DATASHEET - FRCMM-16/2/003-A



Residual current circuit breaker (RCCB), 16A, 2p, 30mA, type A



Part no. Catalog No. Alternate Catalog No. EL-Nummer (Norway)

FRCMM-16/2/003-A 170430 g FRCMM-16/2/003-A

1666326

Similar to illustration

Delivery program

Basic function			Residual current circuit-breakers
Number of poles			2 pole
Application			Switchgear for industrial and advanced commercial applications
Rated current	In	А	16
Rated short-circuit strength	I _{cn}	kA	10 with back-up fuse
Rated fault current	$I_{\Delta N}$	А	0.03
Туре			Туре А
Tripping		s	non-delayed
Product range			FRCmM
Sensitivity			Pulse-current sensitive
Impulse withstand current			Partly surge-proof 250 A
Contact sequence			

Technical data

Type contom toImage: solution of the	Electrical			
Tripingno-diavaTripingNNoRed values according to ED/EN 6094-2VnVA30Red frequencyNNo300Tast circuitNN44 - 250Tast circuitNnN40Red fraut novitageNN40Red insulation voltageNN40Red insulation voltageNN40Nort-circuitNNN40Nort-circuitNNN40Nort-circuitNNN40Nort-circuitNNN40Nort-circuitNNN40Nort-circuitNNN40Red while subsci-space (interpolicy)NN40Nort-circuit <t< td=""><td>Types conform to</td><td></td><td></td><td>IEC/EN 61008</td></t<>	Types conform to			IEC/EN 61008
Red voltage according to EC/EN 60947-2Vac NVac	Current test marks			As per inscription
Retard requirement Field Provide Retard requesting voltage VAC 84-250 Test circuit Image VAC 84-250 Retard fault current Image VAC 91-200 Sensitivity Image VAC 84-250 Retard insulation voltage Image VAC 91-200 Retard insulation voltage Image VAC 40-200 Nort-circuit strength Image VAC 50-200 Nort-circuit Gofund Gofund Gofund 60-200 Respending end breaking VAC 2000-200	Tripping		s	non-delayed
Init values of the operating voltageInit	Rated voltage according to IEC/EN 60947-2	Un	V AC	240
Test circuitImage: Section of the section	Rated frequency	f	Hz	50/60
Red faut current Panel	Limit values of the operating voltage			
Sensitive Sensitive <t< td=""><td>Test circuit</td><td></td><td>V AC</td><td>184 - 250</td></t<>	Test circuit		V AC	184 - 250
Aread insulation voltage Vi V 4 Rated insulation voltage Uinp Vi 4 4.250µs) Rated insulation voltage Vinp Vinp 4 1.250µs) Rated insulation voltage Vinp Name 4 250 A (8/20 µs) surge-proof Impulse withstand current Soft-Circuit Soft-A (8/20 µs) surge-proof 5 6 Max. admissible back-up fuse Soft-Circuit Soft-A (8/20 µs) surge-proof 5 6 Nort-circuit Soft-A (8/20 µs) surge-proof Soft-A (8/20 µs) surge-proof 5 6 Nort-circuit Soft-A (8/20 µs) surge-proof Soft-A (8/20 µs) surge-proof 5 6 Nort-circuit Soft-A (8/20 µs) surge-proof Soft-A (8/20 µs) surge-proof 5 6 Nort-circuit Soft-A (8/20 µs) surge-proof Soft-A (8/20 µs) surge-proof 5 6 Nort-circuit Soft-A (8/20 µs) surge-proof Soft-A (8/20 µs) surge-proof 5 6 Rest Soft-A (8/20 µs) surge-proof Soft-A (8/20 µs) surge-proof 5 6 Rest Soft-A (8/20 µs) surge-proof	Rated fault current	$I_{\Delta n}$	mA	30
Rated impulse withstand voltage Vimp kV 41.2/50µs) Rated short-circuit strength Ing KA for this back-up fuse Impulse withstand current Impulse withstand current KA for this back-up fuse Max. admissible back-up fuse Impulse withstand current G/G/L A Short-circuit G/G/L A 50 Overload G/g/L A 60 Rated making and breaking capacity / Rated residual making and breaking Marchanica Sonool Ifespan Operations 2000 2000 Mechanical Operations 2000 20000 Mechanical Impulse Impulse Impulse Short-dircuit Impulse Impulse Impulse Short-dircuit Impulse Impulse Impulse If espan Operations Impulse Impulse Impulse Impulse Impulse Impulse	Sensitivity			Pulse-current sensitive
Rade abort-circuit strength Inputse In	Rated insulation voltage	Ui	V	440
Include withstand current Include withstand current Soft A (8/20 µs) surge-proof Max. admissible back-up fuse 9/9 V 50 A (8/20 µs) surge-proof Short-circuit 9/9 V 6 Overload 9/9 V 6 Retad making and breaking capacity / Rated residual making and breaking m/ l_{Am} A_{M} Iffespan m/ l_{Am} A_{M} Icctrical Operations M / l_{Am} Mechanical Operations M / l_{Am} Mechanical Operations M / l_{Am} Standard front dimension M / l_{Am} M / l_{Am} Period M / l_{Am} M / l_{Am} Period M / l_{Am} M / l_{Am} Interpreting	Rated impulse withstand voltage	U _{imp}	kV	4 (1.2/50µs)
Max. admissible back-up fuse Image: Construction Short-circuit gG/gL A Overload gG/gL A Rated making and breaking capacity / Rated residual making and breaking Image: Construction Ifespan Image: Construction Itectrical Operations Mechanical Operations Image: Construction Image: Construction	Rated short-circuit strength	l _{cn}	kA	10 with back-up fuse
Short-circuit g/gL A 6 Overload g/gL A 6 Rede making and breaking capacity / Rated residual making and breaking capacity n/l_{Am} A 6 Itiespan n/l_{Am} A 50 Electrical Operations Y 400 Mechanical Operations ≥ 2000 Mechanical Image: Solution of the	Impulse withstand current			250 A (8/20 μs) surge-proof
Overload GG/L A 6 Rated making and breaking capacity / Rated residual making and breaking capacity Im/ I_Am A 500 lifespan Im/ I_Am A 500 Electrical Operations Im/ I_Am A Mechanical Operations Im/ I_Am A Mechanical Operations Im/ I_Am A Mechanical Operations Im/ I_Am A Standard front dimension Im/ I_Am M A Perice height Im/ I_Am M A	Max. admissible back-up fuse			
Rad making and breaking capacity / Rated residual making and breaking In/ I Am Am Am lifespan Imm Imm Sou Lectrical Operations Imm Moto Mechanical Operations Imm Sou Mechanical Imm Moto Sou Standard front dimension Imm Moto Sou Device height Imm Sou Sou	Short-circuit	gG/gL	А	63
capacity a lifespan Coperations Electrical Operations Mechanical Operations Mechanical Operations Standard front dimension a Perice Height Men	Overload	gG/gL	А	16
Electrical Operations ≥ 400 Mechanical Operations ≥ 2000 Mechanical mm 45 Standard front dimension mm 80		$I_m / I_{\Delta m}$	A	500
Mechanical Operations 2000 Mechanical Standard front dimension mm 45 Device height mm 80	lifespan			
Mechanical mm 45 Standard front dimension mm 80	Electrical	Operations		≧ 4000
Standard front dimension mm 45 Device height mm 80	Mechanical	Operations		≧ 20000
Device height mm 80	Mechanical			
-	Standard front dimension		mm	45
Built-in width mm 35 (2TE)	Device height		mm	80
	Built-in width		mm	35 (2TE)

Mounting		Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
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 ²	1.5 - 35
Stranded	mm ²	2 x 16
Terminal cross-section		M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, Pozidriv PZ2)
Tightening torque of fixing screws	N/m	2 - 2.4
Thickness of busbar material	mm	0.8 - 2
Admissible ambient temperature range	°C	-25 - +40
Permissible storage and transport temperatures	°C	-35 - +60
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		white / blue

Design verification as per IEC/EN 61439

Design vernication as per 120/214 01455			
Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	А	16
Heat dissipation per pole, current-dependent	P _{vid}	W	0.6
Equipment heat dissipation, current-dependent	P _{vid}	W	1.2
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
			Starting at 40 °C, the max. permissible continuous current decreases by 3% for every 1 °C
EC/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

10.9.3 Impulse withstand voltage

10.9.4 Testing of enclosures made of insulating material

10.10 Temperature rise

10.11 Short-circuit rating

10.12 Electromagnetic compatibility

10.13 Mechanical function

Is the panel builder's responsibility.

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observed.

observed.

leaflet (IL) is observed.

provide heat dissipation data for the devices.

The panel builder is responsible for the temperature rise calculation. Eaton will

Is the panel builder's responsibility. The specifications for the switchgear must be

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The device meets the requirements, provided the information in the instruction

Technical data ETIM 7.0			
Circuit breakers and fuses (EG000020) / Residual current circuit breaker (RCCB) (EC000003)			
Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / Residual current circuit breaker (RCCB) (ecl@ss10.0.1-27-14-22-01 [AAB906014])			
Number of poles		2	
Rated voltage	V	240	
Rated current	А	16	
Rated fault current	mA	30	
Rated insulation voltage Ui	V	440	
Rated impulse withstand voltage Uimp	kV	4	
Mounting method		DIN rail	
Leakage current type		A	
Selective protection		No	
Short-time delayed tripping		No	
Short-circuit breaking capacity (Icw)	kA	10	
Surge current capacity	kA	0.25	
Frequency		50/60 Hz	
Additional equipment possible		Yes	
With interlocking device		Yes	
Degree of protection (IP)		IP20	
Width in number of modular spacings		2	
Built-in depth	mm	70.5	
Ambient temperature during operating	°C	-25 - 40	
Pollution degree		2	
Connectable conductor cross section multi-wired	mm²	1.5 - 16	
Connectable conductor cross section solid-core	mm²	1.5 - 35	

Dimensions

