DATASHEET - FRBMM-D20/3/01-A

RCD/MCB combination, 20 A, 100 mA, MCB trip characteristic: D, 3p, RCD trip characteristic: A

Part no. **FRBMM-D20/3/01-A**
170753

Similar to illustration

General specifications	
Product name	Eaton Moeller series xEffect - FRBm6/M RCBO - residual-current circuit breaker with overcurrent protection
Part no.	FRBMM-D20/3/01-A
EAN	4015081673179
Product Length/Depth	80 millimetre
Product height	75.5 millimetre
Product width	70 millimetre
Product weight	0.39 kilogram
Compliances	RoHS conform CE Marked
Certifications	EN45545-2 IEC 61373 CE
Product Tradename	xEffect - FRBm6/M
Product Type	RCBO - Residual-current circuit breaker with overcurrent protection
Product Sub Type	None
Delivery program	
Application	Switchgear for industrial and advanced commercial applications
Product range	FRBmM
Basic function	Combined RCD/MCB devices
Number of poles	Three-pole
Number of poles (protected)	3
Number of poles (total)	3
Tripping characteristic	D
Release characteristic	D
Amperage Rating	20 A
Rated current	20 A
Fault current rating	0.1 A
Sensitivity type	Pulse-current sensitive
Type	RCBO
Technical Data - Electrical	
Voltage type	AC
Voltage rating	415 V - 415 V
Rated operational voltage (Ue) - max	415 V
Rated insulation voltage (Ui)	500 V
Rated impulse withstand voltage (Uimp)	4 kV
Rated fault currents of product range	10, 30, 100, 300 MilliAmpere
Impulse withstand current	Partly surge-proof, 250 A
Frequency rating	50 Hz
Leakage current type	A
Rated switching capacity	10 kA
Rated switching capacity (IEC/EN 61009)	10 kA
Rated short-circuit breaking capacity (EN 60947-2)	15 kA
Rated short-circuit breaking capacity (EN 61009)	10 kA
Rated short-circuit breaking capacity (EN 61009-1)	10 kA
Rated short-circuit breaking capacity (IEC 60947-2)	15 kA

Surge current capacity		0.25 kA
Disconnection characteristic		Undelayed
Tripping		Non-delayed
Pollution degree		2

Technical Data - Mechanical

Width in number of modular spacings		4
Built-in depth		75.5 mm
Degree of protection		IP20
Connectable conductor cross section (solid-core) - min		1 mm^2
Connectable conductor cross section (solid-core) - max		25 mm^2
Connectable conductor cross section (multi-wired) - min		1 mm^2
Connectable conductor cross section (multi-wired) - max		25 mm^2

Design verification as per IEC/EN 61439 - technical data

Rated operational current for specified heat dissipation (In)		20 A
Heat dissipation per pole, current-dependent		0 W
Equipment heat dissipation, current-dependent		9.7 W
Static heat dissipation, non-current-dependent		0 W
Heat dissipation capacity		0 W
Ambient operating temperature - max		40 °C
Ambient operating temperature - min		-25 °C

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.
10.2.3.3 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.
10.6 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.
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.

Additional information

Current limiting class		3

Technical data ETIM 9.0

Circuit breakers and fuses (EG000020) / Earth leakage circuit breaker (EC000905)

Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / MCB/RCCB combination (ecl@ss13-27-14-22-07 [AFZ810020])

Number of poles (total)		3
Number of protected poles		3
Rated voltage	V	415
Rated insulation voltage Ui	V	500
Rated impulse withstand voltage Uimp	kV	4
Rated current	A	20

Rated fault current		A	0.1
Leakage current type			A
Current limiting class			3
Power loss		W	
Rated short-circuit breaking capacity according to EN 61009		kA	10
Rated short-circuit breaking capacity according to IEC 60947-2		kA	15
Rated short-circuit breaking capacity Icn according to EN 61009-1		kA	10
Disconnection characteristic			Undelayed
Surge current capacity		kA	0.25
Voltage type			AC
Frequency			50 Hz
Release characteristic			D
Concurrently switching neutral conductor			No
With interlocking device			No
Over voltage category			3
Pollution degree			2
Ambient temperature during operating		°C	-25 - 40
Width in number of modular spacings			4
Built-in depth		mm	75.5
Flush-mounted installation			No
Anti-nuisance tripping version			No
Degree of protection (IP)			IP20
Connectable conductor cross section solid-core		mm^2	1 - 25
Connectable conductor cross section multi-wired		mm^2	1 - 25

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