# Eaton 167886

Eaton Moeller series xEffect - FRCdM Type B, B+, Bfq RCCB, 63 A, 4p, 300 mA, type G/B+

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| **PRODUCT NAME** | Eaton Moeller series xEffect - FRCdM Type B, B+, Bfq RCCB |
| **CATALOG NUMBER** | 167886 |
| **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<br>ÖVE E 8601<br>EN45545-2<br>IEC 61373<br>IEC/EN 61008<br>IEC/EN 62423 |

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| **USED WITH** | Residual current circuit-breakers, digital<br>FRCdM<br>Type G/B+ (VE E 8601) |
| **AMPERAGE RATING** | 63 A |
| **FEATURES** | Additional equipment possible<br>Residual current circuit-breakers, digital<br>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 be evaluated. |
| **10.2.6 MECHANICAL** | Does not apply, since the |

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| CHARACTERISTIC CURVE | eaton-current-xeffect-frcdm-rccb-characteristic-curve-002.jpg<br>eaton-mcb-xeffect-frcdm-rccb-characteristic-curve.eps |
| □□□ | eaton-xeffect-frcdm-rccb-wiring-diagram-002.jpg<br>eaton-current-xeffect-frcdm-rccb-wiring-diagram.jpg<br>eaton-xeffect-frcdm-rccb-wiring-diagram.jpg |
| □□□□ | eaton-xeffect-digital-switchgear-brochure-br003004en-en-us.pdf |
| □□ | eaton-current-xeffect-frcdm-rccb-dimensions.jpg |
| □□□□□□ | eaton-quality-standards-for-railway-applications-application-paper-ap003005en-en-us.pdf |

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| **IMPACT** | 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<br>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** | 10 W |
| **RATED IMPULSE WITHSTAND VOLTAGE (UIMP)** | 4 kV |
| **ADMISSIBLE BACK-UP FUSE** | 63 A gG/gL |
| **RATED SHORT-TIME WITHSTAND CURRENT (ICW)** | 10 kA |
| **ADMISSIBLE BACK-UP** | 63 A gG/gL |

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| **FUSE OVERLOAD - MAX** | |
| **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 - 456 V AC |
| **AMBIENT OPERATING TEMPERATURE - MAX** | 40 °C |
| **AMBIENT OPERATING TEMPERATURE - MIN** | -25 °C |
| **BUILT-IN DEPTH** | 70.5 mm |
| **CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX** | 16 mm² |
| **CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN** | 1.5 mm² |
| **CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX** | 35 mm² |
| **CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN** | 1.5 mm² |
| **FAULT CURRENT RATING** | 300 mA |
| **HEAT DISSIPATION CAPACITY** | 10 W |
| **HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT** | 2.5 W |
| **PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MAX** | 60 °C |
| **PERMITTED STORAGE AND TRANSPORT TEMPERATURE - MIN** | -35 °C |
| **CONTACT POSITION INDICATOR COLOR** | Red / green |

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| **MOUNTING POSITION** | As required |
| **LIFESPAN, MECHANICAL** | 20000 operations |
| **DEGREE OF PROTECTION** | IP20<br>IP20, IP40 with suitable enclosure |
| **IMPULSE WITHSTAND CURRENT** | 3 kA (8/20 µs) surge-proof |
| **NUMBER OF POLES** | Four-pole |
| **LEAKAGE CURRENT TYPE** | B+ |
| **LIFESPAN, ELECTRICAL** | 4000 operations |
| **TYPE** | • Current test marks as per inscription<br>• Dry auxiliary contact: > 100,000 electrical switching operations per minute at 2 A 30 VDC resistive load<br>• Dry auxiliary contact: > 5 x 100,000 electrical switching operations per minute at 1 A 30 VDC resistive load<br>• Maximum operating temperature is 60 °C in accordance with the de-rating table |
| **SPECIAL FEATURES** | • FRCdM<br>• Residual current circuit-breakers, digital<br>• Type G/B+ (ÖVE E 8601) |
| **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** | 0.3 A |
| **RATED FAULT CURRENT - MIN** | 0.3 A |
| **RATED INSULATION** | 440 V |

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| **VOLTAGE (UI)** | |
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 63 A |
| **RATED OPERATIONAL VOLTAGE (UE) - MAX** | 415 V |
| **RATED RESIDUAL MAKING AND BREAKING CAPACITY** | 630 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<br>10 ms delayed |
| **RATED SHORT-CIRCUIT STRENGTH** | 10 kA |
| **TIGHTENING TORQUE** | 2 Nm - 2.4 Nm |
| **TERMINAL CAPACITY (STRANDED CABLE)** | 16 $mm^2$ (2x) |

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| **TERMINAL CAPACITY OF AUXILIARY CONTACT** | 0.25 mm² - 1.5 mm² |
| **RAL-NUMBER** | 7035 |
| **COLOR** | Gray |

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| **PROJECT NAME:** |
| **PROJECT NUMBER:** |
| **PREPARED BY:** |
| **□□:** |

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