

RCD/MCB combination switch, 20A, 100mA, miniature circuit-br. type C trip characteristic, 1-phase+N, residual current circuit-br. trip characteristic: A



Part no. FRBDM-C20/1N/01-G/A
Article no. 168286
Catalog No. PDC-TBD6518

Similar to illustration

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Delivery program			
Basic function			Combined RCD/MCB devices
Number of poles			1 pole+N
Tripping characteristic			C
Application			Switchgear for industrial and advanced commercial applications
Rated current	In	Α	20
Rated switching capacity according to IEC/EN 61009		kA	10
Rated fault current	$I_{\Delta N}$	Α	0.1
Tripping		Α	Short time-delayed
Product range			FRBdM
Sensitivity			Pulse-current sensitive
Impulse withstand current			Surge-proof, 3 kA
Contact sequence			

Technical data

Electrical

Sensitivity			Pulse-current sensitive
Rated current	In	Α	20
Tripping characteristic			C

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	20
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	5
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.

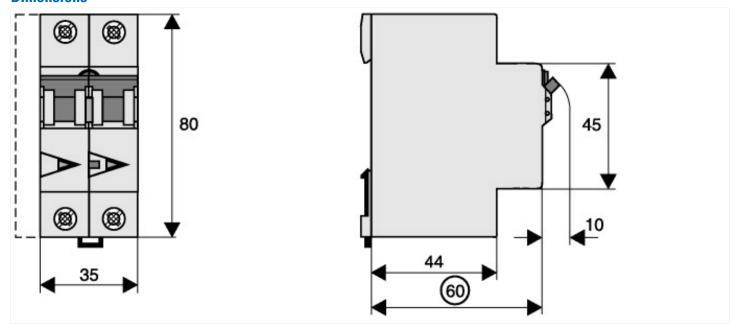
Technical data ETIM 6.0

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 I 1 Nominal rated voltage V 240 Nominal rated current A 20 Rated fault current A 0.1 Leakage current type A 3 Current limiting class KA 10 Rated short-circuit breaking capacity EC 60947-2 KA 0 Frequency SO Hz C Release characteristic C C Concurrently switching N-neutral Yes 3 Over voltage category SO Hz 3 Pollution degree 2 Yes Width in number of modular spacings 2 2 Built-in depth No No Suitable for flush-mounted installation No No Degree of protection (IP) IP20 Surge current capacity A 3 Voltage type AC AC			
Nominal rated voltage V 240 Nominal rated current A 20 Rated fault current A 0.1 Leakage current type A A Current limiting class B A 10 Rated short-circuit breaking capacity EN 60898 KA 10 Rated short-circuit breaking capacity EC 60947-2 KA 0 Frequency 50 Hz C Release characteristic C Ves Concurrently switching N-neutral Yes 3 Over voltage category 3 3 Pollution degree 2 2 Width in number of modular spacings mm 70 Suitable for flush-mounted installation mm 70 Suitable for flush-mounted installation No 120 Surge current capacity KA 3 Voltage type C C	Number of poles (total)		2
Nominal rated current Rated fault current Leakage current type Leakage current type Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity EN 608988 Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capac	Number of protected poles		1
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 A A A A A A A A A A A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D A D D	Nominal rated voltage	V	240
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 Vea A 10 C C C C C C C C C C C C C	Nominal rated current	А	20
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 VA VA VA VA VA D O CO CO CO CO CO CO CO CO	Rated fault current	А	0.1
Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Release characteristic CCConcurrently 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 KA 10 0 0 0 0 0 0 0 0 0 0 0 0	Leakage current type		A
Rated short-circuit breaking capacity IEC 60947-2 Frequency 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 KA 0 C COC TOC TOC TOC TOC TOC TO	Current limiting class		3
Frequency Release characteristic C 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 S D D D D D D D D D D D D D D D D D D	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 C Yes Yes 2 2 4 7 7 7 No No No AC	Rated short-circuit breaking capacity IEC 60947-2	kA	0
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 Ves 3 Yes 1 No 1 Pollution degree Protection (IP) IP20 AC	Frequency		50 Hz
Over voltage category Over voltage category Suitable for flush-mounted installation Ougree of protection (IP) Surge current capacity Voltage type 3 2 2 3 4 4 5 6 7 7 8 1 1 1 1 1 1 1 1 1 1 1 1	Release characteristic		C
Pollution degree 2 Width in number of modular spacings 2 Built-in depth 70 Suitable for flush-mounted installation No Degree of protection (IP) IP20 Surge current capacity kA 3 Voltage type AC	Concurrently switching N-neutral		Yes
Width in number of modular spacings 2 Built-in depth mm 70 Suitable for flush-mounted installation No Degree of protection (IP) IP20 Surge current capacity kA 3 Voltage type AC	Over voltage category		3
Built-in depth Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity Voltage type mm 70 No IP20 AC	Pollution degree		2
Suitable for flush-mounted installation Degree of protection (IP) Surge current capacity kA 3 Voltage type AC	Width in number of modular spacings		2
Degree of protection (IP) Surge current capacity kA 3 Voltage type AC	Built-in depth	mm	70
Surge current capacity kA 3 Voltage type AC	Suitable for flush-mounted installation		No
Voltage type AC	Degree of protection (IP)		IP20
	Surge current capacity	kA	3
	Voltage type		AC
Antinuisance tripping version Yes	Antinuisance tripping version		Yes

Dimensions



Additional product information (links)

Product overview (Web)

http://www.eaton.eu/Europe/Electrical/ProductsServices/CircuitProtection/DigitalCircuitBreakers/index.htm