

# Specifications

Photo is representative

## Eaton 102122

Eaton Moeller series xEffect - FAZ-NA, FAZ-RT MCB. FAZ-RT, 1-pole, tripping characteristic: C, rated current In: 4 A

### General specifications

|                             |                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller series<br>xEffect - FAZ-NA, FAZ-RT<br>MCB                                                                                                                                                                                                                                                                                                              |
| <b>CATALOG NUMBER</b>       | 102122                                                                                                                                                                                                                                                                                                                                                               |
| <b>MODEL CODE</b>           | FAZ-C4/1-RT                                                                                                                                                                                                                                                                                                                                                          |
| <b>EAN</b>                  | 4015081019984                                                                                                                                                                                                                                                                                                                                                        |
| <b>PRODUCT LENGTH/DEPTH</b> | 105 mm                                                                                                                                                                                                                                                                                                                                                               |
| <b>PRODUCT HEIGHT</b>       | 75.5 mm                                                                                                                                                                                                                                                                                                                                                              |
| <b>PRODUCT WIDTH</b>        | 17.7 mm                                                                                                                                                                                                                                                                                                                                                              |
| <b>PRODUCT WEIGHT</b>       | 0.124 kg                                                                                                                                                                                                                                                                                                                                                             |
| <b>COMPLIANCES</b>          | RoHS conform                                                                                                                                                                                                                                                                                                                                                         |
| <b>CERTIFICATIONS</b>       | UL 489, CSA C22.2 No. 5<br>UL (File No. E235139)<br>Specially designed for<br>North America, suitable as<br>BCPD<br>IEC 60947-2<br>UL 489<br>CE marking<br>CSA-C22.2 No. 5-09<br>CSA (File No. 204453)<br>North America (UL listed,<br>CSA certified)<br>UL (Category Control<br>Number DIVQ)<br>CSA (Class No. 1432-01)<br>IEC/EN 60947-2<br>EN45545-2<br>IEC 61373 |

## Delivery program

### APPLICATION

- Feeder circuits, branch circuits
- Switchgear for industrial and advanced commercial applications
- xEffect - Switchgear for industrial and advanced commercial applications

|                                    |                                                                                                 |
|------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>NUMBER OF POLES</b>             | Single-pole                                                                                     |
| <b>NUMBER OF POLES (TOTAL)</b>     | 1                                                                                               |
| <b>NUMBER OF POLES (PROTECTED)</b> | 1                                                                                               |
| <b>TRIPPING CHARACTERISTIC</b>     | C                                                                                               |
| <b>RELEASE CHARACTERISTIC</b>      | C                                                                                               |
| <b>AMPERAGE RATING</b>             | 4 A                                                                                             |
| <b>TYPE</b>                        | <ul style="list-style-type: none"> <li>• FAZ-RT</li> <li>• Miniature circuit breaker</li> </ul> |

## Technical data - electrical

|                                                                     |                     |
|---------------------------------------------------------------------|---------------------|
| <b>VOLTAGE TYPE</b>                                                 | AC                  |
| <b>VOLTAGE RATING</b>                                               | 277 V AC / 480 V AC |
| <b>VOLTAGE RATING AT DC</b>                                         | 60 V DC             |
| <b>VOLTAGE RATING (IEC/EN 60947-2)</b>                              | 254 V               |
| <b>VOLTAGE RATING (UL)</b>                                          | 277 V               |
| <b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>                         | 240 V               |
| <b>RATED INSULATION VOLTAGE (UI)</b>                                | 440 V               |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>                       | 4 kV                |
| <b>FREQUENCY RATING - MIN</b>                                       | 50 Hz               |
| <b>FREQUENCY RATING - MAX</b>                                       | 60 Hz               |
| <b>RATED SWITCHING CAPACITY (IEC/EN 60947-2)</b>                    | 15 kA               |
| <b>BREAKING CAPACITY</b>                                            | 10 kA (UL489)       |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60898) AT 230 V</b>    | 0 kA                |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60898) AT 400 V</b>    | 0 kA                |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2) AT 230 V</b> | 15 kA               |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2) AT 400 V</b> | 15 kA               |
| <b>SELECTIVITY CLASS</b>                                            | 3                   |
| <b>OVERVOLTAGE CATEGORY</b>                                         | III                 |
| <b>POLLUTION DEGREE</b>                                             | 2                   |
| <b>LIFESPAN, ELECTRICAL</b>                                         | 20000 operations    |
| <b>DIRECTION OF INCOMING SUPPLY</b>                                 | As required         |

## Technical data - mechanical

|                                                                |                                                                                                                                       |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>FRAME</b>                                                   | 45 mm                                                                                                                                 |
| <b>ENCLOSURE WIDTH</b>                                         | 105 mm                                                                                                                                |
| <b>WIDTH IN NUMBER OF MODULAR SPACINGS</b>                     | 1                                                                                                                                     |
| <b>BUILT-IN DEPTH</b>                                          | 70.5 mm                                                                                                                               |
| <b>MOUNTING WIDTH PER POLE</b>                                 | 17.7 mm                                                                                                                               |
| <b>MOUNTING WIDTH</b>                                          | 17.7 mm                                                                                                                               |
| <b>MOUNTING METHOD</b>                                         | Top-hat rail IEC/EN 60715                                                                                                             |
| <b>MOUNTING POSITION</b>                                       | As required                                                                                                                           |
| <b>DEGREE OF PROTECTION</b>                                    | UL/CSA Type: -<br>IP40 (when fitted)<br>IP20 (IEC)<br>IP20                                                                            |
| <b>TERMINALS (TOP AND BOTTOM)</b>                              | Twin-purpose terminals                                                                                                                |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN</b>  | 1 mm <sup>2</sup>                                                                                                                     |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX</b>  | 25 mm <sup>2</sup>                                                                                                                    |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN</b> | 1 mm <sup>2</sup>                                                                                                                     |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX</b> | 25 mm <sup>2</sup>                                                                                                                    |
| <b>TERMINAL PROTECTION</b>                                     | Finger and hand touch safe, DGUV VS3, EN 50274                                                                                        |
| <b>TIGHTENING TORQUE</b>                                       | UL: 4 Nm (36 lb-in) for AWG 6<br>UL: 2.8 Nm (25 lb-in) for AWG 10 - AWG 8<br>UL: 2.4 Nm (21 lb-in) for AWG 18 - AWG 12<br>Max. 2.4 Nm |

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

|                                                                      |        |
|----------------------------------------------------------------------|--------|
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 4 A    |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>                  | 0 W    |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>                 | 1.4 W  |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT</b>                | 0 W    |
| <b>HEAT DISSIPATION CAPACITY</b>                                     | 0 W    |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                           | -25 °C |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                           | 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>FUNCTIONS</b>              | Current limiting circuit breaker                                                                          |
| <b>SPECIAL FEATURES</b>       | Ambient temperature hint: a 1 °C increase results in a 0.5% linear reduction of current carrying capacity |
| <b>USED WITH</b>              | Miniature circuit breaker FAZ-RT                                                                          |

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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

**BROCHURES** [eaton-pdd-railrolling-stock-brochure-br011002en-en-us.pdf](#)

**CATALOGUES** [eaton-xeffect-faz-na-rt-mcb-catalog-ca003032en-en-us.pdf](#)

[eaton-xeffect-faz-na,-mcb-dimensions-002.jpg](#)

[eaton-xeffect-faz-na,-mcb-characteristic-curve-002.jpg](#)

[eaton-mcb-xeffect-faz-na,-characteristic-curve-002.eps](#)

**CHARACTERISTIC CURVE**

[eaton-xeffect-faz-na,-mcb-characteristic-curve.jpg](#)

[eaton-mcb-xeffect-faz-na,-characteristic-curve.eps](#)

[eaton-xeffect-faz-na,-mcb-3d-drawing-002.jpg](#)

[eaton-xeffect-faz-na,-mcb-3d-drawing-006.jpg](#)

**DECLARATIONS OF CONFORMITY** [DA-DC-03 FAZ-RT](#)  
[DA-DC-03 FAZ-B-C-D](#)

**DRAWINGS** [eaton-xeffect-faz-na,-mcb-dimensions.jpg](#)

[eaton-mcb-xeffect-faz-na,-3d-drawing.eps](#)

**ECAD MODEL** [DA-CE-ETN.FAZ-C4\\_1-RT](#)

**INSTALLATION INSTRUCTIONS** [IL019133ZU](#)

**MCAD MODEL** [faz\\_na\\_1p.stp](#)  
[faz\\_na\\_1p.dwg](#)

**WIRING DIAGRAMS** [eaton-mcb-xeffect-faz-na,-wiring-diagram.eps](#)

[eaton-xpole-mmc4-6-m-mcb-wiring-diagram-002.jpg](#)

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



**Eaton Corporation plc**  
Eaton House  
30 Pembroke Road  
Dublin 4, Ireland  
Eaton.com

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