



## 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

120677

|                             |                                                                                                       |
|-----------------------------|-------------------------------------------------------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller series xPole - mRB4 RCBO - residual-current circuit breaker with overcurrent protection |
| <b>CATALOG NUMBER</b>       | 120677                                                                                                |
| <b>PRODUCT LENGTH/DEPTH</b> | 80 mm                                                                                                 |
| <b>PRODUCT HEIGHT</b>       | 75.5 mm                                                                                               |
| <b>PRODUCT WIDTH</b>        | 70 mm                                                                                                 |
| <b>PRODUCT WEIGHT</b>       | 0.445 kg                                                                                              |
| <b>COMPLIANCES</b>          | CE Marked<br>RoHS conform                                                                             |
| <b>CERTIFICATIONS</b>       | CE                                                                                                    |

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| <b>VOLTAGE RATING</b>                                                                   | 400 V                                                                                                                            |
| <b>SURGE CURRENT CAPACITY</b>                                                           | 0.25 kA                                                                                                                          |
| <b>VOLTAGE TYPE</b>                                                                     | AC                                                                                                                               |
| <b>WIDTH IN NUMBER OF MODULAR SPACINGS</b>                                              | 4                                                                                                                                |
| <b>FEATURES</b>                                                                         | Concurrently switching N-neutral                                                                                                 |
| <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>DEVICE HEIGHT</b>                                                                    | 80 mm                                                                                                                            |
| <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</b>                                                                | Does not apply, since the                                                                                                        |

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| <b>CHARACTERISTIC CURVE</b> | <a href="#">eaton-mcb-xpole-mrb4-6-characteristic-curve.eps</a>    |
| <b>□□□□</b>                 | <a href="#">eaton-rccb-rcbo-g9-il019140zu.pdf</a>                  |
| <b>□□□</b>                  | <a href="#">eaton-mcb-xpole-mrb4-6-wiring-diagram.eps</a>          |
|                             | <a href="#">eaton-xpole-mrb6-rcbo-catalog-ca019057en-en-us.pdf</a> |
| <b>□□□</b>                  | <a href="#">eaton-xpole-mrb4-rcbo-catalog-ca019058en-en-us.pdf</a> |
|                             | <a href="#">eaton-xeffect-frbm6m-dimensions-004.jpg</a>            |
|                             | <a href="#">eaton-mcb-xpole-mrb4-6-dimensions.eps</a>              |
| <b>□□</b>                   | <a href="#">eaton-xeffect-frbm6m-wiring-diagram-002.jpg</a>        |
|                             | <a href="#">eaton-xeffect-frbm6m-characteristic-curve-002.jpg</a>  |

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| <b>IMPACT</b>                                                        | 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>MOUNTING STYLE</b>                                                | Tri-stable slide catch - enables removal from existing busbar combination |
| <b>OPERATING AMBIENT TEMPERATURE - MAX</b>                           | 40 °C                                                                     |
| <b>OPERATING AMBIENT TEMPERATURE - MIN</b>                           | -25 °C                                                                    |
| <b>PRODUCT APPLICATION</b>                                           | Switchgear for industrial and advanced commercial applications            |
| <b>PRODUCT RANGE</b>                                                 | mRB4                                                                      |
| <b>RATED CURRENT</b>                                                 | 20 A                                                                      |
| <b>RATED CURRENT OF PRODUCT RANGE</b>                                | 6 - 25 Ampere                                                             |
| <b>RATED FAULT CURRENTS OF PRODUCT RANGE</b>                         | 30, 100, 300 MilliAmpere                                                  |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 20 A                                                                      |
| <b>RATED SWITCHING CAPACITY (IEC/EN 60947-2)</b>                     | 4.5 kA                                                                    |

|                                                            |                                                 |
|------------------------------------------------------------|-------------------------------------------------|
| <b>RATED SWITCHING CAPACITY (IEC/EN 61009)</b>             | 4.5 kA                                          |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT</b>      | 0 W                                             |
| <b>TRIPPING CHARACTERISTIC</b>                             | C                                               |
| <b>BUILT-IN DEPTH</b>                                      | 70 mm                                           |
| <b>CURRENT LIMITING CLASS</b>                              | 3                                               |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60947-2)</b>  | 4.5 kA                                          |
| <b>FRAME</b>                                               | 45 mm                                           |
| <b>TERMINAL PROTECTION</b>                                 | Busbar tag shroud to VBG4                       |
| <b>TERMINALS (TOP AND BOTTOM)</b>                          | Twin-purpose                                    |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                 | 40 °C                                           |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                 | -25 °C                                          |
| <b>FAULT CURRENT RATING</b>                                | 0.03 A                                          |
| <b>HEAT DISSIPATION CAPACITY</b>                           | 0 W                                             |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>        | 0 W                                             |
| <b>NUMBER OF POLES (PROTECTED)</b>                         | 4                                               |
| <b>NUMBER OF POLES (TOTAL)</b>                             | 4                                               |
| <b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>                | 400 V                                           |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)</b> | 4.5 kA                                          |
| <b>RATED SWITCHING CAPACITY</b>                            | 4.5 kA                                          |
| <b>BACK-UP FUSE</b>                                        | 100 Ampere gL                                   |
| <b>BASIC FUNCTION</b>                                      | Combined RCD/MCB devices                        |
| <b>MOUNTING METHOD</b>                                     | DIN rail                                        |
| <b>CLIMATIC PROOFING</b>                                   | IEC 68-2: 25 °C - 55 °C at 90 % - 95 % humidity |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>       | 11.8 W                                          |
| <b>RATED IMPULSE WITHSTAND VOLTAGE</b>                     | 4 kV                                            |

|                                                                            |                                                                   |
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| <b>(UIMP)</b>                                                              |                                                                   |
| <b>DEGREE OF PROTECTION<br/>(BUILT IN)</b>                                 | IP40                                                              |
| <b>DEGREE OF PROTECTION</b>                                                | IP20                                                              |
| <b>OPERATING AMBIENT<br/>TEMPERATURE HINT</b>                              | Keep in mind the derating<br>at temperatures higher<br>than 40 °C |
| <b>SOLID TERMINAL<br/>CAPACITIES</b>                                       | 1 - 25 Square Millimeter                                          |
| <b>STANDARDS</b>                                                           | IEC/EN 61009                                                      |
| <b>TRIPPING</b>                                                            | Non-delayed                                                       |
| <b>OVERVOLTAGE<br/>CATEGORY</b>                                            | III                                                               |
| <b>POLLUTION DEGREE</b>                                                    | 2                                                                 |
| <b>MATERIAL THICKNESS</b>                                                  | 2 mm                                                              |
| <b>RATED NON-TRIPPING<br/>CURRENT</b>                                      | $0.5 \times I_{\Delta n}$                                         |
| <b>IMPULSE WITHSTAND<br/>CURRENT</b>                                       | Partly surge-proof, 250 A                                         |
| <b>LEAKAGE CURRENT TYPE</b>                                                | A                                                                 |
| <b>RELEASE<br/>CHARACTERISTIC</b>                                          | C                                                                 |
| <b>SENSITIVITY TYPE</b>                                                    | Type A, pulse-current<br>sensitive                                |
| <b>FREQUENCY RATING</b>                                                    | 50 Hz                                                             |
| <b>RATED INSULATION<br/>VOLTAGE (UI)</b>                                   | 500 V                                                             |
| <b>CONNECTABLE<br/>CONDUCTOR CROSS<br/>SECTION (SOLID-CORE) -<br/>MIN</b>  | 1 mm <sup>2</sup>                                                 |
| <b>CONNECTABLE<br/>CONDUCTOR CROSS<br/>SECTION (SOLID-CORE) -<br/>MAX</b>  | 25 mm <sup>2</sup>                                                |
| <b>CONNECTABLE<br/>CONDUCTOR CROSS<br/>SECTION (MULTI-WIRED)<br/>- MIN</b> | 1 mm <sup>2</sup>                                                 |
| <b>CONNECTABLE<br/>CONDUCTOR CROSS<br/>SECTION (MULTI-WIRED)<br/>- MAX</b> | 25 mm <sup>2</sup>                                                |
| <b>RATED SHORT-CIRCUIT<br/>BREAKING CAPACITY (EN<br/>61009)</b>            | 4.5 kA                                                            |
| <b>RATED SHORT-CIRCUIT<br/>BREAKING CAPACITY (EN<br/>61009-1)</b>          | 4.5 kA                                                            |
| <b>VOLTAGE RATING AT AC</b>                                                | 230 V / 400 V                                                     |

|                                     |                                                        |
|-------------------------------------|--------------------------------------------------------|
| <b>NUMBER OF POLES</b>              | Three-pole + N                                         |
| <b>DISCONNECTION CHARACTERISTIC</b> | Undelayed                                              |
| <b>TYPE</b>                         | RCBO                                                   |
| <b>APPLICATION</b>                  | Switchgear for residential and commercial applications |
| <b>SELECTIVITY CLASS</b>            | 3                                                      |

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