

# Specifications



**Photo is representative**



# Eaton 278941

Eaton Moeller series xEffect - FAZ MCB. FAZ, 3-pole+N, tripping characteristic: B, rated current In: 4 A, rated switching capacity (IEC/EN 60947-2): 15 kA

## General specifications

|                         |                                           |
|-------------------------|-------------------------------------------|
| PRODUCT NAME            | Eaton Moeller series<br>xEffect - FAZ MCB |
| CATALOG NUMBER          | 278941                                    |
| MODEL CODE              | FAZ-B4/3N                                 |
| EAN                     | 4015082789411                             |
| PRODUCT<br>LENGTH/DEPTH | 80 mm                                     |
| PRODUCT HEIGHT          | 75.5 mm                                   |
| PRODUCT WIDTH           | 72 mm                                     |
| PRODUCT WEIGHT          | 0.428 kg                                  |
| COMPLIANCES             | RoHS conform                              |
| CERTIFICATIONS          | EN45545-2<br>IEC 61373                    |

## Additional information

### CURRENT LIMITING CLASS

3

### FEATURES

Additional equipment possible  
Concurrently switching N-neutral

### SPECIAL FEATURES

Ambient temperature hint:  
a 1 °C increase results in a  
0.5% linear reduction of  
current carrying capacity

### USED WITH

FAZ  
Miniature circuit breaker

## Delivery programme

### AMPERAGE RATING

4 A

### APPLICATION

- Switchgear for industrial and advanced commercial applications
- xEffect - Switchgear for industrial and advanced commercial applications

### NUMBER OF POLES

Three-pole + N

### NUMBER OF POLES (PROTECTED)

3

### NUMBER OF POLES (TOTAL)

4

### RELEASE CHARACTERISTIC

B

### TRIPPING CHARACTERISTIC

B

### TYPE

- FAZ
- Miniature circuit breaker

## Design verification to IEC/EN 61439

|                                                                                         |                                                                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <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.                                                               |
| <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</b>                                                                  | Does not apply, since the                                                                                                        |

## Design verification to IEC/EN 61439 - technical data

|                                                                      |        |
|----------------------------------------------------------------------|--------|
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                           | 75 °C  |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                           | -25 °C |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>                 | 4.5 W  |
| <b>HEAT DISSIPATION CAPACITY</b>                                     | 0 W    |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>                  | 0 W    |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 4 A    |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT</b>                | 0 W    |

|                                                                 |                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------|
| <b>AGAINST ELECTRIC SHOCK</b>                                   | 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.                             |

## Technical data - electrical

|                                                                              |                |
|------------------------------------------------------------------------------|----------------|
| <b>BREAKING CAPACITY</b>                                                     | 10 kA (UL1077) |
| <b>FREQUENCY RATING - MAX</b>                                                | 60 Hz          |
| <b>FREQUENCY RATING - MIN</b>                                                | 50 Hz          |
| <b>OPERATIONAL VOLTAGE (IEC/EN 60947-2) - MAX</b>                            | 440 VAC        |
| <b>OVERVOLTAGE CATEGORY</b>                                                  | III            |
| <b>POLLUTION DEGREE</b>                                                      | 2              |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>                                | 4 kV           |
| <b>RATED INSULATION VOLTAGE (UI)</b>                                         | 440 V          |
| <b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>                                  | 400 V          |
| <b>RATED SERVICE SHORT-CIRCUIT BREAKING CAPACITY (IEC/EN 60898-1) - ICS</b>  | 7.5 kA         |
| <b>RATED SERVICE SHORT-CIRCUIT BREAKING CAPACITY (IEC/EN 60947-2) - ICS</b>  | 7.5 kA         |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC/EN 60898-1) - ICN AT 230 V</b> | 10 kA          |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC/EN 60898-1)- ICN AT 400 V</b>  | 10 kA          |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 230 V</b>     | 15 kA          |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 400 V</b>     | 15 kA          |
| <b>RATED SWITCHING CAPACITY (IEC/EN 60898-1)</b>                             | 10 kA          |
| <b>RATED SWITCHING CAPACITY (IEC/EN 60947-2)</b>                             | 15 kA          |
| <b>RATED SWITCHING CAPACITY (IEC/EN 60947-2) AT MAX VOLTAGE RATING</b>       | 10 kA          |
| <b>VOLTAGE RATING (IEC/EN</b>                                                | 415 VAC        |

## Technical data - mechanical

|                                                                |                    |
|----------------------------------------------------------------|--------------------|
| <b>BUILT-IN DEPTH</b>                                          | 70.5 mm            |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - 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 (SOLID-CORE) - MAX</b>  | 25 mm <sup>2</sup> |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN</b>  | 1 mm <sup>2</sup>  |
| <b>DEGREE OF PROTECTION</b>                                    | IP20               |
| <b>WIDTH IN NUMBER OF MODULAR SPACINGS</b>                     | 4                  |

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**60898-1)****VOLTAGE TYPE**AC

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## Resources

CATALOGUES

[eaton-xeffect-industrial-switchgear-range-catalog-ca003002en-en-us.pdf](#)

CHARACTERISTIC CURVE

[eaton-xeffect-faz-mcb-characteristic-curve.jpg](#)DECLARATIONS OF  
CONFORMITY[eaton-mcb-declaration-of-conformity-eu250395en.pdf](#)[eaton-mcb-declaration-of-conformity-uk251436en.pdf](#)

DRAWINGS

[eaton-xeffect-faz-mcb-dimensions-004.jpg](#)[eaton-xeffect-faz-mcb-3d-drawing.jpg](#)[eaton-xeffect-faz-mcb-3d-drawing-008.jpg](#)[eaton-xeffect-faz-mcb-3d-drawing-007.jpg](#)

ECAD MODEL

[ETN.FAZ-B4\\_3N.edz](#)INSTALLATION  
INSTRUCTIONS[eaton-mcb-rccb-rcbo-g9-il019140zu.pdf](#)

MCAD MODEL

[eaton-non-selective-universal-mcb-mcad-3d-models-faz-xxx-4p.stp](#)

PEP ECO-PASSPORT

[eaton-non-selective-universal-mcb-pep-eato-00047-v0101-en.pdf](#)

WIRING DIAGRAMS

[eaton-xpole-mmc4-6-m-mcb-wiring-diagram-004.jpg](#)

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



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