



Powering Business Worldwide



# Eaton 278717

Eaton Moeller series xEffect - FAZ MCB.  
Miniature circuit breaker (MCB), 50 A, 1p+N,  
type K characteristic

## General specifications

|                         |                                           |
|-------------------------|-------------------------------------------|
| PRODUCT NAME            | Eaton Moeller series<br>xEffect - FAZ MCB |
| CATALOG NUMBER          | 278717                                    |
| MODEL CODE              | FAZ-K50/1N                                |
| EAN                     | 4015082787172                             |
| PRODUCT<br>LENGTH/DEPTH | 80 mm                                     |
| PRODUCT HEIGHT          | 75.5 mm                                   |
| PRODUCT WIDTH           | 36 mm                                     |
| PRODUCT WEIGHT          | 0.245 kg                                  |
| COMPLIANCES             | RoHS conform                              |
| CERTIFICATIONS          | EN45545-2<br>IEC 61373                    |

## Additional information

### CURRENT LIMITING CLASS

3

### FEATURES

Concurrently switching N-neutral  
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

Miniature circuit breaker  
FAZ

## Delivery programme

### AMPERAGE RATING

50 A

### APPLICATION

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

### NUMBER OF POLES

Single-pole + N

### NUMBER OF POLES (PROTECTED)

1

### NUMBER OF POLES (TOTAL)

2

### RELEASE CHARACTERISTIC

K

### TRIPPING CHARACTERISTIC

K

### 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>                 | 7.8 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> | 50 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>FREQUENCY RATING - MAX</b>                                            | 60 Hz    |
| <b>FREQUENCY RATING - MIN</b>                                            | 50 Hz    |
| <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>                              | 230 V    |
| <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 60947-2)</b>                         | 15 kA    |
| <b>VOLTAGE RATING</b>                                                    | 240 V AC |
| <b>VOLTAGE TYPE</b>                                                      | AC       |

### 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>                     | 2                  |

## Resources

|                            |                                                                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CATALOGUES                 | <a href="#">eaton-xeffect-industrial-switchgear-range-catalog-ca003002en-en-us.pdf</a>                                                                                           |
| CHARACTERISTIC CURVE       | <a href="#">eaton-xeffect-faz-mcb-characteristic-curve-002.jpg</a>                                                                                                               |
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-mcb-declaration-of-conformity-uk251434en.pdf</a><br><a href="#">eaton-mcb-declaration-of-conformity-eu251404en.pdf</a>                                         |
| DRAWINGS                   | <a href="#">eaton-xeffect-faz-mcb-dimensions-002.jpg</a><br><a href="#">eaton-xeffect-faz-mcb-3d-drawing-013.jpg</a><br><a href="#">eaton-xeffect-faz-mcb-3d-drawing-004.jpg</a> |
| ECAD MODEL                 | <a href="#">ETN.FAZ-K50_1N.edz</a>                                                                                                                                               |
| INSTALLATION INSTRUCTIONS  | <a href="#">eaton-mcb-rccb-rcbo-g9-il019140zu.pdf</a>                                                                                                                            |
| MCAD MODEL                 | <a href="#">eaton-non-selective-universal-mcb-mcad-3d-models-faz-xxx-2p.stp</a>                                                                                                  |
| PEP ECO-PASSPORT           | <a href="#">eaton-non-selective-universal-mcb-pep-eato-00047-v0101-en.pdf</a>                                                                                                    |
| WIRING DIAGRAMS            | <a href="#">eaton-xpole-mmc4-6-m-mcb-wiring-diagram.jpg</a>                                                                                                                      |

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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