DATASHEET - FRCDM-63/4/03-G/B



Digital residual current circuit-breaker, 63A, 4p, 300mA, type G/B

FRCDM-63/4/03-G/B

Powering Business Worldwide*

Part no. FRCDM-63/4/03-G/B Catalog No. FRCDM-63/4/03-G/B

Nο

EL-Nummer 0001664181

(Norway)

Alternate Catalog

Similar to illustration

Delivery program			
Basic function			Residual current circuit-breakers , digital
Number of poles			4 pole
Application			Switchgear for industrial and advanced commercial applications
Rated current	In	Α	63
Rated short-circuit strength	I _{cn}	kA	10
Rated fault current	$I_{\Delta N}$	Α	0.3
Туре			Type G/B (ÖVE E 8601)
Tripping		s	Short time-delayed
Product range			FRCdM
Sensitivity			All current sensitive
Impulse withstand current			Surge-proof, 3 kA
Contact sequence			3 5 N

Technical data Electrical

Libotriour			
Types conform to			IEC/EN 61008 IEC/EN 62423 ÖVE E 8601
Current test marks			As per inscription
Tripping		s	10 ms 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			
electronic		V AC	50 - 456
Test circuit		V AC	184 - 440
Rated fault current	$I_{\Delta n}$	mA	300
Sensitivity			All current sensitive
Rated insulation voltage	Ui	V	440
Rated impulse withstand voltage	U _{imp}	kV	4
Rated short-circuit strength	I _{cn}	kA	10
Impulse withstand current			3 kA (8/20 μs) surge-proof
Max. admissible back-up fuse			
Short-circuit Short-circuit	gG/gL	Α	63
Overload	gG/gL	Α	63
Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m/I_{\Delta m}$	Α	630
lifespan			
Electrical	Operations		≧ 4000
Mechanical	Operations		≧ 20000
Dry auxiliary contact			

Rated switching capacity

240 VAC (resistive load)	Α	0.25
Max. switching duty (resistive load)	W	60
Max. switching voltage AC	V	240
Max. switching voltage DC	V	220
Maximum switching current	Α	2
Min. switching capacity (reference value)		10 μA, 10 mV DC
lifespan		
Electrical (at 20 switching operations per minute) 2 A 30 VDC resistive load	Operation	\$10 ⁵
Electrical (at 20 switching operations per minute) 1 A 30 VDC resistive load	Operation	\$5 x 10 ⁵
Terminal capacity	mm²	0.25 - 1.5
Mechanical		
Standard front dimension	mm	45
Device height	mm	80
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		finger and hand touch safe, DGUV VS3, EN 50274
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
F		

Design verification as per IEC/EN 61439

30 VDC (resistive load)

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	63
Heat dissipation per pole, current-dependent	P _{vid}	W	2.5
Equipment heat dissipation, current-dependent	P _{vid}	W	10
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
			Maximum operating temperature is 60 °C in accordance with the de-rating table
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	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.

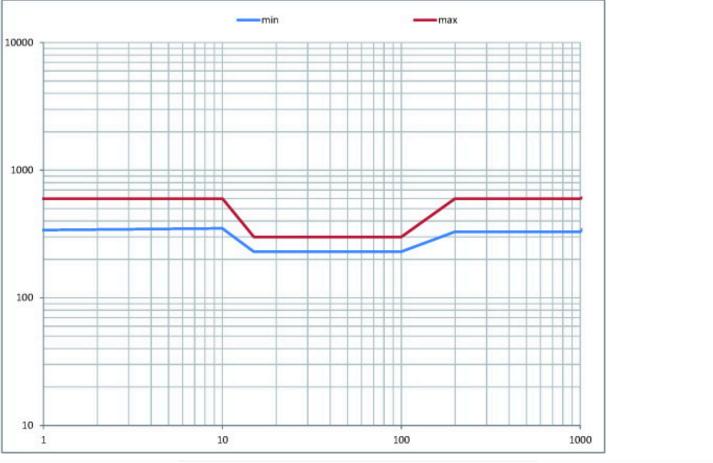
Technical data ETIM 7.0

Circuit breakers and fuses (EG000020) / Residual current circuit breaker (RCCB) (EC000003)	
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Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / Residual current circuit breaker (RCCB) (ecl@ss10.01-27-14-22-01 [AAB906014])

Number of poles 4 Rated voltage V 45 Rated current A 63 Rated fall current mA 30 Rated insulation voltage Uing V 44 Rated insulation voltage Uimp V 40 Mounting method Divariance 10 Leakage current type B 10 Selective protection V 48 Short-time delayed tripping V 49 Short-circuit breaking capacity (lew) V 40 Surge current capacity K 10 Frequency K 30 Additional equipment possible Y 40 With introlcking device Y 49 Degree of protection (IP) Y 40 With in number of modular spacings Y 49 Built-in depth X 40 Annier temperature during operating Y 40 Annier temperature during operating Y 54 Pollution degree Y <t< th=""><th>(ecl@ss10.0.1-27-14-22-01 [AAB906014])</th><th></th><th></th></t<>	(ecl@ss10.0.1-27-14-22-01 [AAB906014])		
Rate during final fact outrent A 63 Rated fault current mA 300 Rated insulation voltage Uin V 440 Rated impulse withstand voltage Uimp MD IV 4 Mounting method IV B IV Leakage current type IV B IV Selective protection IV Ye Ye Short-circuit breaking capacity (Icw) IV A 1 Surge current capacity IV Ye Ye Additional equipment possible IV Ye Ye With interlocking device IV Ye Ye With in umber of modular spacings IV Ye Ye With in number of modular spacings IV Ye Ye Ambient temperature during operating IV Ye Ye Ambient temperature during operating IV Ye Ye Connectable conductor cross section multi-wired IV Ye Ye	Number of poles		4
Rated fault current Rated insulation voltage Ui Rated insulation voltage Uimp Rated impulse withstand voltage Uimp Rounting method Leakage current type Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) With interlocking device Degree of protection (IP) With in number of modular spacings Built-in deght Ambient temperature during operating Short-direction degree Chonectable conductor cross section multi-wired May 40 May 10 May 10	Rated voltage	V	415
Rated insulation voltage Uin Rated impulse withstand voltage Uimp Mounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Ambient temperature during operating Rated insulation voltage Uin Rated impulse withstand voltage Uimp Rated impulse vide August 10 Invalidation Voltage Rated impulse vide August 10 Invalidation Voltage Voltage Uimp Rated impulse vide August 10 Invalidation Voltage Volta	Rated current	Α	63
Rated impulse withstand voltage Uimp Mounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Ambient temperature during operating Connectable conductor cross section multi-wired My Author of Mark Mark Mark Mark Mark Mark Mark Mark	Rated fault current	mA	300
Nounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Midth interporture during op	Rated insulation voltage Ui	V	440
Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired March March	Rated impulse withstand voltage Uimp	kV	4
Selective protection Short-time delayed tripping Short-circuit breaking capacity (lcw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired No No Yes No Yes Yes Yes Pollution degree No No No No No No No No No	Mounting method		DIN rail
Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired Yes Yes Pollution degree **C	Leakage current type		В
Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired KA 10 6 6 6 6 7 7 8 8 8 9 8 9 8 9 8 9 8 9 9	Selective protection		No
Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Abhient temperature during operating Pollution degree Connectable conductor cross section multi-wired	Short-time delayed tripping		Yes
Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired Soloon Hz Yes Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	Short-circuit breaking capacity (Icw)	kA	10
Additional equipment possible With interlocking device Ves Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired Yes Yes Yes Yes Nable Polo Polo Polo Polo Polo Polo Polo Po	Surge current capacity	kA	3
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 Connectable conductor cross section multi-wired mm² 1.5 - 16	Frequency		50/60 Hz
Degree of protection (IP) Width in number of modular spacings Built-in depth Ambient temperature during operating Pollution degree Connectable conductor cross section multi-wired Pollution degree Richard Section Section Multi-wired Pollution degree Richard Section Section Multi-wired Pollution degree Richard Section Section Multi-wired Pollution Section Sect	Additional equipment possible		Yes
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	With interlocking device		Yes
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	Degree of protection (IP)		IP20
Ambient temperature during operating °C -25 - 40 Pollution degree Connectable conductor cross section multi-wired mm² 1.5 - 16	Width in number of modular spacings		4
Pollution degree 2 Connectable conductor cross section multi-wired mm² 1.5 - 16	Built-in depth	mm	70.5
Connectable conductor cross section multi-wired mm ² 1.5 - 16	Ambient temperature during operating	°C	-25 - 40
	Pollution degree		2
Connectable conductor cross section solid-core mm ² 1.5 - 35	Connectable conductor cross section multi-wired	mm²	1.5 - 16
	Connectable conductor cross section solid-core	mm²	1.5 - 35

Characteristics



Influence of the ambient temperature to the maximum continuous current (A)

Range	FRCdM type B, Bfq, B+			
	Amperage			
	RCCB	RCCB	RCCB	
Ambient	rating	rating	rating	
temperature	25A	40A	63A	
40°	25	40	63	
45°	25	40	56	
50°	25	40	50	
55°	25	35	45	
60°	25	30	40	

Derating - table FRCdM_B

Dimensions

