### DATASHEET - PFIM-40/2/003-A-MW



#### Residual current circuit breaker (RCCB), 40A, 2p, 30mA, type A

PFIM-40/2/003-A-MW

235427

1609314



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EL-Nummer (Norway)

Part no. Catalog No.

# Delivery program

Basic function			Residual current circuit-breakers
Number of poles			2 pole
Application			Residual current circuit-breaker for residential and commercial applications
Rated current	In	Α	40
Rated short-circuit strength	I <sub>cn</sub>	kA	10
Rated fault current	$I_{\Delta N}$	Α	0.03
Туре			Туре А
Tripping		s	non-delayed
Product range			PFIM
Sensitivity			Pulse-current sensitive
Impulse withstand current			Partly surge-proof 250 A

## Technical data

Types conform toFirst Section (Section Section Sectio	Electrical			
Red operation voltageUVII do operating voltageUVVRed operating voltageIVVI do operating voltageIVVI we voltage of the operating voltageIIVI we voltage of the operating voltage of the operating voltageIII we voltage of the operating voltage of the operati	Types conform to			IEC/EN 61008
Image: section of the section of th	Standards			IEC/EN 61008
Red operating valuegeVectorVectorSecondRed requencyFRRRRed requencyFRRRTerrituriFRRRSenstriuIVRederansitiveRead insultation valuegeINRRed insultation valuegeINNShort-circuit strengthINSShort-circuit strengthRSSVectorRSSShort-circuit strengthRSSNordelRSSShort-circuit strengthRSSShort-circuit strengthRSSNordelRSSShort-circuit strengthRSSShort-circuit strengthR <td>Rated operational voltage</td> <td>U<sub>e</sub></td> <td>V</td> <td></td>	Rated operational voltage	U <sub>e</sub>	V	
Rel frequencyfRRBLind values of the operating values of instruitIIIText circuitIIIISensitiviyVIIIRed insulation valuesUVIIRed insulation valuesUVIIRed insulation valuesUVIISensitivits diverseIIIISensitivits diverseIIIIVerseIIIIISensitivits diverseIIIIINet admissive back-up fuseIIIIISensitivits diverseIIIIIINet admissive back-up fuseIIIIIIISensitivits diverseII <t< td=""><td></td><td>Ue</td><td>V AC</td><td></td></t<>		Ue	V AC	
Link value of the operating v	Rated operating voltage	U <sub>e</sub>	V AC	230
Test circuitVAC9284SeistivityVIVIVIIII circuit sensitiveRete disulation voltageUV40Rete disulation voltageUmpVII4Rete disultis voltageUmpVIIIII1Max admissible back-up fuseVIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Rated frequency	f	Hz	50
SensitivityImage: sensitiveImage: sensitiveRetad insulation voltageImage: sensitive4Retad insulation voltageImage: sensitive4Retad insultation voltageImage: sensitive4Retad short-circuit strengthImage: sensitive1Max-admissible back-up fuseImage: sensitive1Short-circuitGlgLA6Nort-circuitGlgLA5Nation and breaking capacity / Rated residual making and breakingImage: sensitive3Maximum max, as short-circuit protective deviceAA6Back-up fuseImage: sensitiveA6Maximum max, as short-circuit protective deviceNorthon66Image: sensitiveImage: sensitiveA6Maximum max, as short-circuit protective deviceNorthon66Image: sensitiveImage: sensitiveA6Image: sensitiveImage: sensitive66Image: sensitiveImage: sensitive66<	Limit values of the operating voltage			
Red mulation voltageNNNNRed mulase withstand voltageImportImportImportImportRed short-circuit strengthImportImportImportImportMax admissible back-up fuseG/gLAImportImportShort-circuitG/gLAImportImportNorcircuitG/gLAImportImportNation and breaking capacity / Rated residual making and breakingImportImportImportMaximum max as short-circuit protective deviceImportImportImportBack-up fuseImportImportImportImportImportImportImportImportImportBack-up fuseImport <td>Test circuit</td> <td></td> <td>V AC</td> <td>196 - 264</td>	Test circuit		V AC	196 - 264
Red inpulse withstand voltage         Nump         Nump         Red inpulse withstand voltage           Rate d short-circuit strength         G         G         G           Short-circuit         G/L         A         G           Nordod         G/L         A         G           Rate making and breaking capacity/ Rated residual making and breaking         A/L         G         G           Maximum max, as short-circuit protective device         A/L         A/L         G           Maximum max, as short-circuit protective device         A/L         A/L         G           Red making and breaking capacity/ Rated residual making and breaking         A/L         A/L         G           Maximum max, as short-circuit protective device         A/L         A/L         G           Recharical         Ore         A/L         G         G           Maximum max, as short-circuit protective device         A/L         A/L         G	Sensitivity			Pulse-current sensitive
Rate don-circuit strength         In         Rate         In         In </td <td>Rated insulation voltage</td> <td>Ui</td> <td>V</td> <td>440</td>	Rated insulation voltage	Ui	V	440
Max. admissible back-up fuse         Max. dmissible back-up fuse         A gu/g         Solution           Max. back-up fuse         A gu/g         A gu/g <td>Rated impulse withstand voltage</td> <td>U<sub>imp</sub></td> <td>kV</td> <td>4</td>	Rated impulse withstand voltage	U <sub>imp</sub>	kV	4
Short circuitSolyASOverloadG/gLASRated making and breaking capacity/ Rated residual making and breaking apacityMa/LamASolMax back-up fuseMa/LamA gl/gBSolMaximum max as short-circuit protective deviceA gl/gBASolMaximum max as short-circuit protective deviceA gl/gBSolSolBack-up fuseOperationsSolSolSolIferganOperationsSolSolSolReferencesOperationsSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolReferencesSolSolSolSolRemote control and automatic switching deviceSolSolSolRemote control and automatic switching deviceSolSolSolSol and automatic switching deviceSolSolSolReternetesSolSolSolSolSol and cont serviceSolSolSolSolSol and automatic switching deviceSolSolSolSol and automatic switching deviceSolSolSolSol and	Rated short-circuit strength	I <sub>cn</sub>	kA	10
overlad         overlad <t< td=""><td>Max. admissible back-up fuse</td><td></td><td></td><td></td></t<>	Max. admissible back-up fuse			
Rade making and breaking capacity / Rated residual making and breaking       اس المهر       A	Short-circuit	gG/gL	А	63
capacity	Overload	gG/gL	А	25
Maximum max. as short-circuit protective device       A gL         A gL       A gL         B ack-up fuse       A gL         Ifespan       A gL         E lectrical       Operations         Maximum max. as short-circuit protective device       Operations         E lectrical       Operations         Machanical       Operations         Maximum syntch for subsequent installation       Operations         Auxiliary switch for subsequent installation       Y HX 248432         Tripping signal contact for subsequent installation       Y HX 248432         Remote control and automatic switching device       Y HX 248434         Compact enclosure       Y HX 248296         Sealing cover set       Y HX 248296         Mechanical       Y HX 248298         Mechanical       Y HX 248298         Sealing cover set       Y HX 248296         Mechanical       Y HX 248298         Machanical       Y HX 248298         Machanical       Y HX 248434         Machani		$I_m / I_{\Delta m}$	A	500
Back-up fuse       A gL       6         Ifespan       Operations          Electrical       Operations       ≥ 4000         Mechanical       Operations       ≥ 20000         References        >         Auxiliary switch for subsequent installation           Remote control and automatic switching device           Compact enclosure            Sealing cover set            Mechanical             Marce and from dimension              Standard front dimension	Max. back-up fuse		A gL/gG	25
lifespan     Image: Constant is a stant	Maximum max. as short-circuit protective device		A gL	
Electrical       Operations <ul> <li>4000</li> <li>20000</li> <li>20000</li> <li>References</li> <li>Auxiliary switch for subsequent installation</li> <li>Fripping signal contact for subsequent installation</li> <li>Remote control and automatic switching device</li> <li>Sealing cover set</li> <li>Mechanical</li> <li>Mechanical</li> <li>Sealing cover set</li> <li>Mechanical</li> <li>Mechanical&lt;</li></ul>	Back-up fuse		A gL	63
Mechanical         Operations         2000           References	lifespan			
References         Auxiliary switch for subsequent installation       Image: Standard for subsequent installation         Tripping signal contact for subsequent installation       Image: Standard for subsequent installation         Remote control and automatic switching device       Image: Standard for subsequent installation         Standard fornt dimension       Image: Standard for subsequent installation	Electrical	Operations		≧ 4000
Auxiliary switch for subsequent installationImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationTripping signal contact for subsequent installationImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and automatic switching deviceImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and prove subsequent installationImage: Subsequent installationImage: Subsequent installationImage: Subsequent installationRemote control and prove subsequent instal	Mechanical	Operations		≧ 20000
Tripping signal contact for subsequent installationImage: Subsequent installationZ-NHK 248434Remote control and automatic switching deviceZ-FW/LP 248296Z-FW/LP 248296Compact enclosureKLV-TC-2 276240Z-RC/AK-2MU 285385Sealing cover setZ-RC/AK-2MU 285385Z-RC/AK-2MU 285385MechanicalStandar front dimensionImage: Manual Amage: Subsequent Amage:				
Remote control and automatic switching device     Z-FW/LP 248296       Compact enclosure     KLV-TC-2 276240       Sealing cover set     Z-RC/AK-2MU 285385       Mechanical     mm	Auxiliary switch for subsequent installation			Z-HK 248432
Compact enclosure     KLV-TC-2 276240       Sealing cover set     Z-RC/AK-2MU 285385       Mechanical     mm       Standard front dimension     mm	Tripping signal contact for subsequent installation			Z-NHK 248434
Sealing cover set     Z-RC/AK-2MU 285385       Mechanical     mm       Standard front dimension     mm	Remote control and automatic switching device			Z-FW/LP 248296
Mechanical       Standard front dimension	Compact enclosure			KLV-TC-2 276240
Standard front dimension mm 45	-			Z-RC/AK-2MU 285385
	Mechanical			
Device height mm 80	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 <sup>2</sup>	1.5 - 35
Stranded	mm <sup>2</sup>	2 x 16
Thickness of busbar material	mm	0.8 - 2
Permissible storage and transport temperatures	°C	-35 - +60
Climatic proofing		25-55°C/90-95% relative humidity according to IEC 60068-2
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	In	А	40
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	5.8
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
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) (ecl@ss10.0.1-27-14-22-01 [AAB906014])

(ecl@ss10.0.1-27-14-22-01 [AAB906014])		
Number of poles		2
Rated voltage	V	230
Rated current	А	40
Rated fault current	А	0.03
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
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		2
Built-in depth	mm	70.5
Ambient temperature during operating	°C	-25 - 60
Pollution degree		2
Connectable conductor cross section multi-wired	mm²	1.5 - 16
Connectable conductor cross section solid-core	mm²	1.5 - 35
Explosion-proof		No