# Specifications



Photo is representative





## Eaton 278783

Eaton Moeller series xEffect - FAZ MCB. FAZ, 2-pole, tripping characteristic: D, rated current In: 16 A

| General specifications | |
|---|---|
| **PRODUCT NAME** | Eaton Moeller series xEffect - FAZ MCB |
| **CATALOG NUMBER** | 278783 |
| **MODEL CODE** | FAZ-D16/2 |
| **EAN** | 4015082787837 |
| **PRODUCT LENGTH/DEPTH** | 80 mm |
| **PRODUCT HEIGHT** | 75.5 mm |
| **PRODUCT WIDTH** | 36 mm |
| **PRODUCT WEIGHT** | 0.222 kg |
| **COMPLIANCES** | UL CSA09 (with supplementary protector only)<br>RoHS conform |
| **CERTIFICATIONS** | IEC/EN 60947-2<br>UL (Category Control Number QVNU2, QVNU8)<br>North America (UL recognized, CSA certified)<br>CSA (Class No. 3215-30)<br>CE marking<br>IEC/EN 60898<br>CSA (File No. 204453)<br>UL (File No. E177451)<br>CSA-C22.2 No. 235<br>UL 1077<br>EN45545-2<br>IEC 61373 |

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## Delivery Programme

| | |
|---|---|
| **APPLICATION** | • Branch circuits, not as BCPD<br>• Switchgear for industrial and advanced commercial applications<br>• xEffect - Switchgear for industrial and advanced commercial applications |
| **NUMBER OF POLES** | Two-pole |
| **NUMBER OF POLES (TOTAL)** | 2 |
| **NUMBER OF POLES (PROTECTED)** | 2 |
| **TRIPPING CHARACTERISTIC** | D |
| **RELEASE CHARACTERISTIC** | D |
| **AMPERAGE RATING** | 16 A |
| **TYPE** | • FAZ<br>• Miniature circuit breaker |

## Technical data - electrical

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|---|---|
| **VOLTAGE TYPE** | AC |
| **VOLTAGE RATING** | 240 V AC / 415 V AC |
| **VOLTAGE RATING AT DC** | 60 V DC (per pole) |
| **VOLTAGE RATING (UL CSA 13)** | 480 Y/277 V AC; 96 V DC |
| **RATED OPERATIONAL VOLTAGE (UE) - MAX** | 400 V |
| **RATED INSULATION VOLTAGE (UI)** | 440 V |
| **RATED IMPULSE WITHSTAND VOLTAGE (UIMP)** | 4 kV |
| **FREQUENCY RATING - MIN** | 50 Hz |
| **FREQUENCY RATING - MAX** | 60 Hz |
| **RATED SWITCHING CAPACITY (IEC/EN 60947-2)** | 15 kA |
| **OPERATIONAL SWITCHING CAPACITY** | 7.5 kA |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60898) AT 230 V** | 10 kA |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60898) AT 400 V** | 10 kA |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2) AT 230 V** | 15 kA |
| **RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2) AT 400 V** | 15 kA |
| **ADMISSIBLE BACK-UP FUSE - MAX** | 125 A gL/gG |
| **SELECTIVITY CLASS** | 3 |
| **OVERVOLTAGE CATEGORY** | III |
| **POLLUTION DEGREE** | 2 |
| **LIFESPAN, ELECTRICAL** | 10000 operations |
| **DIRECTION OF INCOMING SUPPLY** | As required |

## Technical data - mechanical

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|---|---|
| **FRAME** | 45 mm |
| **ENCLOSURE WIDTH** | 80 mm |
| **WIDTH IN NUMBER OF MODULAR SPACINGS** | 2 |
| **BUILT-IN DEPTH** | 70.5 mm |
| **MOUNTING WIDTH PER POLE** | 17.5 mm |
| **MOUNTING WIDTH** | 17.5 mm |
| **MOUNTING METHOD** | Top-hat rail IEC/EN 60715 |
| **MOUNTING POSITION** | As required |
| **DEGREE OF PROTECTION** | UL/CSA Type: -<br>IP40 (when fitted)<br>IP20 (IEC)<br>IP20 |
| **TERMINALS (TOP AND BOTTOM)** | Twin-purpose terminals |
| **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 $mm^2$ |
| **TERMINAL CAPACITY OF SCREW TERMINALS FOR MAIN CABLE** | 10 $mm^2$ (2x) |
| **TERMINAL CAPACITY (CONTROL CABLE)** | 25 $mm^2$ (1x) |
| **TERMINAL PROTECTION** | Finger and hand touch safe, DGUV VS3, EN 50274 |
| **BUSBAR MATERIAL THICKNESS** | 0.8 mm - 2 mm |

## Design verification as per IEC/EN 61439 - technical data

| | |
|---|---|
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 16 A |
| **HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT** | 0 W |
| **EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT** | 4.7 W |
| **STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT** | 0 W |
| **HEAT DISSIPATION CAPACITY** | 0 W |
| **AMBIENT OPERATING TEMPERATURE - MIN** | -25 °C |
| **AMBIENT OPERATING TEMPERATURE - MAX** | 75 °C |

## Design verification as per IEC/EN 61439

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|---|---|
| **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 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. |
| **10.5 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** | Is the panel builder's responsibility. |

## Additional information

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|---|---|
| **CURRENT LIMITING CLASS** | 3 |
| **FEATURES** | Additional equipment possible |
| **SPECIAL FEATURES** | Ambient temperature hint: a 1 °C increase results in a 0.5% linear reduction of current carrying capacity |
| **USED WITH** | FAZ<br>Miniature circuit breaker |

| INSULATING MATERIAL | |
|---|---|
| **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. |

## Resources

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|---|---|
| **CATALOGUES** | eaton-xeffect-industrial-switchgear-range-catalog-ca003002en-en-us.pdf |
| **CHARACTERISTIC CURVE** | eaton-xeffect-faz-mcb-characteristic-curve.jpg<br>eaton-mcb-current-xeffect-faz-characteristic-curve.eps<br>eaton-mcb-xeffect-faz-characteristic-curve-002.eps<br>eaton-mcb-tripping-characteristic-xeffect-faz-characteristic-curve-002.eps<br>eaton-mcb-current-xeffect-faz-characteristic-curve-002.eps<br>eaton-mcb-xeffect-faz-characteristic-curve.eps |
| **DECLARATIONS OF CONFORMITY** | eaton-mcb-declaration-of-conformity-eu250395en.pdf |
| **DRAWINGS** | eaton-xeffect-faz-mcb-dimensions-002.jpg<br>eaton-mcb-xeffect-faz-dimensions-002.eps<br>eaton-xeffect-faz-mcb-3d-drawing-012.jpg<br>eaton-xeffect-faz-mcb-3d-drawing-011.jpg<br>eaton-mcb-faz-xeffect-faz-3d-drawing-002.eps<br>eaton-xeffect-faz-mcb-3d-drawing-003.jpg |
| **ECAD MODEL** | ETN.FAZ-D16_2 |
| **INSTALLATION INSTRUCTIONS** | eaton-rccb-rcbo-g9-il019140zu.pdf |
| **MCAD MODEL** | faz_1pn_2p.dwg<br>faz_1pn_2p.stp |
| **PEP ECO-PASSPORT** | EATO-00047-V01.01-EN |
| **WIRING DIAGRAMS** | eaton-mcb-xeffect-faz-wiring-diagram-002.eps |

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|---|---|
| | eaton-xpole-mmc4-6-m-mcb-wiring-diagram-003.jpg |

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|---|---|
| **PROJECT NAME:** | |
| **PROJECT NUMBER:** | |
| **PREPARED BY:** | |
| **DATE:** | |

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