Specifications

Photo is representative

Eaton 187456

Eaton Moeller series xPole - PFIM Type F RCCB. Residual current circuit breaker (RCCB), 40A, 4p, 30mA, type G/F

General specifications

PRODUCT NAME	Eaton Moeller series xPole - PFIM Type F RCCB
CATALOG NUMBER	187456
EAN	4015081825141
PRODUCT LENGTH/DEPTH	76 mm
PRODUCT HEIGHT	80 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.352 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 61008 IEC/EN 62423 ÖVE E 8601
MODEL CODE	PFIM-40/4/003-G/F

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Delivery program

APPLICATION	• 3-phase application without N (400V AC phase-phase) not allowed • Residual current circuit breaker for residential and commercial applications • xPole - Switchgear for residential and commercial applications
NUMBER OF POLES	Four-pole
TRIPPING TIME	Short time-delayed
AMPERAGE RATING	40 A
RATED SHORT-CIRCUIT STRENGTH	10 kA with back-up fuse
FAULT CURRENT RATING	30 mA
SENSITIVITY TYPE	Pulse-current sensitive - frequency composition (10 Hz, 50 Hz, 1000 Hz)
IMPULSE WITHSTAND CURRENT	Surge-proof, 3 kA
TYPE	• PFIM-F • Residual current circuit breakers • Type G/F (ÖVE E 8601)

Technical data - electrical

VOLTAGE RATING	230 V AC / 400 V AC
VOLTAGE RATING (IEC/EN 60947-2)	230/400 V
RATED OPERATIONAL VOLTAGE (UE) - MAX	230 V
RATED INSULATION VOLTAGE (UI)	440 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV
RATED FAULT CURRENT - MIN	0.03 A
RATED FAULT CURRENT - MAX	0.03 A
FREQUENCY RATING	50 Hz
SHORT-CIRCUIT RATING	63 A (max. admissible back-up fuse)
LEAKAGE CURRENT TYPE	Other
RATED RESIDUAL MAKING AND BREAKING CAPACITY	500 A
ADMISSIBLE BACK-UP FUSE OVERLOAD - MAX	25 A gG/gL
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	10 kA
SURGE CURRENT CAPACITY	3 kA
TEST CIRCUIT RANGE	196 V AC - 264 V AC
POLLUTION DEGREE	2
LIFESPAN, ELECTRICAL	4000 operations

Technical data - mechanical

FRAME	45 mm
WIDTH IN NUMBER OF MODULAR SPACINGS	4
BUILT-IN WIDTH (NUMBER OF UNITS)	35 mm (2 SU)
BUILT-IN DEPTH	70.5 mm
MOUNTING METHOD	Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715 DIN rail
MOUNTING POSITION	As required
DEGREE OF PROTECTION	IP20 IP20, IP40 with suitable enclosure
TERMINALS (TOP AND BOTTOM)	Open mouthed/lift terminals
TERMINAL CAPACITY (SOLID WIRE)	1.5 mm^2 - 35 mm^2
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	1.5 mm^2
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	35 mm^2
TERMINAL CAPACITY (STRANDED CABLE)	16 mm^2 (2x)
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	1.5 mm^2
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	16 mm^2
TERMINAL CAPACITY (CABLE)	M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, PZ2)
TERMINAL PROTECTION	Finger and hand touch safe, DGUV VS3, EN 50274
TIGHTENING TORQUE	2 Nm - 2.4 Nm
CONTACT POSITION INDICATOR COLOR	Red / green
BUSBAR MATERIAL THICKNESS	0.8 mm - 2 mm
LIFESPAN, MECHANICAL	20000 operations

Design verification as per IEC/EN 61439 - technical data

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	40 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	13.1 W
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE - MAX	60 °C

PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MIN	-35 °C
PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MAX	60 °C
CLIMATIC PROOFING	25-55 °C / 90-95% relative humidity according to IEC 60068-2

Design verification as per IEC/EN 61439

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 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. 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.
10.9.2 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	Is the panel builder's responsibility.

Additional information

ACCESSORIES REQUIRED	Z-HK 248432
FEATURES	Residual current circuit breaker Additional equipment possible
FITTED WITH:	Interlocking device
FUNCTIONS	Short-time delayed tripping
SPECIAL FEATURES	• Current test marks as per inscription • Maximum operating temperature is 60 °C: Starting at 40 °C, the max. permissible continuous current decreases by 2.5% for every 1 °C • Tripping signal contact for subsequent installation Z-NHK 248434
USED WITH	KLV-TC-4 276241 (Compact enclosure) Z-FW/LP 248296 (Remote control and automatic switching device) Z-RC/AK-4MU 101062 (sealing cover set)

INSULATING MATERIAL	
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.

Resources

APPLICATION NOTES	eaton-rcd-application-guide-br019003en-en-us.pdf
BROCHURES	eaton-xpole-residual-current-devices-type-f-brochure-br019005en-en-us.pdf
CATALOGUES	eaton-xpole-pfim-f-rccb-catalog-ca019030en-en-us.pdf
DECLARATIONS OF CONFORMITY	DA-DC-03_PFI
DRAWINGS	eaton-circuit-breaker-xeffect-frcmm-rccb-dimensions.jpg eaton-xpole-pf67-rccb-3d-drawing.jpg
ECAD MODEL	DA-CE-ETN.PFIM-40_4_003-G_F
INSTALLATION INSTRUCTIONS	IL019173ZU
MCAD MODEL	eaton-residual-current-circuit-breakers-3d-models-pfi-4p.stp eaton-residual-current-circuit-breakers-drawings-pfi-4p.dwg
WIRING DIAGRAMS	eaton-xeffect-frcmm-rccb-wiring-diagram-002.jpg

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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