

Residual current circuit breaker (RCCB), 25A, 4p, 30mA, type G/A



Part no. **FRCMM-25/4/003-G/A-NA**  
**167107**

General specifications		
Product name		Eaton Moeller series xEffect - FRCmM-NA RCCB
Part no.		FRCMM-25/4/003-G/A-NA
EAN		4015081636075
Product Length/Depth		80 millimetre
Product height		71 millimetre
Product width		70 millimetre
Product weight		0.32 kilogram
Compliances		RoHS conform
Certifications		UL 1053 EN 61008 IEC 61008 ÖVE E 8601 EN45545-2 IEC 61373
Product Tradename		xEffect - FRCmM-NA
Product Type		RCCB
Product Sub Type		None
Catalog Notes		Additionally 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		10 ms delay at 50 Hz Short time-delayed 8 ms delay at 60 Hz
Amperage Rating		25 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		3 kA (8/20 µs) surge-proof
Type		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 The maximum operating current of back-up fuse must not exceed the residual current circuit breaker's rated operational current
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		500 A
Admissible back-up fuse overload - max		25 A gG/gL
Rated short-time withstand current (Icw)		10 kA
Surge current capacity		3 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
<b>Technical Data - Mechanical</b>		
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 <sup>2</sup> - 35 mm <sup>2</sup>
Connectable conductor cross section (solid-core) - min		1.5 mm <sup>2</sup>
Connectable conductor cross section (solid-core) - max		35 mm <sup>2</sup>
Terminal capacity (stranded cable)		16 mm <sup>2</sup> (2x)
Connectable conductor cross section (multi-wired) - min		1.5 mm <sup>2</sup>
Connectable conductor cross section (multi-wired) - max		16 mm <sup>2</sup>
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 temperature - min		-35 °C
Permitted storage and transport temperature - max		60 °C
Ambient humidity range		5 - 95 %
Climatic proofing		25-55 °C / 90-95% relative humidity according to IEC 60068-2
<b>Design verification as per IEC/EN 61439 - technical data</b>		
Rated operational current for specified heat dissipation (In)		25 A
Heat dissipation per pole, current-dependent		0.775 W
Equipment heat dissipation, current-dependent		3.1 W
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		40 °C
<b>Design verification as per IEC/EN 61439</b>		
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.
<b>Additional information</b>		
Features		Additional equipment possible Residual current circuit breaker
Fitted with:		Interlocking device
Functions		Short-time delayed tripping
Special features		FRCmM-NA Residual current circuit breakers Type G/A (ÖVE E 8601)
Used with		Residual current circuit breakers Type G/A (#VE E 8601) FRCmM-NA

## Technical data ETIM 9.0

Circuit breakers and fuses (EG000020) / Residual current circuit breaker (RCCB) (EC000003)		
Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / Residual current circuit breaker (RCCB) (ecl@ss13-27-14-22-01 [AAB906019])		
Number of poles		4
Rated voltage	V	480
Rated current	A	25
Rated fault current	A	0.03
Rated insulation voltage Ui	V	440
Rated impulse withstand voltage Uimp	kV	4
Power loss	W	
Mounting method		DIN rail
Leakage current type		A
Selective protection		No
Short-time delayed tripping		Yes
Short-circuit breaking capacity (Icw)	kA	10
Surge current capacity	kA	3
Voltage type		AC
With interlocking device		Yes
Frequency		50/60 Hz
Additional equipment possible		Yes
Degree of protection (IP)		IP20
Width in number of modular spacings		4
Built-in depth	mm	70.5
Ambient temperature during operating	°C	-25 - 40
Pollution degree		2
Connectable conductor cross section multi-wired	mm <sup>2</sup>	1.5 - 16
Connectable conductor cross section solid-core	mm <sup>2</sup>	1.5 - 35
RAL-number (similar)		7035
Explosion-proof		No