panel builder's responsibility.

Additional information

FEATURES	Additional equipment possible Residual current circuit breaker
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 1.8% for every 1 °C • The maximum operating current of back-up fuse must not exceed the residual current circuit breaker's rated operational current
USED WITH	Residual current circuit breakers Type A FRCmM-NA

INSULATING MATERIAL

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.

Ressources

CARACTÉRISTIQUES

[Eaton Specification Sheet - 167103](#)

DECLARATIONS OF CONFORMITY

[03_FRCm.-NA_181019](#)

ECAD MODEL

[ETN.FRCMM-63 4 003-A-NA](#)

INSTRUCTIONS D'INSTALLATION

[MA180503312](#)

MCAD MODEL

[eaton-residual-current-circuit-breakers-drawings-f9-ul1053-4p.dwg](#)

[eaton-residual-current-circuit-breakers-3d-models-f9-ul1053-4p.stp](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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