

## Residual current circuit breaker (RCCB), 125A, 4p, 30mA, type A

Part no.	FRCMM-125/4/003-A		
Catalog No.	171174		
Alternate Catalog No.	FRCMM-125/4/003-A		
EL-Nummer (Norway)	1666596		

## Delivery program

Basic function			Residual current circuit-breakers
Number of poles			4 pole
Application			Switchgear for industrial and advanced commercial applications
Rated current	$I_n$	A	125
Rated short-circuit strength	$I_{cn}$	kA	10 with back-up fuse
Rated fault current	$I_{\Delta n}$	A	0.03
Type			Type A
Tripping		s...	non-delayed
Product range			FRCmM-125
Sensitivity			Pulse-current sensitive
Impulse withstand current			Partly surge-proof 250 A

## Technical data

## Electrical

Types conform to			IEC/EN 61008
Standards			IEC/EN 61008
Current test marks			As per inscription
Tripping		s...	non-delayed
Rated voltage according to IEC/EN 60947-2	$U_n$	V AC	240/415
Rated frequency	f	Hz	50
Limit values of the operating voltage		V AC	184 - 440
Test circuit			
Rated fault current	$I_{\Delta n}$	mA	30
Sensitivity			Pulse-current sensitive
Rated insulation voltage	$U_i$	V	440
Rated impulse withstand voltage	$U_{imp}$	kV	4 (1.2/50μs)
Rated short-circuit strength	$I_{cn}$	kA	10 with back-up fuse
Impulse withstand current			250 A (8/20 μs) surge-proof
Max. admissible back-up fuse			
Short-circuit	gG/gL	A	125
Overload	gG/gL	A	80
Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	1250
lifespan			
Electrical	Operations		≥ 4000
Mechanical	Operations		≥ 10000

## Mechanical

Standard front dimension		mm	45
Device height		mm	80
Built-in width		mm	70 (4TE)
Mounting			Quick attachment for DIN-rail EN 50022
Degree of Protection			IP20, IP40 with suitable enclosure
Terminals top and bottom			Twin-purpose terminals
Terminal protection			finger and hand touch safe, DGUV VS3, EN 50274
Terminal cross-section			
Solid		mm²	1.5 - 50

Stranded	mm <sup>2</sup>	2 x (1.5 - 16)
Thickness of busbar material	mm	1.5 - 50 2 x (1.5 - 16)
Admissible ambient temperature range	°C	-25 - +60
Permissible storage and transport temperatures	°C	-25 - +60
Climatic proofing		25-55°C/90-95% relative humidity according to IEC 60068-2
Mounting position		As required
Contact position indicator		red / green
Trip indication		toggle-center position

## Design verification as per IEC/EN 61439

Technical data for design verification		
Rated operational current for specified heat dissipation	I <sub>n</sub>	A 125
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W 0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W 22.5
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W 0
Heat dissipation capacity	P <sub>diss</sub>	W 0
Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	60
		Starting at 40 °C, the max. permissible continuous current decreases by 2.2% for every 1 °C
IEC/EN 61439 design verification		
10.2 Strength of materials and parts		
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties		
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.

## Technical data ETIM 8.0

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@ss10.0.1-27-14-22-01 [AAB906014])	
Number of poles	4
Rated voltage	V 415

Rated current	A	125
Rated fault current	A	0.03
Rated insulation voltage $U_i$	V	440
Rated impulse withstand voltage $U_{imp}$	kV	4
Mounting method		DIN rail
Leakage current type		A
Selective protection		No
Short-time delayed tripping		No
Short-circuit breaking capacity (Icw)	kA	10
Surge current capacity	kA	0.25
Voltage type		AC
With interlocking device		Yes
Frequency		50 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 - 60
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 - 50
Explosion-proof		No