

# Specifications



Photo is representative



## Eaton 278777

Eaton Moeller series xEffect - FAZ MCB. FAZ, 2-pole, tripping characteristic: D, rated current In: 6 A

### General specifications

|                      |                                                                                                                                                                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRODUCT NAME         | Eaton Moeller series xEffect - FAZ MCB                                                                                                                                                                                                                                           |
| CATALOG NUMBER       | 278777                                                                                                                                                                                                                                                                           |
| MODEL CODE           | FAZ-D6/2                                                                                                                                                                                                                                                                         |
| EAN                  | 4015082787776                                                                                                                                                                                                                                                                    |
| PRODUCT LENGTH/DEPTH | 80 mm                                                                                                                                                                                                                                                                            |
| PRODUCT HEIGHT       | 75.5 mm                                                                                                                                                                                                                                                                          |
| PRODUCT WIDTH        | 36 mm                                                                                                                                                                                                                                                                            |
| PRODUCT WEIGHT       | 0.219 kg                                                                                                                                                                                                                                                                         |
| COMPLIANCES          | UL CSA09 (with supplementary protector only)<br>RoHS conform                                                                                                                                                                                                                     |
| CERTIFICATIONS       | UL (Category Control Number QVNU2, QVNU8)<br>IEC/EN 60947-2<br>North America (UL recognized, CSA certified)<br>CSA (Class No. 3215-30)<br>CSA-C22.2 No. 235<br>CSA (File No. 204453)<br>CE marking<br>UL 1077<br>UL (File No. E177451)<br>IEC/EN 60898<br>EN45545-2<br>IEC 61373 |

## Delivery Programme

### APPLICATION

- Branch circuits, not as BCPD
- Switchgear for industrial and advanced commercial applications
- 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             | 6 A                                                                                          |
| TYPE                        | <ul style="list-style-type: none"> <li>• FAZ</li> <li>• Miniature circuit breaker</li> </ul> |

## Technical data - electrical

|                                                              |                         |
|--------------------------------------------------------------|-------------------------|
| 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

|                                                         |                                                            |
|---------------------------------------------------------|------------------------------------------------------------|
| 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                                    | IP40 (when fitted)<br>UL/CSA Type: -<br>IP20 (IEC)<br>IP20 |
| TERMINALS (TOP AND BOTTOM)                              | Twin-purpose terminals                                     |
| CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN  | 1 mm <sup>2</sup>                                          |
| CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX  | 25 mm <sup>2</sup>                                         |
| CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN | 1 mm <sup>2</sup>                                          |
| CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX | 25 mm <sup>2</sup>                                         |
| TERMINAL CAPACITY OF SCREW TERMINALS FOR MAIN CABLE     | 10 mm <sup>2</sup> (2x)                                    |
| TERMINAL CAPACITY (CONTROL CABLE)                       | 25 mm <sup>2</sup> (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) | 6 A    |
| HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT                  | 0 W    |
| EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT                 | 2.9 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

|                                                                                         |                                                                    |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <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. |
| <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</b>                                             | Is the panel builder's responsibility.                             |

## Additional information

|                               |                                                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>CURRENT LIMITING CLASS</b> | 3                                                                                                         |
| <b>FEATURES</b>               | Additional equipment possible                                                                             |
| <b>SPECIAL FEATURES</b>       | Ambient temperature hint: a 1 °C increase results in a 0.5% linear reduction of current carrying capacity |

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**INSULATING MATERIAL**

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**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.

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## Resources

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATALOGUES</b>                 | <a href="#">eaton-xeffect-industrial-switchgear-range-catalog-ca003002en-en-us.pdf</a>                                                                                                                                                                                                                                                                                                                                                                       |
| <b>CHARACTERISTIC CURVE</b>       | <a href="#">eaton-xeffect-faz-mcb-characteristic-curve.jpg</a><br><a href="#">eaton-mcb-xeffect-faz-characteristic-curve.eps</a><br><a href="#">eaton-mcb-tripping-characteristic-xeffect-faz-characteristic-curve-002.eps</a><br><a href="#">eaton-mcb-current-xeffect-faz-characteristic-curve-002.eps</a><br><a href="#">eaton-mcb-xeffect-faz-characteristic-curve-002.eps</a><br><a href="#">eaton-mcb-current-xeffect-faz-characteristic-curve.eps</a> |
| <b>DECLARATIONS OF CONFORMITY</b> | <a href="#">eaton-mcb-declaration-of-conformity-eu250395en.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>DRAWINGS</b>                   | <a href="#">eaton-mcb-xeffect-faz-dimensions-002.eps</a><br><a href="#">eaton-xeffect-faz-mcb-dimensions-002.jpg</a><br><a href="#">eaton-xeffect-faz-mcb-3d-drawing-012.jpg</a><br><a href="#">eaton-xeffect-faz-mcb-3d-drawing-011.jpg</a><br><a href="#">eaton-xeffect-faz-mcb-3d-drawing-003.jpg</a><br><a href="#">eaton-mcb-faz-xeffect-faz-3d-drawing-002.eps</a>                                                                                     |
| <b>ECAD MODEL</b>                 | <a href="#">DA-CE-ETN.FAZ-D6_2</a>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>INSTALLATION INSTRUCTIONS</b>  | <a href="#">eaton-rccb-rcbo-g9-il019140zu.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>MCAD MODEL</b>                 | <a href="#">faz_1pn_2p.dwg</a><br><a href="#">faz_1pn_2p.stp</a>                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PEP ECO-PASSPORT</b>           | <a href="#">EATO-00047-V01.01-EN</a>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>WIRING DIAGRAMS</b>            | <a href="#">eaton-xpole-mmc4-6-m-mcb-wiring-diagram-003.jpg</a>                                                                                                                                                                                                                                                                                                                                                                                              |

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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