



**RCD/RCB combination, 16 A, 30 mA, MCB trip characteristic: B, 3p+N,  
RCD trip characteristic: AC**

**Part no.** FRBM6-B16/3N/003  
**Catalog No.** 170986  
**Alternate Catalog No.** FRBM6-B16/3N/003

Similar to illustration

## Delivery program

Basic function			Combined RCD/RCB devices
Number of poles			3 pole+N
Tripping characteristic			B
Application			Switchgear for industrial and advanced commercial applications
Rated current	$I_n$	A	16
Rated switching capacity acc. to IEC/EN 60947-2	$I_{cu}$	kA	6
Rated switching capacity according to IEC/EN 61009		kA	6
Rated fault current	$I_{\Delta N}$	A	0.03
Type			Type AC
Tripping		s...	non-delayed
Product range			FRBm6
Sensitivity			AC current sensitive
Impulse withstand current			Partly surge-proof 250 A

## Technical data

### Electrical

Types conform to			IEC/EN 61009
Protected pole			4
Tripping		s...	non-delayed
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	30
Rated non-tripping current	$I_{\Delta no}$		$0.5 \times I_{\Delta n}$
Sensitivity			AC current sensitive
Selectivity Class			3
Rated current	$I_n$	A	16
Rated impulse withstand voltage	$U_{imp}$	kV	4 (1.2/50µs)
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	16
Heat dissipation per pole, current-dependent	$P_{vid}$	W	0
Equipment heat dissipation, current-dependent	$P_{vid}$	W	3.6
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 8.0

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)		4
Number of protected poles		4
Rated voltage	V	415
Rated insulation voltage $U_i$	V	500
Rated impulse withstand voltage $U_{imp}$	kV	4
Rated current	A	16
Rated fault current	A	0.03
Leakage current type		AC
Current limiting class		3
Rated short-circuit breaking capacity according to EN 61009	kA	6
Rated short-circuit breaking capacity according to IEC 60947-2	kA	0
Rated short-circuit breaking capacity $I_{cn}$ according to EN 61009-1	kA	6
Disconnection characteristic		Undelayed
Surge current capacity	kA	0.25
Voltage type		AC
Frequency		50 Hz
Release characteristic		B
Concurrently switching neutral conductor		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		4
Built-in depth	mm	75.5
Flush-mounted installation		No
Anti- nuisance tripping version		No

Degree of protection (IP)		IP20
Connectable conductor cross section solid-core	mm <sup>2</sup>	1 - 25
Connectable conductor cross section multi-wired	mm <sup>2</sup>	1 - 25