

RCD/MCB combination switch, 13A, 30mA, miniature circuit-breaker type D trip characteristic, 3p, residual current circuit-breaker trip characteristic: A



Part no. FRBMM-D13/3/003-A Article no. 170776 Catalog No. FRBMM-D13/3/003-A

Similar to illustration

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Donvoi y program			
Basic function			Combined RCD/MCB devices
Number of poles			3 pole
Tripping characteristic			D
Application			Switchgear for industrial and advanced commercial applications
Rated current	In	Α	13
Rated switching capacity according to IEC/EN 61009		kA	10
Rated fault current	$I_{\Delta N}$	Α	0.03
Tripping		Α	non-delayed
Product range			FRBmM
Sensitivity			Pulse-current sensitive
Impulse withstand current			Partly surge-proof 250 A
Contact sequence			1 3 5 T - H H 2 4 6

Technical data

Electrical

Sensitivity			Pulse-current sensitive
Rated current	In	Α	13
Tripping characteristic			D

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	13
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	5.9
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 6.0

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@ss8.1-27-14-22-07 [AFZ810012])

Number of protected poles 3 Nominal rated voltage V 415 Nominal rated current A 13 Rated fault current A 0.03 Leakage current type A A Current limiting class 3 3 Rated short-circuit breaking capacity EN 60898 kA 10 Rated short-circuit breaking capacity IEC 60947-2 kA 0 Frequency 50 Hz D Release characteristic D No Concurrently switching N-neutral No No Over voltage category 3 2 Pollution degree 2 2 Width in number of modular spacings 4 No Built-in depth Mm 75.5 Suitable for flush-mounted installation No No Degree of protection (IP) IP20 Surge current capacity KA 025 Voltage type AC AC			
Nominal rated voltage V 415 Nominal rated current A 13 Rated fault current A 0.03 Leakage current type A A Current limiting class A 10 Rated short-circuit breaking capacity EN 60898 kA 10 Rated short-circuit breaking capacity EC 60947-2 kA 0 Frequency D D Release characteristic D No Concurrently switching N-neutral No No Over voltage category 3 2 Pollution degree 2 2 Width in number of modular spacings mm 75.5 Suitable for flush-mounted installation mm 75.5 Suitable for flush-mounted installation No No Degree of protection (IP) No No Surge current capacity KA 0.25 Voltage type KA 0.25	Number of poles (total)		3
Nominal rated current Rated fault current Leakage current type Leakage current type Current limiting class Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity EC 60947-2 Rated short-circuit breaking capacity EC 60947-2 Release characteristic Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in degth Built-in degth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type Voltage type Voltage type Voltage (Leakage Current capacity (Leakage Curren	Number of protected poles		3
Rated fault current Leakage current type Current limiting class Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Release characteristic Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type A 0.03 A A 0.03 A A 0 FA C FA FA	Nominal rated voltage	V	415
Leakage current type Current limiting class Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Release characteristic Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type A A A A D A 10 A D C NO D C NO D C NO A D C D C NO D C D C D C D C D C D C D C D D	Nominal rated current	А	13
Current limiting class Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Release characteristic Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Built-in depth Surge current capacity Surge current capacity Voltage type Voltage type 3 3 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rated fault current	А	0.03
Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Rated short-circuit breaking capacity IEC 60947-2 Release characteristic D Concurrently switching N-neutral Over voltage category Pollution degree Vidth in number of modular spacings Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type kA 10 0 10 10 10 10 10 10 10 10	Leakage current type		A
Rated short-circuit breaking capacity IEC 60947-2	Current limiting class		3
Frequency Release characteristic Concurrently switching N-neutral Over voltage category Over voltage rategory Pollution degree Width in number of modular spacings Built-in depth Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type 50 Hz D 0 0 0 0 0 0 0 0 0 0 0 0	Rated short-circuit breaking capacity EN 60898	kA	10
Release characteristic Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type D No No No AC	Rated short-circuit breaking capacity IEC 60947-2	kA	0
Concurrently switching N-neutral Over voltage category Pollution degree Pollution degree Width in number of modular spacings Built-in depth Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type No No No No Polytope AC	Frequency		50 Hz
Over voltage category Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type 3 4 4 4 4 4 4 4 Degree of protection (IP) IP20 AC	Release characteristic		D
Pollution degree 2 Width in number of modular spacings 4 Built-in depth 75.5 Suitable for flush-mounted installation No Degree of protection (IP) IP20 Surge current capacity kA 0.25 Voltage type AC	Concurrently switching N-neutral		No
Width in number of modular spacings 4 Built-in depth mm 75.5 Suitable for flush-mounted installation No Degree of protection (IP) IP20 Surge current capacity kA 0.25 Voltage type AC	Over voltage category		3
Built-in depth 75.5 Suitable for flush-mounted installation No Degree of protection (IP) IP20 Surge current capacity kA 0.25 Voltage type AC	Pollution degree		2
Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type No IP20 AC	Width in number of modular spacings		4
Degree of protection (IP) Surge current capacity Voltage type IP20 AC	Built-in depth	mm	75.5
Surge current capacity kA 0.25 Voltage type AC	Suitable for flush-mounted installation		No
Voltage type AC	Degree of protection (IP)		IP20
• "	Surge current capacity	kA	0.25
Antinuisance tripping version No	Voltage type		AC
•	Antinuisance tripping version		No

Dimensions

