DATASHEET - FRCMM-63/2/003-A-NA



Residual current circuit breaker (RCCB), 63A, 2p, 30mA, type A



FRCMM-63/2/003-A-NA 167115



Similar to illustration

Delivery program

Basic function			Residual current circuit-breakers
Number of poles			2 pole
Application			Switchgear for export to North America (UL-listed)
Rated current	In	А	63
Rated short-circuit strength	I _{cn}	kA	10 with back-up fuse
Rated fault current	$I_{\Delta N}$	Α	0.03
Туре			Туре А
Tripping		s	non-delayed
Product range			FRCmM-NA
Sensitivity			Pulse-current sensitive
Impulse withstand current			Partly surge-proof 250 A
Contact sequence			

Technical data

Electrical			
Types conform to			IEC/EN 61008
Current test marks			As per inscription
Tripping		s	non-delayed
Rated voltage according to IEC/EN 60947-2	Un	V AC	240/415
Rated frequency	f	Hz	50/60
Limit values of the operating voltage			
Test circuit		V AC	184 - 250
Rated fault current	$I_{\Delta n}$	mA	30
Sensitivity			Pulse-current sensitive
Rated insulation voltage	Ui	V	440
Rated impulse withstand voltage	U _{imp}	kV	4 (1.2/50µs)
Rated short-circuit strength	I _{cn}	kA	10 with back-up fuse
Impulse withstand current			250 A (8/20 μs) surge-proof
Max. admissible back-up fuse			
Short-circuit	gG/gL	А	63
Overload	gG/gL	А	40
Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	630
lifespan			
Electrical	Operations		≧ 4000
Mechanical	Operations		≧ 10000
Electrical			
Types conform to			UL1053
Current test marks			As per inscription
Tripping			non-delayed

Limit values of the operating voltage VAC Pick-up current Fick-up current VAC Pick-sourcent VAC Sensitivity VL VL VL Overvoltage-tested VL VL Sol Rated inpulse withstand voltage VL VL Sol Rated short-circuit strength VL VL VL VL Short-circuit strength VL KAC SaserCaSA Sol Short-circuit strength VL VL The maximum operating current must not exceed the residual current circuit breaker's rated operational current The maximum operating current must not exceed the residual current circuit breaker's rated operational current Sol Rated making and breaking capacity / Rated residual making and breaking Implant AC Sol Reted making and breaking capacity / Rated residual making and breaking Operations Implant ACO Sol Reted making and breaking capacity / Rated residual making and breaking Operations Implant ACO Sol Reted making and breaking Operations Implant ACO Sol Sol Sol	ige according to UL	Un	V AC	480Y/277 V, 60 Hz
Pick-up current nA 2 Sensitivity Pulse-current sensitive Overoltage-tested V 50 Rated inpulse withstand voltage Vamp KV 41/250µs) Rated short-circuit strength Ion KA 5 as per CSA Max. admissible back-up fuse Ion 70 A class J fuse Short-circuit Ion The maximum operating current must not exceed the residual current circuit breaking capacity / Rated residual making and breaking M/Lam 630 Rated making and breaking capacity / Rated residual making and breaking M/Lam 630 630 Respon Ion 630 Ion Ion Bectricial Operations Y 4000 Ion Ion Bectricial Operations Y 51000 Ion Ion Buti-th rot dimension Jone M S12TEJ Ion Ion Buti-th with Jone S12 S12TEJ Ion Ion Ion Ion Buti-th with Jone S12 Ion Ion Ion Ion Ion Buti-th with Jone S12 Ion Ion Ion Ion Ion Buti-th with Jone S12 Ion Ion Ion Ion Ion <td>s of the operating voltage</td> <td></td> <td></td> <td></td>	s of the operating voltage			
Sensitivity Image: Construction	cuit		V AC	196 - 305
Dervoltage-tested V 50 Rated impulse withstand voltage Vmp Vmp Vmp Vmp Rated impulse withstand voltage Vmp Vmp Vmp Vmp Rated short-circuit strength Vmp Vmp Vmp Vmp Short-circuit Vmp To A class J fuse To A class J fuse Overload Vmp/Table The maximum operating current must not exceed the residual current circuit breaker's rated operational current To A class J fuse Rated making and breaking capacity / Rated residual making and breaking Mm/Tam A Sol Rated making and breaking capacity / Rated residual making and breaking Mmp A Sol Ifespan Operations 2 4000 2 4000 Electrical Operations 2 4000 Maxtand front dimension Mmm Sol Sol Device height mm Sol Sol Butt-in width Mmp Sol Sol Device height Mmp Sol Sol Butt-in width Mmp Sol Sol Device height Mmp Sol Sol Butt-in width Mmp Sol Sol Device height Mmp Sol Sol <t< td=""><td>rrent</td><td></td><td>mA</td><td>22</td></t<>	rrent		mA	22
Rated inpulse withstand voltage Ump IV 4 (1.250µs) Rated short-circuit strength Ion IA 5 as per CSA Max. admissible back-up fuse Ion Io				Pulse-current sensitive
Rated short-circuit strength Inn IA Sa sep CSA Max. admissible back-up fuse	e-tested		V	530
Max. admissible back-up fuse Admissible back-up fuse Admissible back-up fuse Admissible back-up fuse Short-circuit Overload To A class J fuse The maximum operating current must not exceed the residual current circuit breaker's rated operational current Rated making and breaking capacity / Rated residual making and breaking capacity In/ Iam A 630 Ifespan Operations Eductrical Eductrical Eductrical Machanical Operations Eductrical Eductrical Eductrical Nechanical Operations Eductrical Eductrical Eductrical Device height Max Max Max Max Eductrical <	lse withstand voltage	U _{imp}	kV	4 (1.2/50µs)
Short-circuit Verload 7A class J fuse Overload Im P I Amount operating current must not exceed the residual current circuit breaker's rated operational current Rated making and breaking capacity / Rated residual making and breaking and br	t-circuit strength	I _{cn}	kA	5 as per CSA
Overload Image: Comparison of the training our rent must not exceed the residual current circul breaker's rated operational current Rated making and breaking capacity / Rated residual making and breaking capacity Image: Comparison of the training our rent must not exceed the residual current circul breaker's rated operational current Iffespan Image: Comparison of the training our rent must not exceed the residual current circul breaker's rated operational current Electrical Operations 630 Mechanical Operations 2 4000 Mechanical Operations 2 4000 Device height Mom 80 Built-in width Mm 35 (ZTE) Mounting Image: Comparison of the training of the tra	ssible back-up fuse			
Rated making and breaking capacity / Rated residual making and breaking capacity Im/ Lam Age 630 lifespan Operations 2 4000 Electrical Operations 2 4000 Mechanical Operations 2 10000 Mechanical Operations 2 10000 Device height mm 4 Built-in width mm 30 Built-in width mm 35 (2TE) Nounting mm 35 (2TE) Degree of Protection mm 35 (2TE) Terminal protection If terminals top and bottom If terminals Terminal protection If terminals If terminals Terminal protection If terminals If terminals	ircuit			70 A class J fuse
capacity Image of the second sec	d			The maximum operating current must not exceed the residual current circuit- breaker's rated operational current
Electrical Operations Modulation Mechanical Operations \$ 4000 Mechanical \$ 10000 Mechanical \$ 10000 Mechanical mm \$ 5 Device height mm \$ 0 Built-in width mm \$ 0 Mounting mm \$ 1000 Degree of Protection mm \$ 1000 Terminal protection Mounting \$ 1000 Terminal protection Mounting \$ 1000	ng and breaking capacity / Rated residual making and breaking	$I_m / I_{\Delta m}$	A	630
Mechanical Operations ≥ 10000 Mechanical ≥ 10000 Mechanical 45 Device height mm 80 Built-in width mm 35 (2TE) Mounting Device of Protection Guick attachment with 2 latch positions for DIN-rail IEC/EN 60715 Terminal stop and bottom IP40, IP54 (with moisture-proof enclosure) Ift terminals Terminal cross-section Imm Busbar tag shroud to BGV A3, ÖVE-EN 6				
Mechanical Standard front dimension mm 45 Device height mm 80 Built-in width mm 35 (2TE) Mounting Mechanical Mechanical Degree of Protection Mechanical Mechanical Terminals top and bottom Mechanical If terminals Terminal rotection Mechanical Mechanical Terminal cross-section Mechanical Mechanical	al	Operations		≧ 4000
Standard front dimension mm 45 Device height mm 80 Built-in width mm 35 (2TE) Mounting MM Suick attachment with 2 latch positions for DIN-rail IEC/EN 60715 Degree of Protection MM Idea mail Terminals top and bottom MM If terminals Terminal protection MM Imm Terminal cross-section MM Substrates section	nical	Operations		≧ 10000
Device heightmm80Built-in widthmm35 (2TE)MountingUick attachment with 2 latch positions for DIN-rail IEC/EN 60715Degree of ProtectionP40, IP54 (with moisture-proof enclosure)Terminals top and bottomImmediateTerminal protectionImmediateTerminal cross-sectionImmediate	cal			
Built-in widthmm35 (2TE)MountingQuick attachment with 2 latch positions for DIN-rail IEC/EN 60715Degree of ProtectionPerforminals top and bottomPerforminalsTerminal protectionPerforminal protectionPerforminal cross-sectionBusbar tag shroud to BGV A3, ÖVE-EN 6	ont dimension		mm	45
MountingMountingMusick attachment with 2 latch positions for DIN-rail IEC/EN 60715Degree of ProtectionIP40, IP54 (with moisture-proof enclosure)Terminals top and bottomIf terminalsTerminal protectionIf terminalsTerminal cross-sectionIf terminal	jht		mm	80
Degree of Protection IP40, IP54 (with moisture-proof enclosure) Terminals top and bottom Lift terminals Terminal protection Busbar tag shroud to BGV A3, ÖVE-EN 6 Terminal cross-section IP40, IP54 (with moisture-proof enclosure)	ith		mm	35 (2TE)
Terminals top and bottom Image: Comparison of the sector				Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
Terminal protection Busbar tag shroud to BGV A3, ÖVE-EN 6 Terminal cross-section Image: Comparison of the tag shroud to BGV A3, ÖVE-EN 6	rotection			IP40, IP54 (with moisture-proof enclosure)
Terminal cross-section	op and bottom			Lift terminals
	otection			Busbar tag shroud to BGV A3, ÖVE-EN 6
Solid mm ² 1.5 - 35	oss-section			
			mm ²	1.5 - 35
Stranded mm ² 2 x 16	d		mm ²	2 x 16
Terminal cross-section M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, Pozidriv PZ2)	oss-section			M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, Pozidriv PZ2)
Admissible ambient temperature range °C -25 - +40	ambient temperature range		°C	-25 - +40
Permissible storage and transport temperatures °C -35 - +60	e storage and transport temperatures		°C	-35 - +60
Climatic proofing 25-55°C/90-95% relative humidity according to IEC 60068-2	oofing			25-55°C/90-95% relative humidity according to IEC 60068-2
Humidity % 5 - 95			%	5 - 95
Pollution degree 2	agree			2
Mounting position As required	osition			As required
Contact position indicator red / green	sition indicator			red / green
Trip indication white / blue	ion			white / blue

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	А	63
Heat dissipation per pole, current-dependent	P _{vid}	W	4.85
Equipment heat dissipation, current-dependent	P _{vid}	W	9.7
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	75
			Starting at 40 °C, the max. permissible continuous current decreases by 1.8% for every 1 °C
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) / Residual current circuit breaker (RCCB) (EC000003)

Electric engineering, automation, process control engineering / Electrical installatio (ecl@ss10.0.1-27-14-22-01 [AAB906014])	n, device / Residual curr	rent protection system / Residual current circuit breaker (RCCB)
Number of poles		2
Rated voltage	V	277
Rated current	А	63
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

