

Residual current circuit breaker (RCCB), 40A, 4p, 30mA, type G/F



Part no. PFIM-40/4/003-G/F
 Catalog No. 187456

Similar to illustration

Delivery program

Basic function			Residual current circuit-breakers
Number of poles			4 pole
Application			Residual current circuit-breaker for residential and commercial applications
Rated current	I_n	A	40
Rated short-circuit strength	I_{cn}	kA	10 with back-up fuse
Rated fault current	$I_{\Delta N}$	A	0.03
Type			Type G/F (ÖVE E 8601)
Tripping		s...	Short time-delayed
Product range			PFIM-F
Sensitivity			pulse-current sensitive - frequency composition (10 Hz, 50 Hz, 1000 Hz)
Impulse withstand current			Surge-proof, 3 kA

Technical data

Electrical

Types conform to			IEC/EN 61008 IEC/EN 62423 ÖVE E 8601
Current test marks			As per inscription
Standards			IEC/EN 61008
Rated operational voltage	U_e	V	
	U_e	V AC	
Rated operating voltage	U_e	V AC	230/400
Rated voltage according to IEC/EN 60947-2	U_n	V AC	230/400
Rated frequency	f	Hz	50
Limit values of the operating voltage			
Test circuit		V AC	196 - 264
Comment for range of the test button			3-phase application without N (400V AC Phase-Phase) not allowed
Sensitivity			pulse-current sensitive - frequency composition (10 Hz, 50 Hz, 1000 Hz)
Rated insulation voltage	U_i	V	440
Rated impulse withstand voltage	U_{imp}	kV	4
Rated short-circuit strength	I_{cn}	kA	10 with back-up fuse
Max. admissible back-up fuse			
Short-circuit	gG/gL	A	63
Overload	gG/gL	A	25
Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	500
Max. back-up fuse		A gL/gG	25
Maximum max. as short-circuit protective device		A gL	
Back-up fuse		A gL	63
lifespan			
Electrical	Operations		≥ 4000
Mechanical	Operations		≥ 20000

References

Auxiliary switch for subsequent installation		Z-HK 248432
Tripping signal contact for subsequent installation		Z-NHK 248434
Remote control and automatic switching device		Z-FW/LP 248296

Compact enclosure			KLV-TC-4 276241
Sealing cover set			Z-RC/AK-4MU 101062
Mechanical			
Standard front dimension		mm	45
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			IP20, IP40 with suitable enclosure
Terminals top and bottom			Open mouthed/lift 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
Thickness of busbar material		mm	
Material thickness		mm	0.8 - 2

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	40
Equipment heat dissipation, current-dependent	P_{vid}	W	13.1
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
			Starting at 40 °C, the max. permissible continuous current decreases by 2.5% 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 8.0

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) (ec@ss10.0.1-27-14-22-01 [AAB906014])		
Number of poles		4
Rated voltage	V	230
Rated current	A	40
Rated fault current	A	0.03
Rated insulation voltage Ui	V	440
Rated impulse withstand voltage Uimp	kV	4
Mounting method		DIN rail
Leakage current type		Other
Selective protection		No
Short-time delayed tripping		Yes
Short-circuit breaking capacity (Icw)	kA	10
Surge current capacity	kA	3
Voltage type		AC
With interlocking device		Yes
Frequency		50 Hz
Additional equipment possible		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 - 60
Pollution degree		2
Connectable conductor cross section multi-wired	mm ²	1.5 - 16
Connectable conductor cross section solid-core	mm ²	1.5 - 35
Explosion-proof		No