

## Eaton 187804

Eaton Moeller series xEffect - FRCmM-125 Type B, Bfq and B+ RCCB. Residual current circuit-breaker, all-current sensitive, 40 A, 4p, 100 mA, type B

|                                 |                                                                        |
|---------------------------------|------------------------------------------------------------------------|
|                                 |                                                                        |
| <b>PRODUCT NAME</b>             | Eaton Moeller series<br>xEffect - FRCmM-125 Type<br>B, Bfq and B+ RCCB |
| <b>CATALOG NUMBER</b>           | 187804                                                                 |
| <b>PRODUCT<br/>LENGTH/DEPTH</b> | 76 mm                                                                  |
| <b>PRODUCT HEIGHT</b>           | 80 mm                                                                  |
| <b>PRODUCT WIDTH</b>            | 70 mm                                                                  |
| <b>PRODUCT WEIGHT</b>           | 0.48 kg                                                                |
| <b>COMPLIANCES</b>              | RoHS conform                                                           |
| <b>CERTIFICATIONS</b>           | IEC/EN 62423<br>IEC/EN 61008                                           |

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| <b>USED WITH</b>                                                                        | Residual current circuit breakers<br>FRCmM<br>Type B                                                                             |
| <b>AMPERAGE RATING</b>                                                                  | 40 A                                                                                                                             |
| <b>FEATURES</b>                                                                         | Additional equipment possible<br>Residual current circuit breaker                                                                |
| <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.                                                               |

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| <b>MCAD MODEL</b> | <a href="#">eaton-residual-current-circuit-breakers-drawings-dfs-4.dwg</a>        |
|                   | <a href="#">eaton-residual-current-circuit-breakers-3d-models-dfs-4.stp</a>       |
|                   | <a href="#">eaton-xeffect-frcmm-125-rccb-wiring-diagram-003.jpg</a>               |
|                   | <a href="#">eaton-xeffect-frcmm-125-rccb-wiring-diagram.jpg</a>                   |
|                   | <a href="#">eaton-xeffect-frcmm-125-rccb-catalog-ca003020en-en-us.pdf</a>         |
|                   | <a href="#">eaton-xeffect-frcmm40-80-type-b-rccb-catalog-ca003021en-en-us.pdf</a> |
|                   | <a href="#">eaton-frcm-dimensions.jpg</a>                                         |
|                   | <a href="#">eaton-circuit-breaker-xeffect-frcmm-125-rccb-dimensions.jpg</a>       |

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| <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. |
| <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<br>Quick attachment for top-hat 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>            | 22.5 W                                                             |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>                   | 4 kV                                                               |
| <b>RATED SHORT-TIME WITHSTAND CURRENT (ICW)</b>                 | 10 kA                                                              |

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| <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>                                    | 100 A (max. admissible back-up fuse)           |
| <b>STATUS INDICATION</b>                                       | Toggle-center position                         |
| <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>                                      | 184 V AC - 440 V AC                            |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                     | 75 °C                                          |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                     | -25 °C                                         |
| <b>BUILT-IN DEPTH</b>                                          | 77.5 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>  | 50 mm <sup>2</sup>                             |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN</b>  | 1.5 mm <sup>2</sup>                            |
| <b>FAULT CURRENT RATING</b>                                    | 100 mA                                         |
| <b>HEAT DISSIPATION CAPACITY</b>                               | 0 W                                            |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>            | 0 W                                            |
| <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<br>IP20, IP40 with suitable enclosure     |

|                                                                      |                                                                                                                                                                                                                                          |
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| <b>IMPULSE WITHSTAND CURRENT</b>                                     | 3 kA (8/20 µs) surge-proof                                                                                                                                                                                                               |
| <b>NUMBER OF POLES</b>                                               | Four-pole                                                                                                                                                                                                                                |
| <b>LEAKAGE CURRENT TYPE</b>                                          | B                                                                                                                                                                                                                                        |
| <b>LIFESPAN, ELECTRICAL</b>                                          | 4000 operations                                                                                                                                                                                                                          |
| <b>TYPE</b>                                                          | <ul style="list-style-type: none"> <li>• FRCmM</li> <li>• Residual current circuit breakers</li> <li>• Type B</li> </ul>                                                                                                                 |
| <b>SPECIAL FEATURES</b>                                              | <ul style="list-style-type: none"> <li>• Current test marks as per inscription</li> <li>• Maximum operating temperature is 75 °C: Starting at 40 °C, the max. permissible continuous current decreases by 2.5% for every 1 °C</li> </ul> |
| <b>APPLICATION</b>                                                   | <ul style="list-style-type: none"> <li>• Switchgear for industrial and advanced commercial applications</li> <li>• xEffect - Switchgear for industrial and advanced commercial applications</li> </ul>                                   |
| <b>SENSITIVITY TYPE</b>                                              | All current sensitive                                                                                                                                                                                                                    |
| <b>RATED FAULT CURRENT - MAX</b>                                     | 0.1 A                                                                                                                                                                                                                                    |
| <b>RATED FAULT CURRENT - MIN</b>                                     | 0.1 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>                          | 240 V                                                                                                                                                                                                                                    |
| <b>RATED RESIDUAL MAKING AND BREAKING CAPACITY</b>                   | 500 A                                                                                                                                                                                                                                    |
| <b>STATIC HEAT DISSIPATION, NON-</b>                                 | 0 W                                                                                                                                                                                                                                      |

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| <b>CURRENT-DEPENDENT</b>                   |                                                                                           |
| <b>SURGE CURRENT CAPACITY</b>              | 3 kA                                                                                      |
| <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> - 50 mm <sup>2</sup><br>1.5 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) |
| <b>TRIPPING TIME</b>                       | Short time-delayed                                                                        |
| <b>RATED SHORT-CIRCUIT STRENGTH</b>        | 10 kA with back-up fuse                                                                   |
| <b>TERMINAL CAPACITY (STRANDED CABLE)</b>  | 1.5 mm <sup>2</sup> - 5 mm <sup>2</sup><br>1.5 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x)  |
| <b>RAL-NUMBER</b>                          | 7035                                                                                      |
| <b>COLOR</b>                               | Gray                                                                                      |

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



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