DATASHEET - FRCMM-25/2/003-G/A-NA-110



Residual current circuit breaker (RCCB), 25A, 2p, 30mA, type G/A

Part no. Catalog No.

FRCMM-25/2/003-G/A-NA-110 167693



Similar to illustration

Delivery program

Basic function			Residual current circuit-breakers
Number of poles			2 pole
Application			Switchgear for 110-V systems
Rated current	In	А	25
Rated short-circuit strength	l _{cn}	kA	10 with back-up fuse
Rated fault current	$I_{\Delta N}$	А	0.03
Туре			Type G/A (ÖVE E 8601)
Tripping		s	Short time-delayed
Product range			FRCmM-NA-110
Sensitivity			Pulse-current sensitive
Impulse withstand current			Surge-proof, 3 kA
Contact sequence			

Technical data

Electrical			
Types conform to			IEC/EN 61008 ÖVE E 8601
Current test marks			As per inscription
Tripping		s	10 ms delay at 50 Hz
Rated voltage according to IEC/EN 60947-2	Un	V AC	110/190
Rated frequency	f	Hz	50/60
Limit values of the operating voltage			
Test circuit		V AC	100 - 121
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			3 kA (8/20 μs) surge-proof
Max. admissible back-up fuse			
Short-circuit	gG/gL	А	63
Overload	gG/gL	А	25
Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	500
lifespan			
Electrical	Operations		≧ 4000
Mechanical	Operations		≧ 10000
Electrical			
Types conform to			UL1053
Current test marks			As per inscription
Tripping			8 ms delay at 60 Hz

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Pickup carrentInkRARASindiviyVVVVBarded induction without onlogoVmVVVBarded induction without onlogoVmVVVBarded induction without onlogoVmVVVBarded induction without onlogoVmVVVBarded induction without onlogoVmVVVShort-circuit strongfiVmVVVVBarded induction without onlogoVmVVVVBarded induction without onlogoVmVVVVBarded induction without onlogoVmVVVVVBarded induction without onlogoVmVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV	Limit values of the operating voltage			
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Atad Ump VI It2050 Bated Says Sa	Sensitivity			Pulse-current sensitive
Index shore-circuit strength Income Income <td>Overvoltage-tested</td> <td></td> <td>V</td> <td>530</td>	Overvoltage-tested		V	530
Max. admissible back-up fuse Procession	Rated impulse withstand voltage	U _{imp}	kV	4 (1.2/50µs)
Shri-circuit Image: Shri-circuit	Rated short-circuit strength	I _{cn}	kA	5 as per CSA
OverladIn the aximum operating current must not exceed the residual current circuit- breaker's rated operational current breaker's rated operational current current brea	Max. admissible back-up fuse			
Redep Air and breaking capacity / Rated residual making capacity / Rated	Short-circuit			70 A class J fuse
capacity	Overload			
Electrical Operations E400 Mechanical Operations 5000 Mechanical 5000 5000 Mechanical 5000 5000 Mechanical 5000 5000 Mechanical 5000 5000 Builton width 6000 5000 Builton width 6000 5000 Boyree of Protection 6000 5000 Terminal protection 6000 6000 Terminal protection 6000 6000 Solid mar 5000 5000 Stranded mar 5000 5000 Admissible anbient temperature range 60000 70000 50000 Admissible anbient temperature range 6000000 5000000000000000000000000000000000000	Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	500
Machanical Operations 21000 Machanical 20001 Machanical 20001 Machanical 210001 Device height Machanical Device height 80 Built-in width Machanical (2000) Machanical Machanical (2000) Degree of Protection Machanical (2000) Terminal protection If 40, IP54 (with moisture-proof enclosure) Terminal cross-section If 40, IP54 (with moisture-proof enclosure) Solid If and (2000) Solid mm Solid mm² Admisible ambient temperature range Imm² Solid mm² Admisible and protection Imm² Firminal cross-section Imm² Admisible and protection etamperature range Imm² Pollution degree	lifespan			
Mechanical Standard front dimension mm 4 Device height mm 80 Built-in width mm 35 (2TE) Mounting Cuck attachment with 2 latch positions for DIN-rail IEC/EN 60715 1000000000000000000000000000000000000	Electrical	Operations		≧ 4000
Shadard fort dimensionmm5Device heightmm5Buit-in widthmm5(TE)MountingMm4(N P4A) (P4A) (Winh moisture-proof enclosure) EUC/EN 60715Degree of ProtectionMm4(N P5A) (Winh moisture-proof enclosure)Terminal stop and bottomMm4(N P5A) (Winh moisture-proof enclosure)Terminal rotectionMm4(N P5A) (Winh moisture-proof enclosure)Terminal cross-sectionMm4(N P5A) (Winh moisture-proof enclosure)ShadedMm1(N P5A) (Winh moisture-proof enclosure)StrandedMm1(N P5A) (Winh moisture-proof enclosure)StrandedMm1(N P5A) (Winh moisture-proof enclosure)Ministile antibient temperature rangeMm1(N P5A) (Winh moisture-proof enclosure)Perminal cross-sectionMm1(N P5A) (Winh moisture-proof enclosure)Ministile antibient temperature rangeMm1(N P5A) (Winh moisture-proof enclosure)Perminal cross-sectionMm2(N P5A) (Winh moisture-proof enclosure)Admissible antibient temperature rangeMm2(N P5A) (Winh moisture-proof enclosure)Primissible storage and transport temperaturesMm2(N P5A) (Winh moisture-proof enclosure)Perminal cross-sectionMm2(N P5A) (Winh moisture-proof enclosure)Indition offereMm2(N P5A) (Winh moisture-proof enclosure)Pollution degreeMm2(N P5A) (Winh moisture-proof enclosure)Pollution degreeMm2(N P5A) (Winh moisture-proof enclosure)Pollution degreeMm2(N P5A) (Winh mo	Mechanical	Operations		≧ 10000
Device heightnmBBuit-in widthFMSSMountingSSSDegree of ProtectionFMSSTerminal torotsFMFMSTerminal rorots-sectionFMNSSolidnmSSSTerminal cross-sectionFMNSStranddMMSSAdmissible ambient temperature rangeFMSSPrimiskle storage and transport temperaturesFMSSIndition degreeFMSSSPollution degreeFMSSSNothing positionFMSSSPollution figureFMSSSPollution figureFMSSSPo	Mechanical			
mm Sig (2E) Mounting Guick attachment with 2 latch positions for DIN-rail EC/EN 60715 Degree of Protection P40, IP54 (with moisture-proof enclosure) Terminals top and bottom P40, IP54 (with moisture-proof enclosure) Terminal protection P40, IP54 (with moisture-proof enclosure) Solid P40, IP54 (with moisture-proof enclosure) Terminal protection P40, IP54 (with moisture-proof enclosure) Solid P40, IP54 (with moisture-proof enclosure) Ammain P40, IP54 (with constructions of the participation P20, IP54 (with constructipating P20, IP54 (with constructipating P20, IP54 (with con	Standard front dimension		mm	45
Mounting Mounting Mounting Muck attachment with 2 latch positions for DIN-rail IEC/EN 60715 Degree of Protection Few Few Few Few Few Few Few Few Few Few Few	Device height		mm	80
Degree of Protection Perce of Protection	Built-in width		mm	35 (2TE)
Terminals top and bottom Image: Section If terminals Terminal protection Image: Section Ima	Mounting			Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
Terminal protection Image: Section Image: Section <th< td=""><td>Degree of Protection</td><td></td><td></td><td>IP40, IP54 (with moisture-proof enclosure)</td></th<>	Degree of Protection			IP40, IP54 (with moisture-proof enclosure)
Terminal cross-section Image Image Image Image Solid mm ² 5-35 Stranded mm ² 2×16 Terminal cross-section mm ² Solid vice cross-section section section section section Solid vice cross-section section s	Terminals top and bottom			Lift terminals
Solid mm ² 5.35 Standed mm ² 2.16 Terminal cross-section Mm ² Motif cross-recessed screw as defined in EN ISO 4757-22, Pozidriv PZ2) Admissible ambient temperature range °C 5.40 Permissible storage and transport temperatures °C 5.50*(90-95% relative humidity according to IEC 60068-2 Humidity 5.95 5.95 Pollution degree Solid 2 Mounting position Solid Sequired Concert position indicator Solid Sequired	Terminal protection			Busbar tag shroud to BGV A3, ÖVE-EN 6
Stranded mm ² x 16 Terminal cross-section Mm ² X 6(with cross-recessed screw as defined in EN ISO 4757-22, Pozidriv PZ2) Admissible ambient temperature range C 25 - 440 Permissible storage and transport temperatures C 35 + 60 Climatic proofing Mm 25 - 50°C/90-95% relative humidity according to IEC 60068-2 Humidity So 595 Pollution degree S So Mounting position Get Aserquired Year Aserquired Aserquired Year Year Aserquired	Terminal cross-section			
Terminal cross-sectionImage: base of the section of the	Solid		mm ²	1.5 - 35
Admissible ambient temperature range°C°25 + 40Permissible storage and transport temperatures°C35 + 60Climatic proofing°C255°C/90-95% relative humidity according to IEC 60068-2HumidityS5 - 95Pollution degree°C2Mounting positionCFContact position indicatorCFPollution degreeFFPollution	Stranded		mm ²	2 x 16
Permissible storage and transport temperatures °C -35 - 60 Climatic proofing 5-55°C/90-95% relative humidity according to IEC 60068-2 Humidity 5-95 Pollution degree % 5-95 Mounting position 6 % 2 Cotact position indicator % % As required	Terminal cross-section			M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, Pozidriv PZ2)
Climatic proofing Solution degree <	Admissible ambient temperature range		°C	-25 - +40
Humidity%5 - 95Pollution degree%%2Mounting positionMonting position indicatorMonting Position indicatorMonting Position indicator	Permissible storage and transport temperatures		°C	-35 - +60
Pollution degree 2 Mounting position As required Contact position indicator Image: Astronomy of the sector of the	Climatic proofing			25-55°C/90-95% relative humidity according to IEC 60068-2
Mounting position As required Contact position indicator Image: Contact position indicator	Humidity		%	5 - 95
Contact position indicator red / green	Pollution degree			2
	Mounting position			As required
Trip indication white / blue	Contact position indicator			red / green
	Trip indication			white / blue

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	25
Heat dissipation per pole, current-dependent	P _{vid}	W	1
Equipment heat dissipation, current-dependent	P _{vid}	W	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	55
			Starting at 40 °C, the max. permissible continuous current decreases by 3% 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 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	110
Rated current	А	25
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		Α
Selective protection		No
Short-time delayed tripping		Yes
Short-circuit breaking capacity (Icw)	kA	10
Surge current capacity	kA	3
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	mm ²	1.5 - 16
Connectable conductor cross section solid-core	mm²	1.5 - 35

