Specifications







Eaton 120677

Eaton Moeller series xPole - mRB4/6 RCBO - residual-current circuit breaker with overcurrent protection. RCD/MCB, 20A, 30mA, C-LS-Char, 3N pole, FI-Char: A

General specifications	
PRODUCT NAME	Eaton Moeller series xPole - mRB4 RCBO - residual-current circuit breaker with overcurrent protection
CATALOG NUMBER	120677
MODEL CODE	mRB4-20/3N/C/003-A
EAN	4015081185078
PRODUCT LENGTH/DEPTH	80 mm
PRODUCT HEIGHT	75.5 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.445 kg
COMPLIANCES	CE Marked RoHS conform
CERTIFICATIONS	CE

Additional information

CURRENT LIMITING CLASS	3
FEATURES	Concurrently switching N-neutral
STANDARDS	IEC/EN 61009

Delivery program

APPLICATION	Switchgear for residential and commercial applications
BASIC FUNCTION	Combined RCD/MCB devices
FAULT CURRENT RATING	0.03 A
NUMBER OF POLES	Three-pole + N
NUMBER OF POLES (PROTECTED)	4
NUMBER OF POLES (TOTAL)	4
PRODUCT APPLICATION	Switchgear for industrial and advanced commercial applications
PRODUCT RANGE	mRB4
RATED CURRENT	20 A
RATED CURRENT OF PRODUCT RANGE	6 - 25 Ampere
RELEASE CHARACTERISTIC	C
SENSITIVITY TYPE	Type A, pulse-current sensitive
TRIPPING CHARACTERISTIC	C
TYPE	RCBO

Design verification as per IEC/EN 61439

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 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.

Design verification as per IEC/EN 61439 - technical data

AMBIENT OPERATING TEMPERATURE - MAX	40 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	11.8 W
HEAT DISSIPATION CAPACITY	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	20 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT	0 W

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.

Technical data - electrical

BACK-UP FUSE	100 Ampere gL
DISCONNECTION CHARACTERISTIC	Undelayed
FREQUENCY RATING	50 Hz
IMPULSE WITHSTAND CURRENT	Partly surge-proof, 250 A
LEAKAGE CURRENT TYPE	A
POLLUTION DEGREE	2
RATED FAULT CURRENTS OF PRODUCT RANGE	30, 100, 300 MilliAmpere
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV
RATED INSULATION VOLTAGE (UI)	500 V
RATED NON-TRIPPING CURRENT	0.5 x IΔn
RATED OPERATIONAL VOLTAGE (UE) - MAX	400 V
RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60947-2)	4.5 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 61009-1)	4.5 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 61009)	4.5 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)	4.5 kA
RATED SWITCHING CAPACITY	4.5 kA
RATED SWITCHING CAPACITY (IEC/EN 60947-2)	4.5 kA
RATED SWITCHING CAPACITY (IEC/EN 61009)	4.5 kA
SELECTIVITY CLASS	3
SURGE CURRENT CAPACITY	0.25 kA
TRIPPING	Non-delayed
VOLTAGE RATING	400 V
VOLTAGE RATING AT AC	230 V / 400 V
VOLTAGE TYPE	AC

Technical data - mechanical

BUILT-IN DEPTH	70 mm
CLIMATIC PROOFING	IEC 68-2: 25 °C - 55 °C at 90 % - 95 % humidity
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	25 mm²
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	1 mm²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	25 mm²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	1 mm²
DEGREE OF PROTECTION	IP20
DEGREE OF PROTECTION (BUILT IN)	IP40
DEVICE HEIGHT	80 mm
FRAME	45 mm
MATERIAL THICKNESS	2 mm
MOUNTING METHOD	DIN rail
MOUNTING STYLE	Tri-stable slide catch - enables removal from existing busbar combination
SOLID TERMINAL CAPACITIES	1 - 25 Square Millimeter
TERMINAL PROTECTION	Busbar tag shroud to VBG4
TERMINALS (TOP AND BOTTOM)	Twin-purpose
WIDTH IN NUMBER OF MODULAR SPACINGS	4

Resources

CHARACTERISTIC CURVE	eaton-mcb-xpole-mrb4-6-characteristic-curve.eps eaton-xpole-mrb-characteristic-curve-1220dia-11.eps
DECLARATIONS OF CONFORMITY	eaton-rcd-overcurrent-protection-rcbo-declaration-eu260080en.pdf
DRAWINGS	eaton-mcb-xpole-mrb4-6-dimensions.eps eaton-circuitbreaker-rcbo-xpole-mrb4-mrb6-3n-linedrawing
ECAD MODEL	ETN.mRB4-20_3N_C_003-A
INSTALLATION INSTRUCTIONS	eaton-xpole-combined-mcb-rcd-device-rcbo-packaging-manual-multilingual.pdf eaton-mcb-rccb-rcbo-g9-il019140zu.pdf
MCAD MODEL	eaton-rcd-with-overcurrent-protection-3d-models-frbm-3n-rcbo.stp
PEP ECO-PASSPORT	eaton-rcd-with-overcurrent-protection-pep-eato-00113-v0101-en.pdf
WIRING DIAGRAMS	eaton-mcb-xpole-mrb4-6-wiring-diagram.eps eaton-xpole-mrb4-mrb6-3n-wiring-diagram.eps eaton-xeffect-rcbo-mrb-wiring-diagram.eps

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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