



Eaton 170452

Eaton Moeller series xEffect - FRCmM Type AC, A, U, R RCCB. Residual current circuit breaker (RCCB), 16A, 4p, 30mA, type U

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PRODUCT NAME	Eaton Moeller series xEffect - FRCmM Type AC, A, U, R RCCB
CATALOG NUMBER	170452
PRODUCT LENGTH/DEPTH	80 mm
PRODUCT HEIGHT	76 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.352 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 61008

USED WITH

Residual current circuit breakers
Type U
FRCmM

AMPERAGE RATING

16 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
MOUNTING METHOD	DIN rail Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
CLIMATIC PROOFING	25-55 °C / 90-95% relative humidity according to IEC 60068-2
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	2.9 W
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV (1.2/50 µs) 4 kV
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	10 kA
ADMISSIBLE BACK-UP FUSE OVERLOAD - MAX	16 A gG/gL
BUILT-IN WIDTH	70 mm (4 SU)

(NUMBER OF UNITS)	
BUSBAR MATERIAL THICKNESS	0.8 mm - 2 mm
SHORT-CIRCUIT RATING	63 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	196 V AC - 264 V AC
AMBIENT OPERATING TEMPERATURE - MAX	55 °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 PER POLE, CURRENT-DEPENDENT	0.725 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
LIFESPAN, MECHANICAL	20000 operations
DEGREE OF PROTECTION	IP20, IP40 with suitable enclosure IP20
IMPULSE WITHSTAND CURRENT	3 kA (8/20 µs) surge-proof

NUMBER OF POLES	Four-pole
LEAKAGE CURRENT TYPE	A
LIFESPAN, ELECTRICAL	4000 operations
TYPE	• FRCmM • Residual current circuit breakers • Type U
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
APPLICATION	Residual current circuit breaker - frequency converter-proof
FUNCTIONS	Short-time delayed tripping
SENSITIVITY TYPE	Pulse-current sensitive
RADIATION RESISTANCE	Suitable for variable frequency drives (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)	16 A
RATED OPERATIONAL VOLTAGE (UE) - MAX	415 V
RATED RESIDUAL MAKING AND BREAKING CAPACITY	500 A
SURGE CURRENT CAPACITY	3 kA
WIDTH IN NUMBER OF MODULAR SPACINGS	4
VOLTAGE RATING (IEC/EN)	240 V AC / 415 V AC

60947-2)	
TERMINAL CAPACITY (SOLID WIRE)	1.5 mm ² - 35 mm ²
TRIPPING TIME	10 ms delayed Short time-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)

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:



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