

# Eaton 168644

Eaton Moeller series xEffect - FRCdM Type AC, A, U, R RCCB, 40A, 4p, 300mA, type U

PRODUCT NAME	Eaton Moeller series xEffect - FRCdM Type AC, A, U, R RCCB
CATALOG NUMBER	168644
PRODUCT LENGTH/DEPTH	80 mm
PRODUCT HEIGHT	71 mm
PRODUCT WIDTH	70 mm
PRODUCT WEIGHT	0.32 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 61008 EN45545-2 IEC 61373

<b>USED WITH</b>	Type U FRCdM Residual current circuit-breakers, digital
<b>AMPERAGE RATING</b>	40 A
<b>FEATURES</b>	Residual current circuit-breakers, digital Selective protection Additional equipment possible
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.

<a href="#">eaton-current-xeffect-frcdm-rccb-wiring-diagram.jpg</a>
<a href="#">eaton-xeffect-digital-switchgear-brochure-br003004en-en-us.pdf</a>
<a href="#">eaton-current-xeffect-frcdm-rccb-dimensions.jpg</a>

<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Interlocking device
<b>FRAME</b>	45 mm
<b>FREQUENCY RATING</b>	50 Hz
<b>POLLUTION DEGREE</b>	2
<b>MOUNTING METHOD</b>	DIN rail Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
<b>CLIMATIC PROOFING</b>	25-55 °C / 90-95% relative humidity according to IEC 60068-2
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	6.2 W
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	4 kV
<b>ADMISSIBLE BACK-UP FUSE</b>	63 A gG/gL
<b>RATED SHORT-TIME WITHSTAND CURRENT (ICW)</b>	10 kA
<b>ADMISSIBLE BACK-UP FUSE OVERLOAD - MAX</b>	40 A gG/gL
<b>BUILT-IN WIDTH (NUMBER OF UNITS)</b>	70 mm (4 SU)
<b>BUSBAR MATERIAL THICKNESS</b>	0.8 mm - 2 mm
<b>SHORT-CIRCUIT RATING</b>	63 A (max. admissible back-up fuse)
<b>STATUS INDICATION</b>	White / blue
<b>SWITCHING CAPACITY OF AUXILIARY CONTACT - MIN</b>	10 µA, 10 mV DC
<b>TERMINAL PROTECTION</b>	Finger and hand touch safe, DGUV VS3, EN 50274
<b>TERMINALS (TOP AND BOTTOM)</b>	Twin-purpose terminals
<b>TEST CIRCUIT RANGE</b>	196 V AC - 456 V AC
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C

<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>BUILT-IN DEPTH</b>	70.5 mm
<b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX</b>	16 mm <sup>2</sup>
<b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN</b>	1.5 mm <sup>2</sup>
<b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX</b>	35 mm <sup>2</sup>
<b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN</b>	1.5 mm <sup>2</sup>
<b>FAULT CURRENT RATING</b>	300 mA
<b>HEAT DISSIPATION CAPACITY</b>	6.2 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>	0 W
<b>INTERNAL RESISTANCE AT ROOM TEMPERATURE AND 50HZ</b>	0.64 mΩ
<b>PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MAX</b>	60 °C
<b>PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MIN</b>	-35 °C
<b>CONTACT POSITION INDICATOR COLOR</b>	Red / green
<b>MOUNTING POSITION</b>	As required
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>DEGREE OF PROTECTION</b>	IP20 IP20, IP40 with suitable enclosure
<b>IMPULSE WITHSTAND CURRENT</b>	5 kA (8/20 μs) surge-proof
<b>NUMBER OF POLES</b>	Four-pole
<b>LEAKAGE CURRENT TYPE</b>	A
<b>LIFESPAN, ELECTRICAL</b>	4000 operations
<b>TYPE</b>	<ul style="list-style-type: none"> <li>• FRCdM</li> <li>• Residual current circuit-breakers, digital</li> <li>• Type U</li> </ul>
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>• Current test marks as per inscription</li> <li>• Dry auxiliary contact:</li> </ul>

	<p>&gt; 100,000 electrical switching operations per minute at 2 A 30 VDC resistive load</p> <ul style="list-style-type: none"> <li>• Dry auxiliary contact: &gt; 5 x 100,000 electrical switching operations per minute at 1 A 30 VDC resistive load</li> <li>• Maximum operating temperature is 60 °C: Starting at 40 °C, the max. permissible continuous current decreases by 2.5% for every 1 °C</li> </ul>
<b>APPLICATION</b>	xEffect - Switchgear for industrial and advanced commercial applications
<b>SENSITIVITY TYPE</b>	Pulse-current sensitive, suitable for variable frequency drives
<b>RADIATION RESISTANCE</b>	Suitable for variable frequency drives (enhanced sensitivity)
<b>TERMINAL CAPACITY (CABLE)</b>	M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, PZ2)
<b>RATED FAULT CURRENT - MAX</b>	0.3 A
<b>RATED FAULT CURRENT - MIN</b>	0.3 A
<b>RATED INSULATION VOLTAGE (UI)</b>	440 V
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	40 A
<b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>	415 V
<b>RATED RESIDUAL MAKING AND BREAKING CAPACITY</b>	500 A
<b>RATED SWITCHING CAPACITY (RESISTIVE LOAD) OF AUXILIARY CONTACT AT 240 V AC</b>	0.25 A
<b>RATED SWITCHING CAPACITY (RESISTIVE LOAD) OF AUXILIARY CONTACT AT 30 V DC</b>	2 A
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT</b>	0 W
<b>SURGE CURRENT CAPACITY</b>	5 kA
<b>SWITCHING CURRENT OF AUXILIARY CONTACT - MAX</b>	2 A
<b>SWITCHING DUTY WITH RESISTIVE LOAD OF</b>	60 W

<b>AUXILIARY CONTACT - MAX</b>	
<b>SWITCHING VOLTAGE AT AC OF AUXILIARY CONTACT - MAX</b>	240 V
<b>SWITCHING VOLTAGE AT DC OF AUXILIARY CONTACT - MAX</b>	220 V
<b>VOLTAGE RATING - MAX</b>	264 VAC
<b>VOLTAGE RATING - MIN</b>	50 VAC
<b>WIDTH IN NUMBER OF MODULAR SPACINGS</b>	4
<b>VOLTAGE RATING (IEC/EN 60947-2)</b>	240 V AC / 415 V AC
<b>VOLTAGE TYPE</b>	AC
<b>TERMINAL CAPACITY (SOLID WIRE)</b>	1.5 mm <sup>2</sup> - 35 mm <sup>2</sup>
<b>TRIPPING TIME</b>	Selective switch off 40 ms delayed - selective switch off
<b>RATED SHORT-CIRCUIT STRENGTH</b>	10 kA
<b>TIGHTENING TORQUE</b>	2 Nm - 2.4 Nm
<b>TERMINAL CAPACITY (STRANDED CABLE)</b>	16 mm <sup>2</sup> (2x)
<b>TERMINAL CAPACITY OF AUXILIARY CONTACT</b>	0.25 mm <sup>2</sup> - 1.5 mm <sup>2</sup>
<b>RAL-NUMBER</b>	7035

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>
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