DATASHEET - FRBMM-B13/1N/001-A

RCD/MCB combination, 13 A, 10 mA, MCB trip characteristic: B, 1p+N, RCD trip characteristic: A

Part no.	**FRBMM-B13/1N/001-A**
Catalog No.	**170977**
Alternate Catalog No.	**FRBMM-B13/1N/001-A**

Similar to illustration

Delivery program

Basic function			Combined RCD/MCB devices
Number of poles			1 pole+N
Tripping characteristic			B
Application			Switchgear for industrial and advanced commercial applications
Rated current	I_n	A	13
Rated switching capacity according to IEC/EN 61009		kA	10
Rated fault current	$I_{\Delta N}$	A	0.01
Type			Type A
Tripping		s…	non-delayed
Product range			FRBmM
Sensitivity			Pulse-current sensitive
Impulse withstand current			Partly surge-proof 250 A
Contact sequence			

Technical data

Electrical

Protected pole			1
Rated voltage according to IEC/EN 60947-2	U_n	V AC	240
Rated frequency	f	Hz	50
Rated fault current	$I_{\Delta n}$	mA	10
Sensitivity			Pulse-current sensitive
Rated current	I_n	A	13
Tripping characteristic			B
Standards			EN 45545-2; IEC 61373

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	13
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	3.4
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	40
			0
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) / Earth leakage circuit breaker (EC000905)

Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / MCB/RCCB combination (ecl@ss10.0.1-27-14-22-07 [AFZ810015])

Number of poles (total)		2
Number of protected poles		1
Rated voltage	V	240
Rated insulation voltage Ui	V	500
Rated impulse withstand voltage Uimp	kV	4
Rated current	A	13
Rated fault current	A	0.01
Leakage current type		A
Current limiting class		3
Rated short-circuit breaking capacity acc. EN 61009	kA	10
Rated short-circuit breaking capacity IEC 60947-2	kA	15
Rated short-circuit breaking capacity Icn acc. EN 61009-1	kA	10
Disconnection characteristic		
Surge current capacity	kA	0.25
Voltage type		AC
Frequency		50 Hz
Release characteristic		B
Concurrently switching N-neutral		Yes
With interlocking device		No
Over voltage category		3
Pollution degree		2
Ambient temperature during operating	°C	-25 - 40
Width in number of modular spacings		2
Built-in depth	mm	75.5
Suitable for flush-mounted installation		No
Anti-nuisance tripping version		No
Degree of protection (IP)		IP20
Connectable conductor cross section solid-core	mm^2	1 - 25
Connectable conductor cross section multi-wired	mm^2	1 - 25

Dimensions

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