



**Residual current circuit breaker (RCCB), 125A, 4p, 100mA, type AC**

**Part no. FRCMM-125/4/01**  
**Catalog No. 187815**

### 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	0.1
Type			Type AC
Tripping		s...	non-delayed
Product range			FRCmM-125
Sensitivity			AC current sensitive
Impulse withstand current			Partly surge-proof 250 A
Contact sequence			

### Technical data

#### Electrical

Types conform to			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			
Test circuit		V AC	184 - 440
Rated fault current	$I_{\Delta n}$	mA	100
Sensitivity			AC current sensitive
Rated insulation voltage	$U_i$	V	440
Rated impulse withstand voltage	$U_{imp}$	kV	4 (1.2/50 $\mu$ s)
Rated short-circuit strength	$I_{cn}$	kA	10 with back-up fuse
Impulse withstand current			250 A (8/20 $\mu$ s) 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		$\geq 4000$
Mechanical	Operations		$\geq 20000$

#### 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			IP40, IP54 (with moisture-proof enclosure)
Terminals top and bottom			Twin-purpose terminals
Terminal protection			Busbar tag shroud to BGV A3, ÖVE-EN 6
Terminal cross-section			
Solid		mm <sup>2</sup>	1.5 - 50 2 x (1.5 - 16)
Stranded		mm <sup>2</sup>	1.5 - 50 2 x (1.5 - 16)
Thickness of busbar material		mm	0.8 - 2
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 7.0

Circuit breakers and fuses (EG000020) / Residual current circuit breaker (RCCB) (EC000003)

Number of poles		4
Rated voltage	V	240
Rated current	A	125
Rated fault current	mA	100
Rated insulation voltage $U_i$	V	440
Rated impulse withstand voltage $U_{imp}$	kV	4
Mounting method		DIN rail
Leakage current type		AC
Selective protection		No
Short-time delayed tripping		No
Short-circuit breaking capacity ( $I_{cw}$ )	kA	10
Surge current capacity	kA	0.25
Frequency		50 Hz
Additional equipment possible		Yes
With interlocking device		Yes
Degree of protection (IP)		IP20
Width in number of modular spacings		4
Built-in depth	mm	77.5
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 - 50

## Dimensions

