Specifications

Eaton 167880

Eaton Moeller series xEffect - FRCdM Type B, B+, Bfq RCCB, 25 A, 4p, 30 mA, type G/B+

General specifications

PRODUCT NAME	Eaton Moeller series xEffect - FRCdM Type B, B+, Bfq RCCB
CATALOG NUMBER	167880
MODEL CODE	FRCDM-25/4/003-G/B+
EAN	4015081644544
PRODUCT LENGTH/DEPTH	76 mm
PRODUCT HEIGHT	80 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.32 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	VDE 0664-400 ÖVE E 8601 EN45545-2 IEC 61373 IEC/EN 61008 IEC/EN 62423
GLOBAL CATALOG	167880

Powering Business Worldwide

Product specifications

USED WITH	FRCdM Residual current circuit-breakers, digital Type G/B+ (ÖVE E 8601)
AMPERAGE RATING	25 A
FEATURES	Additional equipment possible Residual current circuit-breakers, digital Selective protection
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.
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

Resources

APPLICATION NOTES	eaton-quality-standards-for-railway-applications-application-paper-ap003005en-en-us.pdf
BROCHURES	eaton-xeffect-digital-switchgear-brochure-br003004en-en-us.pdf
CATALOGS	eaton-xeffect-frcdm-rccb-catalog-ca003017en-en-us.pdf
CHARACTERISTIC CURVE	eaton-current-xeffect-frcdm-rccb-characteristic-curve.jpg eaton-mcb-xeffect-frcdm-rccb-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	DA-DC-03_FRCdM DA-DC-03_FRCdM-..-B+_130718.pdf
DRAWINGS	eaton-current-xeffect-frcdm-rccb-dimensions.jpg
ECAD MODEL	ETN.FRCDM-25_4_003-G_B_.edz
INSTALLATION INSTRUCTIONS	eaton-residual-current-circuit-breakers-frcdm-instruction-leaflet-il019013zu.pdf
INSTALLATION VIDEOS	xEffect Digital Switchgear
MCAD MODEL	eaton-167880-drawing.dwg eaton-residual-current-circuit-breakers-3d-models-frcdm-rccb-4p.stp eaton-residual-current-circuit-breakers-drawings-frcdm-rccb-4p.dwg eaton-167880-3d-model.stp
PEP ECO-PASSPORT	eaton-residual-current-circuit-breakers-pep-eato-00110-v0101-en.pdf
WIRING DIAGRAMS	eaton-xeffect-frcdm-rccb-wiring-diagram-002.jpg eaton-xeffect-frcdm-rccb-wiring-diagram.jpg

	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 INSULATING MATERIAL	Is the panel builder's responsibility.
FITTED WITH:	Interlocking device
FRAME	45 mm
FREQUENCY RATING	50 Hz
POLLUTION DEGREE	2
MOUNTING METHOD	DIN rail Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
CLIMATIC PROOFING	25-55 °C / 90-95% relative humidity according to IEC 60068-2
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	4.6 W
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV
ADMISSIBLE BACK-UP	63 A gG/gL

	eaton-current-xeffect-frcdm-rccb-wiring-diagram.jpg

FUSE	
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	10 kA
ADMISSIBLE BACK-UP FUSE OVERLOAD - MAX	25 A gG/gL
BUILT-IN WIDTH (NUMBER OF UNITS)	70 mm (4 SU)
BUSBAR MATERIAL THICKNESS	0.8 mm - 2 mm
SHORT-CIRCUIT RATING	63 A (max. admissible back-up fuse)
STATUS INDICATION	White / blue
SWITCHING CAPACITY OF AUXILIARY CONTACT - MIN	10 µA, 10 mV DC
TERMINAL PROTECTION	Finger and hand touch safe, DGUV VS3, EN 50274
TERMINALS (TOP AND BOTTOM)	Twin-purpose terminals
TEST CIRCUIT RANGE	196 V AC - 264 V AC
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
BUILT-IN DEPTH	70.5 mm
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	16 mm^2
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	1.5 mm^2
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	35 mm^2
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	1.5 mm^2
FAULT CURRENT RATING	30 mA
HEAT DISSIPATION CAPACITY	4.6 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT	0 W

PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MAX	60 °C
PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MIN	-35 °C
CONTACT POSITION INDICATOR COLOR	Red / green
MOUNTING POSITION	As required
LIFESPAN, MECHANICAL	20000 operations
DEGREE OF PROTECTION	IP20, IP40 with suitable enclosure IP20
IMPULSE WITHSTAND CURRENT	3 kA (8/20 µs) surge-proof
NUMBER OF POLES	Four-pole
LEAKAGE CURRENT TYPE	B+
LIFESPAN, ELECTRICAL	4000 operations
TYPE	• FRCdM • Residual current circuit-breakers, digital • Type G/B+ (ÖVE E 8601)
SPECIAL FEATURES	• Current test marks as per inscription • Dry auxiliary contact: > 100,000 electrical switching operations per minute at 2 A 30 VDC resistive load • Dry auxiliary contact: > 5 x 100,000 electrical switching operations per minute at 1 A 30 VDC resistive load • Maximum operating temperature is 60 °C in accordance with the de-rating table
APPLICATION	xEffect - Switchgear for industrial and advanced commercial applications
FUNCTIONS	Short-time delayed

	tripping
SENSITIVITY TYPE	All current sensitive
TERMINAL CAPACITY (CABLE)	M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, PZ2)
RATED FAULT CURRENT - MAX	0.03 A
RATED FAULT CURRENT - MIN	0.03 A
RATED INSULATION VOLTAGE (UI)	440 V
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	25 A
RATED OPERATIONAL VOLTAGE (UE) - MAX	415 V
RATED RESIDUAL MAKING AND BREAKING CAPACITY	500 A
RATED SWITCHING CAPACITY (RESISTIVE LOAD) OF AUXILIARY CONTACT AT 240 V AC	0.25 A
RATED SWITCHING CAPACITY (RESISTIVE LOAD) OF AUXILIARY CONTACT AT 30 V DC	2 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT	0 W
SURGE CURRENT CAPACITY	3 kA
SWITCHING CURRENT OF AUXILIARY CONTACT - MAX	2 A
SWITCHING DUTY WITH RESISTIVE LOAD OF AUXILIARY CONTACT - MAX	60 W
SWITCHING VOLTAGE AT AC OF AUXILIARY CONTACT - MAX	240 V
SWITCHING VOLTAGE AT DC OF AUXILIARY CONTACT - MAX	220 V
VOLTAGE RATING - MAX	456 VAC
VOLTAGE RATING - MIN	50 VAC
WIDTH IN NUMBER OF MODULAR SPACINGS	4

VOLTAGE RATING (IEC/EN 60947-2)	240 V AC / 415 V AC
VOLTAGE TYPE	AC
TERMINAL CAPACITY (SOLID WIRE)	1.5 mm^2 - 35 mm^2
TRIPPING TIME	Short time-delayed 10 ms delayed
RATED SHORT-CIRCUIT STRENGTH	10 kA
TIGHTENING TORQUE	2 Nm - 2.4 Nm
TERMINAL CAPACITY (STRANDED CABLE)	16 mm^2 (2x)
TERMINAL CAPACITY OF AUXILIARY CONTACT	0.25 mm^2 - 1.5 mm^2
RAL-NUMBER	7035
COLOR	Gray

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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