DATASHEET - FRCMM-25/4/003-A

Part no.

(Norway)

No.



Residual current circuit breaker (RCCB), 25A, 4p, 30mA, type A

FRCMM-25/4/003-A Catalog No. 170332 Alternate Catalog FRCMM-25/4/003-A **EL-Nummer** 1666303



Similar to illustration

Delivery program

Basic function			Residual current circuit-breakers
Number of poles			4 pole
Application			Switchgear for industrial and advanced commercial applications
Rated current	I _n	А	25
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 Flectrical

Autom test marksImport for test marksApprincipation<	Electrical			
TripingIn-delaydRated voltage according to IEC/EN 60947-2UaVA9060Atted frequencyFH29060Initivatues of the operating voltageVA184 - 440Test circuitInitivatues of the operating voltageVA80SensitivityVA184 - 440SensitivityNA90Atted finalution voltageVA100Atted insulation voltageVA40Atted insulation voltageVA40Atted insulation voltageVA40Atted insulation voltageVA40Atted insulation voltageVA50.4200 (s) surge-proofAtted insulation voltageVA50.4200 (s) surge-proofAtted short-circuit strengthg/laAOverloadg/laA50.4200 (s) surge-proofMax. admissible back-up fusedg/laX50.4200 (s) surge-proofNort-Gircuitg/laA50.4200 (s) surge-proofAtted making and breaking and breakingg/laA50.4200 (s) surge-proofAtted making and breaking and breakingg/la50.4200 (s) surge-proofAtter and making and breaking and breakingg/laA50.4200 (s) surge-proofAtter and making and breaking and breaking and breaking and breakingg/la50.4200 (s) surge-proofAtter and making and breaking and breaking and breakingg/la50.4200 (s) surge-proofAtter and making and breaking and breakingg/la50.4200 (s) surge-proofAtter and antification<	Types conform to			IEC/EN 61008
And and <br< td=""><td>Current test marks</td><td></td><td></td><td>As per inscription</td></br<>	Current test marks			As per inscription
Add fraqueryfHzMaxLad frageryVAC14-40TacticruitMaxVAC14-40Rated fault currentMaxMAXMaxRated insulation voltageVVVRated insulation voltageVV<	Tripping		s	non-delayed
invalues of the operating voltage instantion volt	Rated voltage according to IEC/EN 60947-2	Un	V AC	240/415
Test circuit VAC VAC 84-44 Ater fault current IAnno MA 30 Sensitivity VAC Mascurrent sensitive Mascurrent sensitive Rated insultation voltage Ui VAC 40 Rated insultation voltage Uinp K4 40 Rated short-circuit strength Uinp K4 40 Mast admissible back-up fuse Uinp K4 40 Mast admissible back-up fuse Ga(gl K4 40 Nort-circuit Ga(gl K4 40 Nort-circuit Ga(gl K4 40 Nort-circuit Ga(gl K4 50 Nort-circ	Rated frequency	f	Hz	50/60
And And <td>Limit values of the operating voltage</td> <td></td> <td></td> <td></td>	Limit values of the operating voltage			
Sensitivity Image: Participation of the partitipation of the partitipation of the participation of the pa	Test circuit		V AC	184 - 440
Aread insulation voltage Ui Vi Main Rated insulation voltage Ump K4 41/250µS Rated insulation voltage Ump K4 11/250µS Rated insulation voltage Imp K4 12/50µS Rated insulation voltage Imp K4 10/100 Nother Rated insulation voltage Imp K4 10/100 Nother mulate with stand current Imp K4 10/100 Nother Max. admissible back-up fuse Imp K4 S0 A (8/20 µS) surge-proof Max. admissible back-up fuse Imp Imp Imp Imp Short-circuit Imp Imp Imp Imp Imp Overload Imp Imp Imp Imp Imp Imp Rated making and breaking capacity / Rated residual making and breaking capacity / Rated residual making and breaking Imp Imp <t< td=""><td>Rated fault current</td><td>$I_{\Delta n}$</td><td>mA</td><td>30</td></t<>	Rated fault current	$I_{\Delta n}$	mA	30
Aade impulse withstand voltage Mumpulse Mumpulse <th< td=""><td>Sensitivity</td><td></td><td></td><td>Pulse-current sensitive</td></th<>	Sensitivity			Pulse-current sensitive
Rate d short-circuit strength Index	Rated insulation voltage	Ui	V	440
mula mula <t< td=""><td>Rated impulse withstand voltage</td><td>U_{imp}</td><td>kV</td><td>4 (1.2/50µs)</td></t<>	Rated impulse withstand voltage	U _{imp}	kV	4 (1.2/50µs)
Max. admissible back-up fuse Image: Construction of the	Rated short-circuit strength	I _{cn}	kA	10 with back-up fuse
Short-circuit g/gL A B Overload g/gL A B Short-circuit g/gL A S Sted making and breaking capacity / Rated residual making and breaking apacity Implie M S Iferspan Implie M M M M Interview Operations Implie MO M	Impulse withstand current			250 A (8/20 μs) surge-proof
OverloadGG/LA25Bated making and breaking capacity / Rated residual making and breaking capacityIm / I_AmA500ifespanIm / I_AmA500ItectricalOperations≤ 4000MechanicalOperations≥ 2000MechanicalOperations≥ 2000MechanicalImmADevice heightImmABuilt-in widthImm80Built-in widthImm70 (4TE)	Max. admissible back-up fuse			
Rated making and breaking capacity / Rated residual making and breaking capacity Im / I∆m A ifespan Im / I∆m A Electrical Operations ≥ 4000 Mechanical Operations ≥ 20000 Mechanical Operations ≥ 20000 Mechanical Mechanical Solo Device height mm 45 Built-in width Im / I∆m No	Short-circuit	gG/gL	А	63
capacity a b a b a b a b a b a b a b a b a b a b	Overload	gG/gL	А	25
Electrical Operations ≥ 4000 Mechanical Operations ≥ 20000 Mechanical mm 45 Device height mm 80 Built-in width mm 70 (4TE)	Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	500
Mechanical Operations ≥ 2000 Mechanical Mechanical Period Standard front dimension mm 45 Device height mm 80 Built-in width mm 70 (4TE)	lifespan			
Mechanical mm 45 Standard front dimension mm 80 Device height mm 70 (4TE)	Electrical	Operations		≧ 4000
Standard front dimension mm 45 Device height mm 80 Built-in width mm 70 (4TE)	Mechanical	Operations		≧ 20000
Device height mm 80 Built-in width 70 (4TE)	Mechanical			
Built-in width 70 (4TE)	Standard front dimension		mm	45
	Device height		mm	80
Vounting Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715	Built-in width		mm	70 (4TE)
	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

Technical data for design verification			
Rated operational current for specified heat dissipation	In	A	25
Heat dissipation per pole, current-dependent	P _{vid}	W	0.775
Equipment heat dissipation, current-dependent	P _{vid}	W	3.1
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
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		4	
Rated voltage	V	415	
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		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		4	
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

