



Eaton 170313

Eaton Moeller series xEffect - FRCmM Type AC, A, U, R RCCB. FRCmM, 4 pole, In: 100 A, Icn: 10 with back-up fuse kA, IΔN: 0.03 A, radiography

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PRODUCT NAME	Eaton Moeller series xEffect - FRCmM Type AC, A, U, R RCCB
CATALOG NUMBER	170313
PRODUCT LENGTH/DEPTH	80 mm
PRODUCT HEIGHT	76 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.386 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 61008

USED WITH

Type R
FRCmM
Residual current circuit
breakers

AMPERAGE RATING

100 A

FEATURES

Additional equipment
possible
Residual current circuit
breaker

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.

**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

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

	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.
FITTED WITH:	Interlocking device
FRAME	45 mm
FREQUENCY RATING	50 Hz / 60 Hz 50 Hz
POLLUTION DEGREE	2
LIFESPAN, MECHANICAL	20000 operations
MOUNTING METHOD	Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715 DIN rail
CLIMATIC PROOFING	25-55 °C / 90-95% relative humidity according to IEC 60068-2
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	18.8 W
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	10 kA
ADMISSIBLE BACK-UP FUSE OVERLOAD - MAX	80 A gG/gL

BUILT-IN WIDTH (NUMBER OF UNITS)	70 mm (4 SU)
BUSBAR MATERIAL THICKNESS	0.8 mm - 2 mm
SHORT-CIRCUIT RATING	100 A (max. admissible back-up fuse)
STATUS INDICATION	White / blue
TERMINAL PROTECTION	Finger and hand touch safe, DGUV VS3, EN 50274
TERMINALS (TOP AND BOTTOM)	Twin-purpose terminals
TEST CIRCUIT RANGE	184 V AC - 440 V AC
AMBIENT OPERATING TEMPERATURE - MAX	75 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
BUILT-IN DEPTH	70.5 mm
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	16 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	1.5 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	35 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	1.5 mm ²
FAULT CURRENT RATING	30 mA
HEAT DISSIPATION CAPACITY	0 W
HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT	4.7 W
PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MAX	60 °C
PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MIN	-35 °C
CONTACT POSITION INDICATOR COLOR	Red / green
MOUNTING POSITION	As required
DEGREE OF PROTECTION	IP20 IP20, IP40 with suitable enclosure

IMPULSE WITHSTAND CURRENT	3 kA (8/20 μ s) surge-proof
NUMBER OF POLES	Four-pole
LEAKAGE CURRENT TYPE	A
LIFESPAN, ELECTRICAL	4000 operations
TYPE	• FRCmM • Residual current circuit breakers • Type R
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
APPLICATION	Residual current circuit breakers for radiography applications
FUNCTIONS	Short-time delayed tripping
SENSITIVITY TYPE	Pulse-current sensitive
RADIATION RESISTANCE	X-ray application (enhanced sensitivity)
TERMINAL CAPACITY (CABLE)	M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, PZ2)
RATED FAULT CURRENT - MAX	0.03 A
RATED FAULT CURRENT - MIN	0.03 A
RATED INSULATION VOLTAGE (UI)	440 V
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	100 A
RATED OPERATIONAL VOLTAGE (UE) - MAX	415 V
RATED RESIDUAL MAKING AND BREAKING CAPACITY	1000 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT	0 W
SURGE CURRENT	3 kA

CAPACITY	
WIDTH IN NUMBER OF MODULAR SPACINGS	4
VOLTAGE RATING (IEC/EN 60947-2)	240 V AC / 415 V AC
VOLTAGE TYPE	AC
TERMINAL CAPACITY (SOLID WIRE)	1.5 mm ² - 35 mm ²
TRIPPING TIME	Short time-delayed 10 ms delayed
RATED SHORT-CIRCUIT STRENGTH	10 kA with back-up fuse
TIGHTENING TORQUE	2 Nm - 2.4 Nm
TERMINAL CAPACITY (STRANDED CABLE)	16 mm ² (2x)
RAL-NUMBER	7035

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